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Impact of Credit on Agricultural Producitivity: A Case Study of Zarai Taraqiati Bank Ltd (ZTBL) Loans in District Kashmore at Kandh Kot, Sindh Pakistan

Sanaullah Noonari[1*] Ms.Irfana Noor Memon[1] Azhar Ali Bijarani[2] Moula Bux Peerzdo[2]
Qurat-ul-ain Memon[2] Shoaib Ahmed Wagan[2] Abass Ali Chandio[2] Asif Ahmed Sethar[2]
Mukhtiar Ali Bhatti[2] Ghulam Yasin Kalwar[2]
1.Assistant Professor, Department of Agricultural Economics, Faculty of Agricultural Social Sciences, Sindh Agriculture University, Tandojam Pakistan
2.Department of Agricultural Economics, Faculty of Agricultural Social Sciences,Sindh Agriculture University, Tandojam Pakistan
E-mail: sanaullahnoonari@gmail.com

Abstract
Agricultural sector is the largest contribution to Pakistan's GDP. Agricultural credit plays an important role in enhancing the agricultural productivity in developing countries like Pakistan. The government of Pakistan introduced several agricultural credit loans through ZTBL and other commercial banks and institutional sources. This study estimated constrains faced by the farmers in acquisitioned source. This study also estimated the impact of credit on agricultural productivity. Data were collected randomly from 30 loanee farmers to three selected ZTBL branches and 30 non loanee farmers in the same villages. It found that the credit has a positive impact on the agricultural productivity and loanee farmers have more gross margins than non loanee farmers. Now the problem is to remove the constraints which small farmers are facing in this regard and then improve the utilization of the credit amount as planned at the time of disbursement in agriculture production process following findings were found. A major proportion i.e.40.8% of the farmers belonged to young age group (36-45 years). It was found that majority of the respondents had low level of education in the selected area. More than 51.7% of the respondents had 6-10 acres of the land holding. A huge majority 95% of the respondents had knowledge about the agricultural credit scheme of the ZTBL Bank. More than 56.75 of the loanees' farmers avail credit facilities for the first time from the ZTBL bank. A large majority 63.3 of the farmers were not satisfied with the interest rate charged by the banks. It was found that a large number of farmers mutualized the credit amount. About 66.7% farmers got agricultural credit facility from bank without facing any problem. Result indicates that average cultivated area in case of loanee farmers is higher than non-loanee farmers. It was conclude that the loanee farmers had more cost of production as compare to non loanee farmers. Results of regression analysis indicate that credit had very normal impact on agricultural productivity as limiting factors is the proper utilization of loan mount in agricultural sector. The most common utilization of credit amount as construction, repair and renovation of the houses by the loanee farmers.
Keywords: Banks, credit, agricultural productivity.

INTRODUCTION

Agriculture was the dominant sector of the Pakistan's economy in 1947 as it contributed over 53 percent towards the Gross Domestic Product (GDP). Its share in the GOP has, however, fallen considerably over the years where as the share of other sectors of the economy such as manufacturing, construction and services, which was rudimentary at the time of independence, has increased. Nevertheless, agriculture still occupies a pivotal position in the economy of Pakistan by contributing about 21.8 percent to the GDP and providing, employment to over half of the labor force. Agriculture and agro based products account for around 74 percent of total export earnings. It also supplies many of the major industries with essential raw materials (GOP 2012).

The formal agricultural credit institutions in Pakistan comprised of Zarai Taraqiati Bank Limited (ZTBL), Commercial Banks, Federal Bank for Cooperatives and also some non-governmental organizations (NGOs). The institutional agricultural credit was positively affecting the agricultural productivity in Pakistan (Iqbal *et al.*, 2003).

Zarai Taraqiati Bank Limited (ZTBL) former Agricultural Development Bank of Pakistan (ADBP) is the premier financial institution geared towards the development of agriculture sector through provision of financial services and technical knowhow. The restructuring of former ADBP is being carried out with the aim to uplift the agriculture and rural sector by raising farm productivity, streamlining the institutional credit and increasing income generating capacity of the farming community. ZTBL was incorporated as a Public Limited Company on 14th December, 2002 through repeal of ADB Ordinance of 1961. The new corporate structure redefines the bank's status as a public limited company registered under companies Ordinance'1984 with an independent Board of Directors which aims at ensuring good governance, autonomy, delivering high quality.

ZTBL is a key R.F.I of Pakistan providing affordable, rural and agriculture financial/non-financial services to the rural Pakistan, comprising 68 % of the total population. The Bank through a country-wide network of 359 branches is serving around half a million clients annually and over one million accumulated account holders with the average loan size of around Rs.162331 serving 68%, 29% & 3 % of subsistence, economic and large growers respectively. The total assets of the Bank stand at Rs.123 billion with authorized capital of Rs.25 billion as of 31.12.2011, with a nation-wide working strength comprises 5789 employees. The share of ZTBL in total national institutional agricultural credit is 23% as on 30.06.2012. ZTBL was incorporated as a Public Limited Company on 14th December, 2002 through repeal of formal Agricultural Development Bank of Pakistan Ordinance of 1961. Thereby transforming the bank as a corporate entity to serve as a R. F.I (ZTBL-2012)

Agriculture continues to be the single largest sector of the economy of Pakistan and is main source of livelihood for 66 percent of country's pop t½n employs about 44 percent of total work force. Its share in country's export earnings is 65 percent. Out of about 5000 industrial establishments in Pakistan, about 58 percent are agro based. So agriculture growth is bound to affect not only country's overall growth performance but also country's population as well (Ali, et all .2009).

This growth rate in agriculture has been maintained by technological progress, public investment in irrigation, agricultural research and extension and physical infrastructure. Agricultural growth, in turn, has contributed considerably to overall economic growth of 5.1 per year during same period .The Pakistan economy expanded 2.0 percent over the last year. For the outgoing year, the Agriculture sector grew an estimated 2.0 percent, against a target of 3.8 percent, and previous year's growth rate of 4.0 percent (Ahmed, et al. 2007).

Agriculture is the base sector for major industries like textile and sugar etc, the agriculture sector stands out as the largest source of foreign exchange earnings. Thus, a progressive and well developed agriculture sector can play a pivotal role in accelerating the overa11 pace of development of the country and alleviating poverty, it is also a fact that the slate of development of Pakistan's Agriculture Sector lags behind man)' developing countries, including our neighboring country. While there are a number of steps, which can be taken to bring our agriculture sector at par with other countries, one critical factor is the sufficient availability of credit for agriculture (SBP, 2009).

Government policy with regard to agricultural credit to safeguard the interest of small/medium farmers by extending credit to them on easy terms and conditions as well as to protect them in case of any natural hazards and calamities. Credit requirements of the fanning community have been increasing over the year mainly due to rise in the use of fertilizer, pesticide and mechanization. In order to cope with the increasing demand for agricultural credit, institutional credit to farmers is being provided through different banks including ZTBL, LT13L arid others (Kakakhel, 2009).

Today, Pakistan's agriculture is facing many challenges like water shortage, natural resource conservation, rising prices of inputs including seeds, fertilizers, pesticides, electricity and gasoline. The farmers, particularly the small farmers are facing problems in early adoption of new technologies because of financial shortages. Facilitation to this sector, by expanding agricultural credit at the grass root level is a credible effort towards economic and rural development. Taking cognize of the situation, SBP has taken several initiatives during last 6-7 years to enhance the flow of credit to the agriculture sector. These initiatives have paid rich dividends in the form of substantial rise in auricular credit disbursements. (SBP, 2009).

The agricultural credit plays an important role in making farming sector more productive and efficient in developing economies and Pakistan is in exception. The shortage of credit availability or capital constraint faced by the farmers is one of the major problems in the adoption of modern technologies and efficiency improvement in the agriculture sector. The lack of resource constraints was not only the possibilities to realize opportunities for increase in productivity but also the ability to smooth consumption (Malik, 1999).

Credit is the back bone for any business and more so for agricultural which has traditionally been a no-monetary activity for the rural population in Pakistan. Agricultural credit is an integral part of the process of modernization of agriculture and commercialization of the rural economy. The introduction of easy and cheap credit is the quickest way for boosting agricultural production. Therefore, it was the prime policy of all the successive governments to meet the credit requirements of the farming community of Pakistan Agriculture as a sector depend more on credit than any then sector of the economy because of the seasonal variations in the farmers returns and a changing trend from subsistence to commercial farming. Credit may provide them opportunity to earn more money and improve their stander of living (Vogt, 1978)

The government of Pakistan introduced several agricultural credit programmes through institutional sources. The impact of these programmes was less than optimal due to rambling credit policies. The farmers were facing many constraints to avail agricultural credit in a timely fashion. The collateral inter alia was one of the major constraints. The objective of the paper is to identify constraints and suggest remedial measures to make efficient use of agricultural credit schemes. Majority of the farmers revealed that they could not avail credit because of needed collateral. The hard hits were tenants and share croppers who do not own land, and thus were unable to avail credit. The high markup both from formal and informal sources was another constraint

(Akram et at. 2008).

Pakistan lays great emphasis on availability of agricultural credit with a view to enable the farmers to purchase inputs such as seeds, fertilizer, pesticides as well as agricultural machinery etc. Disbursement of agriculture credit, during the 2003-04 registered an unprecedented increase of 12.4% i.e. disbursement at Rs. 73.6 billion as against original target of Rs. 65.5 billion (GOP, 2003).

Institutional credit to farmers is being provided through Zarai Taraqiati Bank Limited (ZTBL), Commercial Banks, Punjab Provincial Cooperative Bank Lid (PPCBL) and Domestic Private Banks. In order to give boost to agricultural production, the President of Pakistan announced Kissan Package in June 2004 for the benefit of farmers reducing mark up from 14% to a maximum 9% besides extending a number of concessions to farmers in calamity and drought affected areas. To facilitate quick disbursement, the ZTBL launched one window operation and introduced 3 years revolving credit scheme for the farmers. Other banks have also opened special windows for quick and timely disbursement of agricultural credit. The Government has allocated Rs 250 billion for agricultural credit disbursements for the year 2008-09 which is 25 percent higher than the allocation the preceding year i.e. Rs 200 billion. Out of the total credit target of Rs 250 billion, Rs 119.5 billion were allocated to commercial banks, Rs 72.0 billion to ZTBL, Rs. 6 billion to Punjab Provincial Cooperative Bank Ltd. And Rs. 52.5 billion d=to Domestic Private Commercial Banks. (GOP, 2009)

The government of Pakistan has allocated Rs 260 billion as agriculture credit for the year 2009-10 as compared to Rs 250 billion for last year, which indicates an increase of 4 percent over the last year. Out of total credit target of Rs 260 billion, Rs 124 billion were allocated to five big commercial banks, Rs 80 billion to ZTBL, Rs 6 billion to Punjab Provincial Cooperative Bank Ltd (PPCBL), and Rs 50 billion to domestic private banks. The government had also allocated province-wise and sector wise targets whereby 78 percent, 14 percent, 6 percent, 1.5 percent and 0.5 percent to be disbursed in Punjab, Sindh, NWFP, Balochistan and AJK & NA, respectively. Credit was advanced to farmers to supplement their resources for purchase of inputs like seed, fertilizer, and pesticide as well as for purchase of agricultural machinery etc. (Kakakhel, 2009).

Agricultural credit is an important tool to improve the performance agricultural Doctor as it helps in getting imputes in time, removing the financial constraints of the small farmers increasing thereby the productivity of the farmers particularly those of small ones. But still agricultural credit programs in Pakistan are not able to achieve the targets due to many reasons as small farmers face problems in getting credit facilities, and then credit amount is utilized for purposes other than agriculture. The current study shall be designed to investigate the constraints faced by small farmers while getting the loan. Ii. is generally believed small farmers faced a of problems in getting credit facility, the utilization of the loan amount has many bottlenecks as well as the loan taken for the agricultural purposes is misused by a large number of farmers either for the sake of consumption, marriages or repayment of the loans taken from the informal sources or even to cover up the legal costs of family or other disputes. (Abbas et al, 2003.)

The study also tried to investigate the impact of credit on agricultural productivity. For this impact it is very much important that credit amount should be utilized in agricultural production process. In case of misutilization, it is not possible to find desired results in terms of improvement in agricultural productivity. So, when constraints are resolved and credit amount is actually utilized in agricultural production then there will be an impact of this credit amount on productivity of the agricultural resources and this will uplift the living standards of the small farmers and commercialize the agricultural sector. The impact of institutional credit on agricultural production in Pakistan has been found to be positive and significant (Iqbal *et al.*, 2003).

The Government has instituted various policies to achieve its aims of increasing agricultural output by making credit available through a commercial bill financing scheme; regional commodity boards (later called national commodity boards); an export financing and rediscount facility (1987); the Nigerian Agricultural Cooperative and Rural Development Bank Ltd; community banks, Peoples Bank; the Agricultural Credit Guarantee Scheme Fund (ACGSF); and the Small and Medium Enterprises Equity Investment Scheme among others. These policies have contributed to improving the livelihoods of farmers and entrepreneurs. (Olaitan, 2006).

Also, a number of strategies have been articulated and implemented in a bid to improve on agricultural output, notably the River Basin Development Authority, integrated rural development programmes, national accelerated food production programme, Operation Feed the Nation, and green revolution and agricultural development programmes. These programmes have combined various price and non-price incentives in attempts to restructure the agricultural sector, increase efficiency and raise production (Iyoha and Oriakhi, 2002).

The concept of productivity is a relative term and sometimes it is considered to be an overall efficiency and effectiveness of productive units or as a ratio of output to the corresponding inputs used. Though all these definitions are apparently conflicting to each other but their different interpretations have common characteristics i.e. productivity is someone's ability to produce more economically and efficiently (Mohammad, 1992).

In this study therefore, agricultural productivity could be defined as ratio of output to inputs in relation

to fertilizers, improved seeds, labour and technology (tractor and ox-plough) employed in agriculture. Sugarcane crop serves as a major raw material for production of white sugar and guar. Their share in value added of agriculture and GDP are 3.4 percent and 0.7percent respectively. For 2005-06, the area under sugarcane crop was targeted at 955 thousand hectares as against 966 thousand hectares of last year. However, sugarcane was shown on an area of 907thousand hectares – 5 percent below the target and6.1 percent less than the last year. Sugarcane production for the year 2005-06 is estimated at 44.3million tons against the 47.2 million tons production of the last year. Thus sugarcane production is estimated to be lower by 6.2 percent over the last year. Factors responsible for decline in sugarcane production include late harvesting of wheat; farmer's shifting to other competing crops and frost affecting the crop in Punjab and NWFP (Government of Pakistan, 2006).

The rural financial market in Pakistan can be seen as composed of two broad segments, i.e. the informal and formal. Traditionally, friends and relatives, village shopkeepers, traders, commission agent's etc. have remained a major source of agricultural credit. These sources generally lend for short periods and charge an exorbitant rate of interest. Such loans are given to takeover bad periods and as such are meant for consumption purposes. Loans are also made available for buying seasonal inputs where cash is essentially required. These sources are both inadequate and no dependable. No comprehensive data are available on the amount of credit advanced by informal credit sources. As such it is difficult to find solid evidence regarding the relative share of these sources in the total credit supply. However, few reports and some other rough estimates show that the formal credit sources have been able to meet only 50 percent of the total credit requirements of the farm sector and it may be assumed that the rest are met by informal sources of credit (Irfan*et al.,*1999).

Objectives

The present study shall be undertaken with the following specific objective.

1. To identity the constraints involved in acquisition of agricultural credit and to evaluate the actual utilization of agricultural credit in comparison to the purpose it was disbursed.
2. To study the impact of credit on agriculture productivity.
3. To suggest policy measures to overcome constraints involved in agriculture credit acquisition and avoid misutilization of credit amount.

CHAPTER - II
REVIEW OF LITERATURE

Muhammad et al. (2000) reported that the farmers' perception of the difficulties obtaining agricultural loans from Agricultural Development Bank of Pakistan (ADBP). The credit facilities provided by the bank were to be effective only if these were available to the loaners the procedure as prescribed by the bank and without causing much inconvenience to them. It was generally thought that the farmers usually face number of obstacles in obtaining agricultural credit. A great majority of the respondents reported the loaning procedure either difficult or very difficult. The major difficulties faced by the loanees were illegal demands by "Patwaris", overcharging for the completion of pass book and complicated and lengthy loan, granting procedure of the bank.

Djato (2001) studied about the opportunity of creating a bank to finance the agricultural sector. He concluded that access to credit increased peasant's economic efficiency in rice production, since peasants had the same locative efficiency, the difference in economic efficiency was attributed to the credit induced difference in technical efficiency. Thus access to credit was an important stimulus to agricultural growth. He recommended a change in the management of these institutions and the creation of a new agricultural bank.

Musharraf (2001) stated that maximum loans should be disbursed to small farmers because they have good repayment behavior. He said that special care must be given to small farmers who constitute the backbone of agricultural sector. The present study shows that majority of the farmers were small and it was observed that all the respondents' i.e. small, medium or large farmers were enjoying the agricultural credit packages offered by the different institutions.

Ramachandran and Nathan (2002) examined the effect of financial sector reforms on rural banking and rural credit transactions in India, with particular reference to landless labour households. First, the trends in selected indicators of rural banking at the national level over the last 30 years were reviewed. Secondly longitudinal data for a village in Tamil Nadu were used to examine changes in patterns of indebtedness and credit transactions among landless labor households. They argued that the exploitation of landless labour households in the credit market had intensified with the introduction of financial reforms the policy envisaged as an alternative to the formal credit sector n the countryside, the establ3h1cnt of micro- credit projects was examined critically.

Manig (2002) stated that the one of the most important factors for increasing agricultural productivity and production in order to maintain growing populations in developing countries is the utilization of modern technology. For financing the use of agricultural technology, governments establish legally organized credit institutions which frequently offer subsidized credits. Such credits were made available under the existing

societal modes of distribution, which leads to the domination of scarce resources by the elite in the rural regions, and, thus, to restriction in the access to credit for the rural sub-classes. Should small farmers or tenants, etc. wish to benefit from the advantages of modern agricultural technology, they have to depend on the informal credit market as a means of financing. By taking Pakistan as an example, the importance of the informal credit market for financing the use of modem technology from the period of the 'Green Revolution' until the present can be shown. This informal credit market has contributed to keep tendencies towards social polarization in the agricultural sector within limits, since an informal credit system that was not efficient would have made it difficult for small farmers to use the productivity potentials of modem agricultural technology and would have caused social differences to expand. The informal credit market should be reinforced as a political measure for reducing tendencies towards social polarization. This should occur at least until the formal credit institutions actually assume their intended function for all rural groups.

Iqbal *et* at. (2003) studied the impact of institutional credit on agricultural production in Pakistan. They analyzed the data regarding variables of interest pertaining to financial years 1971 to 2002. The study computed various credit indicators and calculated share of various financial institutions in total agricultural loans. They concluded that at quite a high rate during the past three decades the rate of growth of nominal credit was slowest especially in the period after the mid 1980- 90, while the growth of real credit was negative during the same period.

Khandker and Faruqee (2003) observed that 95 percent of formal loans in Pakistan supported production. In contrast, 56 percent of informal loans were used for consumption, while perfect were used to support production. The authors also observed that Agriculture Development Bank of Pakistan .(now ZTBP) charged as much as 13 percent interest rate for small landholders (who own up to 2.5 acres of land) compared with 0 percent for medium and large agriculturists, while the recovery rate is much better in case of small farmers.

Sjah et al. (2003) stated that in Indonesia, national historical records show increasing agricultural credit provision by government, yet farmers seem to be unable to escape poverty. In addition, the repayment of credit has tended to be lower as years proceed. They analyzed the performance of credit in terms of agricultural production, farmers' earnings, and credit repayment, and factors contributing to the performance. The analysis was based upon a survey conducted in Central Lombok, where the current KKP government credit scheme was provided to agricultural producers. Three villages within the regency were sampled, representing various repayment rates of government credit. Data were collected using face-to-face, semi-structured interviews with 65 farmers who had made use of government or other sources of agricultural credit. Studies of individual farmers making use of credit in the surveyed area indicated that credit had a small impact on agricultural production and farmers' income. About half of the farmers reported that credit did not help. The other half of farmers experienced a positive impact of credit through intensification and timely husbandry application. There was a varying repayment rate by individual credit users, which reflected farmers' capability, character, and motivations.

Khandker and Faruqee (2005) stated that the both informal and formal loans matter in agriculture. However, formal lenders provided many more production loans than informal lenders, often at a cost (mostly loan default cost) higher than what they could recover. For example, the Agricultural Development Bank of Pakistan (ADBP), provided about 90% of formal loans in rural areas, incurs high loan default costs. Yet, like other governments, the Government of Pakistan supports the formal scheme on the grounds that lending to agriculture is a high risk activity because of covariate risk. Hence, such policies are often based on a market failure argument. As farm credit schemes were subsidized, policy makers must know if these schemes were worth supporting. Used a recent large household survey data from rural Pakistan (Rural Financial Market Studies or RFMS), they had attempted to estimate the effectiveness of the ADBP as a credit delivery institution A two-stage method that takes the Endogamies of borrowing into account was used to estimate credit impact. Results revealed that ADBP contributes to household welfare and that its impact was hither for smallholders than for large holders. Nevertheless, large holders receive the bulk of ADBP finance. The ADBP was, thus, not a cost-effective institution in delivered rural finance; its cost-effectiveness could be improved by reducing its loan default cost and pariia1y by targeting smallholders in agriculture where credit yields better result.

Marie (2005) estimated the percentage of credit contained households at 65%. The lack of credit constrained the level of agricultural production of 37% of the fanning households; ii also constrained the level of family business production of 31 % of the households operating such businesses. Credit constraints also limited consumption choices of 21% of the sample households. The found that the presence of credit programs operating in the village and proximally to commercial banks and natural banks reduced the probability of credit constraints in production decisions. Further. Some types of households were more' likely to experienced credit constraints, these were the households with little education, households that own little or no titled land und sugar-producing household.

Jaffar et at. (2006) found that the Small and Medium Enterprise Development Authority (SIDA) claims to provide a nutritious jump to the small farmers for getting more produce from their farm. The present study

was conducted to evaluate the project support services for agriculture credit of SMEDA in collaboration with Bank of Punjab (BOP). The purpose of the study was to assess the impact of micro credit scheme of SMEDA and BOP on crop productivity in two union council of district Sheikhupura of Punjab province. One hundred and twenty farmers from the selected villages were interviewed. The results indicated that majority of the farmers (76.7%) meet their financial requirements through institutional credit. More than 60% farmers obtained loans for fertilizers and about 50% got credit for quality seed whereas about 37% for pesticides/insecticides etc. It was further indicated that all the farmers used the loan for the purpose it was actually disbursed.

Javed et al. (2006) evaluated the impact of micro-credit of PRSP on productivity of wheat and sugarcane in Faisalabad. For the purpose of the study, two field units namely Satiana and Salarwala were selected. Results showed that micro- credit disbursed by PRSP significantly increased production of wheat and sugarcane which increased the farmers' incomes. Thus, micro-credit scheme improved the living conditions of the farmers. The results of this paper invoke that loan size disbursed by PRSP and other agencies should be increased according to the requirement of the rural entrepreneurs and it should be disbursed in proper time. Post disbursement monitoring should be carried out both internally as .well as externally. This pertains to internal monitoring by community organization members and external monitoring by social organizers and monitoring and planning officers of PRSP.

Ahmed and Gill (2007) found that agricultural sector is the largest contributor to Pakistan's GDP. Commercial banks are the most important component of Pakistan's financial sector and at the same time an important source for agricultural credit. This study estimated the technical efficiency of commercial banks operating in Pakistan by employing Data envelopment analysis (DEA) under variable returns to scale (VRS) after intensive agricultural lending by commercial banks. For this purpose, inputs and outputs of the commercial banks were defined on the basis of intermediation approach. After the estimation of technical efficiency, Tobit model was used to develop its relationship with bank specific variables. The result shows that the assets ownership characteristic and after merger year affects are significant contributors to the technical efficiency, while agricultural lending has no significant impact over time on the efficiency of commercial banks.

Basher et al. (2007) stated that the agriculture sector contributes 3.4 percent to the value added in agricultural and 0.7 percent to GDP. Given its importance to the productivity and farmer's income, this paper studied the impact of credit disbursed by UBL on the productivity of sugarcane. Data were collected randomly form 114 loanee and non-loanee farmers from Faisalabad District. Cobb Douglas Production function was used for the analysis0. It was found that the credit has positive impact on the productivity of sugarcane.

Khan (2007) found that the resources required for agricultural operation are land, layout, livestock, farm equipment's, seeds, fertilizers, irrigation, transport etc. for the convenient and timely procurement of these resources the farmers must have easy access to credit. The A.D.B.P and commercial bank provide loans to the farmers which are insufficient because our farmers are very poor. The use of better seeds facilities for the farmers, the government has extended the existing credit facilities to a large extent. The commercial Banks also grant loans to the farmer, but still there is a need for more facilities as our farmers are very poor. The commercial Bank may be encouraged to provide credit to small farmers in addition to Zarai Taraqiati Bank.

Siddqui et al. (2007) found that the credit is an important instrument in enabling farmers to acquire commands over the use of working capital, fixed capital and consumption goods. After the emergence of green revolution, there have been overtime changes in crop production technology, so credit requirements have increased for both inputs for crop production technology, so credit requirement have been increased for both inputs for crop Production and farm investment. The small farmers, loans advanced by the credit institution. Various policy measures were initiated In Successive five years plans to meet the real challenge of reaching the needy framers with credit. Thus the total amount of agricultural credit reflected thirteen folds increase in 2001-02 over 1980-81. According to regression result for all considered equations agriculture credit contributed positively and significantly in agricultural income. The estimate elasticity was 0.36 despite constant increasing trend in disbursement in nominal term the loans were not expanded in qualitative term. So, this is a challenging ISSUE FOR THE Policy maker to develop measures to improve efficiency of agricultural credit system by providing it to the needy farmers.

Akram et al. (2008) stated that the agricultural credit programmers thought Institutional sources has checkered history. In spite quantum increase in credit, its impact on farm productivity was jot well documented, there were conflicting views on the performance of agricultural credit scheme the farmers were facing a lot of constraints. The borrowing behavior of the respondents was estimated through the legit model and identified the determined the determinants of credit constraints. The result showed that the coefficients of transitory income, education. The household consumption expenditure was positively and significantly by operational holding and value of implements.

Adebayo and Adeola (2008) stated that the role of credit in agricultural economy was crucial and its constraint which could affect farmer's investment behavior necessitated the Investigation of sources of agricultural credit and its uses in surlier local government area of Oyo state. One hundred and twenty,

respondents randomly selected from twenty villages were interviewed using structured questionnaire. The results also showed that payment for labour wages consumed the larger percentage of the credit obtained by most of the respondents. Accessibility to agricultural credit was constrained by certain factors identified in the study. However, to ensure effective utilization of available sources of credit, establishment of agricultural and community banks in the rural areas with simple procedures of securing loans was recommended. Also, mobilization of farmers into formidable groups in order to enjoy the benefit of collective investment of group savings was also recommended.

Au et at. (2009) stated that the total factor rr3ductivity (TFP) growth of Pakistani's agriculture was estimated using Tornqvist- Thiel (T-T), Pakistan Approximation to Division Index for the period from 1971 to 2006. Output and input quantity data for most of the categories of crop and livestock sub sectors, along with their prices were utilized in constructing output and input indexes, respectively. The results showed an average annual total factor productivity (TFP) growth rate of 2.14 percent for whole study period. The analysis also explained that TFP growth contributed about 56 percent to agricultural output growth during study period. These findings suggest that measures should be taken to increase the resource use efficiency and develop productivity enhancing technology to improve TFP growth rather than increase in the use of inputs.

Bashir (2009) found that financing for agricultural sector was very much needed and important. Like other institutional sources, commercial banks also provided agricultural credit. The purpose of the present study finds out the impact of credit disbursed by them on the productivity of wheat. Primary data were collected from 114 randomly selected respondents through a well-structured interview schedule. Cobb Douglous function was used to calculate the impact of credit on the productivity. It was found that the coefficient of credit was highly significant, which showed that credit has a positive impact on the productivity of wheat and hence is an important tool for improving the productivity of agriculture sector.

Kaleem and Wajid (2009) conducted a survey in four districts of the Punjab with a specifically designed questionnaire: A convenient sampling technique was used to gather farmers' concerns related to crops inputs, output and credit requirements. It was found that agriculture income represents only up to 60 percent of the income of an average farm household. About 70 percent of farmers participate in the credit market. They need money to purchase crops inputs, to pay the labour and to hire rental machinery. Farmers believe that they can save up to 25 percent in costs if they purchase inputs on cash. The survey also discloses that middlemen are the larger financers and buyers of crops in the rural economy whereby only 10 percent of transactions are conducted on a purely cash basis. Farmers usually return the money after the sale of the crop.

CHAPTER - III
MATERIALS AND METHODS

This study was carried out through survey method. The discussion is mainly focused on various aspects such as study design, sample selection, construction of measuring instrument, pilot study or pre-testing and measures adopted during development of questionnaire to ensure its validity

Study Design

This study is based on the primary data, which were collected from loanees (agriculture credit) of ZTBL and non-loanees of district. A detailed questioner was developed to explore the research objectives. A random selection of loanees of ZTBL and noon-loanees of agricultural credit of District was carried out to ensure the generalization of research findings. The respondent selection form the selected branches of ZTBL Bank was based on the simple random sampling technique. The active loanees were provided by the bank and every fifth loanee was interviewed from the sequence of the list.

Sample Size

A sample is any subset of sampling units from a population. A subset is any combination of sampling units that does not includes the entire set of sampling units that has been defined as the population. From the selected branches of ZTBL bank 30 farmers (loanees) were selected randomly i.e. twenty farmers from each branch and 30 farmers (noon-loanees) were also selected randomly from the above mentioned area of District Kashmore at Kandh Kot.

Pre -Testing

Five loanees and five non-Loanees were interviewed to check the sensitivity of the questionnaire. Another objective of this pre-testing was to ensure whether respondent really understand the questions and yield true response. The ambiguities encountered during this trial and error stage were carefully rectified on revision and modification of the questionnaire. Question on the cost and production of wheat were rephrased in the light pre-testing.

Interviewing

Questions were asked from the respondent in a face-to-face situation. The interview schedule was prepared in English and asked in Sindh (Local language) from farmers.

Data Analysis

The data thus, collected was fed to computer for analysis. The coded data were analyzed through statistical package for social sciences (SPSS). Analysis were done by using statistical techniques like means, comparison of means and frequency distribution to draw the conclusions and interpret the research findings and to suggest measures for improvement.

Gamma Statistics

The value of Gamma shows the strength and direction of the relationship between independent and dependent variables. Calculations were made by using the following formula.

$$Gamma = \frac{NS-ND}{NS+ND}$$

Where

NS = Same Order Pair ND = Different Order Pair.

Regression Analysis

Regression analyses are set of statistical techniques used to assess the relationship between the dependent and independent variables. When more than two variables are involved, the most commonly used procedure to investigate the significance of each of the independent variables in explaining dependent variable is multiple linear regressions (Woehr and Cavell, 1993).

The inclusion of credit as an independent variable in the production function is usually criticized on the grounds that it does not affect the output directly; rather it has an indirect effect on output through easing the financial constraints of the producers in purchasing inputs. However, credit was included as an explanatory variable in the production function based on the argument of Carter (1989).

He argued that credit affects the performance of agriculture in three ways: (i) encourage efficient resource allocation by overcoming constraints to purchase inputs and use them optimally. This sort of effect would shift the farmer along a given production surface to a more intensive, and more remunerative, input combination (ii) if the agricultural credit is used to buy a new package of technology, say high-yielding seed and other unaffordable expensive inputs, it would help farmers to move not only closer to the production frontier but also shift the entire input-output surface. In this regard it embodies technological change and a tendency to increase technical efficiency of the farmers and (iii) credit can also increase the use intensity of fixed inputs like land, family labour, and management. Carter's reasoning implies that agricultural credit not only increases management efficiency but also affects the resource allocation and profitability.

The collected data were then analyzed using the following Cobb Douglas production function;

Model 1

In gross margin = $\beta_0 + \beta_1$ in scploudhing + $\beta_2$in scseed + β_3 in scfertilizer + β_4 In sccanalirrigation + β_5 sctubewell + β_6 in scchemical + $\beta_7$in landholding + β_8 in education + β_9 credit (d)

Where:

In gross margin = natural log of the gross margin in Rs.
In scploouging= natural
Log of number ploughing for wheat
In scseed = natural log of the seed for wheat
In scfertilizer = natural log of fertilizer of wheat used in bags/acre
In sccanalirrigation = natural log of no. of canal irrigation for wheat
In sctubewell= natural log of no. of tube well irrigation for wheat
In scchemical = natural log of no. of chemical applications for wheat (per acre)
In lanholding = natural log of size of land holding
In Education = natural log of years of schooling
Credit (d) = avail credit facility (dummy)
β_0 β_1 β_2 β_3 β_4 β_5 β_6 β_7 β_8 *and* β_9 = estimate parameters of the model

CHAPTER - IV
RESULTS

Analysis and interpretation of data are the most important step in scientific research. Without these steps generalization and prediction cannot be achieved which is the target of scientific research. Generalization and conclusion are drawn on the basis of characteristics and attitudes of the respondents. Therefore, this chapter presents the required data analysis.

Socio-economic and demographic characteristics of the farmers

Age, education, size of land holding and source of income are the socio-economic and demographic attributes of the farmers. The data collected regarding this aspect are presented in tables.

Age

Age is an important factor in determine the behaviors of human being. It indicates the ability to do work and attitude f person toward various social and economic aspect of life. Age factor is very important to behavior it widens the vision of an individual through experience. The respondents were asked about their age and data in table 1.

Table .1 Distributions of farmers according to their age in the study area, during- 2013.

Age category (year)	Non-Loanee	Loanee	Total
Up to 35	07	04	11
35 to 45	11	18	29
Above 45	12	08	20
Total	30	30	60

Table .1 depicts that 07 non-loanee and 04 loanee farmers belonged to age group up 35 years, while about one-third i.e.11 non-loanee and less than half i.e. 18 loanee farmers belonged to age group 36-45 years. About 12 non-loanee and 08 loanee farmers' belonged to age group above 45 years.

Education

Education can be defined as the process of developing knowledge, wisdom and other desirable qualities of mind, character and general competency, epically by the source of formal instruction. It is generally admitted that without education it is pretty difficult to produce good results in very sphere of life. The understanding, inculcation and adoption of new innovation are impossible unless our farming community is educated. The data are given in table .2.

Table .2 Distributions of the farmers according to their education level in the study area during-2013

Education of respondents	Non-Loanee	Loanee	Total
Illiterate	05	04	09
Primary-middle	15	12	27
Matric	08	10	18
Collage-University	02	04	06
Total	30	30	60

Table .2 reveals that slightly less than 05 farmers' non-loanee, 04 farmers loanee were illiterate, while about 15 farmers non-loanee, 21 farmers loanee were Primary-middle level of education. The 08 farmers' non-loanee, 10 farmers loanee were matriculation. Only 02 farmers' non-loanee, 04 farmers loanee were Collage-University education in the study area.

Table .3 Distribution of the farmers according to their family members in the study area, during-2013

No. Family members	Non-Loanee	Loanee	Total
5-6	13	06	19
7-8	11	14	25
9 and above	06	10	16
Total	30	30	60

Table .3 shows that 13 farmer's non-loanee, 06 farmers loanee had 5-6 family members, 11 farmers non-loanee, 14 farmers loanee had 7-8 family members, 06 farmers non-loanee, 10 farmers loanee had 9 and above family members in the selected area.

Table.4 Distribution of the farmers according to the family type in the study area, during-2013.

Family Type	Non-Loanee	Loanee	Total
Joint family	23	25	48
Single family	07	05	12
Total	30	30	60

Table .4 indicate that a he majority i.e. 23 farmers non-loanee , 25 farmers loanee were living in joint family system, while only 07 farmers non-loanee and 05 farmers loanee wee living single family system. Majority of respondents were living in joint family system.

Table .5 Distribution of the farmers according to their agricultural experience in the study area, during-2013

Education experience(years)	Non-Loanee	Loanee	Total
Up to 10	05	04	09
11-20	10	11	21
Above 20	15	15	30
Total	30	30	60

Table.5 reveals that only 05 non- loanee farmers and 04 loanee farmers had up to 10 years of agricultural experience, while most of the respondents i.e. 10 farmers non loanee and 11farmers loanee had 11-20 years agricultural experience. 15 non- loanee farmers and 15 loanee farmers had above 20 years of agricultural experience.

Table .6 Distribution of the farmers according to size of land holding in the study area, during-2013

Size of land holding (acres)	Non-Loanee	Loanee	Total
Up to 05	14	14	28
06- 10	13	12	25
11 and above	03	04	07
Total	30	30	60

Table .6 indicates that 14 non- loanee farmers and 14loanee farmers had up to 05 acres to size of land holding, while most of the respondents i.e. 13 farmers non loanee and 14 farmers loanee had 06-10 acres to size of land holding. 03 non- loanee farmers and 04 loanee farmers had 11 and above acres to size of land holding.

Agricultural credit

Agricultural credit is one of the essential requirements for the growth of agricultural production and productivity. Agricultural credit play an important role in development as it helps the farmers and entrepreneurs to undertake new investments and adopt new technologies to enhance productivity. Agricultural credit information and its impact on the selected farmers' are given below.

Table.7 Distribution of the farmers according to the information about agricultural credit scheme in the study area,during-2013.

Information about agricultural credit scheme.	Non-Loanee	Loanee	Total
Yes	27	30	57
No	03	00	03
Total	30	30	60

Table .7 The knowledge of agricultural credit scheme show that27 farmers non loanee had information about agricultural credit scheme and 30 of loanee farmers had information about schemes of the ZTBL. Only 03 farmers non loanee were not aware of the schemes.

Table .8 Distribution of the farmers according to their source of information about agricultural credit scheme in the study area, during-2013.

Source of information about agricultural credit scheme.	Non-Loanee	Loanee	Total
Banks staff	16	24	40
Relatives	14	06	20
Total	30	30	60

Table .8 show that a majority i.e. 40 respondents were getting information about agricultural credit scheme from ZTBL bank staff, while about 20 of them reported that they got information their relatives. It is evident from the result that ZTBL bank has a very strong strategy to create awareness among farmers about the formal and intuitional source of credit.

Table .9 Distribution of the farmers according to the number of times credit facility availed in the study area, during-2013.

How many time avail the credit facility bank	No
One	17
Twice	11
Thrice	02
Total	30

Table .9 shows that 17 of the loanees availed the credit facility for the first time, 11 of the loanees availed this credit facility second time and only 02 availed it for third time.

Table .10 Distribution of the farmers according to the satisfaction with interest rate in the study area, during-2013.

Satisfaction level	No
To great extent	00
To some extent	12
Not at all	18
Total	30

Table .10 shows that 12 of the loanees were satisfied with interest rate charged by ZTBL Bank to some extent and 18 of the loanees were not satisfied with the interest rate charged by the bank.

Table .11 Distribution of the farmers according to the credit amount demanded and disbursed in the study area, during-2013.

Amount Rs	**Demand Amount**	**Disbursed Amount**
100000-150000	05	16
150002-200000	14	10
Above 200000	10	04
Total	30	30

Table .11 shows the demanded and disbursed amount of the respondents. Above table reflects that 05 of the loanees demanded, 16 of the Disbursed amount 100000-150000 Rs, while a major proportion i.e. 14 of the loanees demanded, 10 of the Disbursed amount 150002-200000 Rs. And 10 of the loanees demanded, 04 of the Disbursed amount Above 200000 Rs.

Table .12 Distribution of the farmers according to the utilization of loan for agriculture purpose in the study area, during-2013.

Utilization of loan for agriculture purpose	**No.**
Banks staff	18
Relatives	12
Total	30

Table .12 reveals that 18 farmers used credit for agriculture purpose and 12 farmers use the credit for some purpose other than agriculture.

Table .13 Distribution of the farmers according to the purpose of loan as per bank record in the study area, during-2013.

Purpose of loan as per bank record	**No.**
All type of inputs	25
Purchase of seed and fertilizer	05
Total	30

Table .13 shows as per bank record 100% loans were disbursed for agriculture inputs like seed, fertilizer, pesticides etc.

Table .14 Distribution of the farmers according to the actual utilization of loan amount in the study area, during-2013.

Actual utilization of loan amount	**No.**
Utilized of fulfill the actual purpose of the loan	20
Fulfilment of domestic needs	06
Pay of some pervious loan/liability	04
Total	30

Table .14 shows that 20 respondents reported that they utilized the loan amount for fulfill the actual purpose of loan, while 06 respondents reported that they utilized the loan amount for fulfill the domestic needs and 04 respondents reported that they paid of some pervious loan/liability with current disbursed amount.

Table .15 Distribution of the farmers according to the reason for misutilization of the loan amount in the study area, during-2013.

Reason for misutilization loan amount	**No.**
Poor financial condition	18
Not willing to invest in agriculture sector	05
Social pressure	07
Total	30

Table .15 shows that majority 18 farmers reported that they misutilization loan amount due to poor financial condition, 05 farmers reported that they Not willing to invest in agriculture sector and 07 farmers reported that they misused loan due to social pressure.

Table .16 Distribution of the farmers according to the extent of problems faced in getting loan facility in the study area, during-2013.

Extent of problems faced in getting loan facility	**No.**
To great extent	00
To some extent culture sector	10
Not at all	20
Total	30

Table .16 shows that 20 farmers get agriculture credit facility from bank without facing any problem while 10 farmers are said they face problem to some extent.

Table .17 Distribution of the farmers according to the nature of problems faced in getting loan facility in the study area, during-2013.

Nature of problems faced in getting loan facility	**No.**
Process involved in loan acquisition was very much complex	10
Terms and conditions of the bank were not clear	08
No problem	12
Total	30

Table .17 shows that 10 farmers reported process involved in loan acquisition was very much complex, 08 farmers reported Terms and conditions of the bank were not clear and 12 farmers reported no problem in getting loan facilities.

Table .18 Distribution of the farmers according to the nature of negative impact of the Loan facility in the study area, during-2013

Nature of negative impact of the loan facility	**No**
Difficult to repay	04
High markup	18
Increase in due burden	03
all above discussed reason	05
Total	30

Table .18 shows that 04 of the respondents reported that they felt difficulty in repay the loan amount, while a major proportion i.e. 18 respondents of them said that the mark up rate is very high rate is very high, 023respondents reported increase in debit burden had negative impact, another 05 of them had all above discussed reason of negative impact of the loan.

Table .19 Distribution of the farmers according to the positive of negative impact of the Loan facility in the study area, during-2013

Nature of positive impact of the loan facility	**No**
Increase in production	05
Adoption of new technologies in agriculture	03
Income increase	04
No positive impact	18
Total	30

Table .19 shows that 05 of the respondents reported that they Increase production in the loan amount, 03 respondents of them said that Adoption of new technologies in agriculture, 04 respondents reported increase income had positive impact, another 18 of them had No positive impact of the loan.

Table .20 Distribution of the farmers according to the any other source of income in the study area, during-2013

Any other source of income	**No**
Yes	12
No	18
Total	30

Table .20 show that 12 farmers of the have source of income other than agriculture and 18 farmers have agriculture as only source of income.

Cost of Production of Major Crop (Rabi 2013)

Cost of production information is an essential ingredient for farm level decision making. Knowing the cost of production information starts with good farm records. In this study I have calculated the cost of production of wheat crop for both non-loanee farmers and loanee farmers and compared them. Comparison indicates the input usage pattern of the both type of farmers and helps to conclude the impacts of agricultural credit on inputs usage.

Table .21 Comparison of mean area of wheat crop (acres) in the study area, during-2013

Respondent		**Wheat**
Non-Loanee	Mean	4.02
	Number	30
	Std. Deviation	0.65
Loanee	Mean	4.47
	Number	30
	Std. Deviation	2.47
Total	Mean	4.24
	Number	60
	Std. Deviation	1.81

Table 21. Shows that mean area under wheat crop for loanees was 4.02 acres for wheat and in case of

loanees 4.47 acres for wheat. Result indicates that average cultivated area in case of loanee farmers is higher than non-loanee farmers.

Table .22 Comparison of mean per acre ploughing cost of wheat crop (Rs/per acre) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	2575.00
	Number	30
	Std. Deviation	417.67
Loanee	Mean	2560.00
	Number	30
	Std. Deviation	677.78
Total	Mean	2567.50
	Number	60
	Std. Deviation	560.64

Table .22 shows the average cost of ploughing acre for wheat crop. In case of non-loanee it is 2575.00, Rs per acre for wheat respectively and in case of loanees it is 2560.00 Rs. Per acre for wheat.

Table .23 Comparison of mean per acre planking cost of wheat crop (Rs/per acre) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	1663.33
	Number	30
	Std. Deviation	251.08
Loanee	Mean	1573.33
	Number	30
	Std. Deviation	395.68
Total	Mean	1618.33
	Number	60
	Std. Deviation	333.05

Table .23 shows the average cost of planking acre for wheat crop. In case of non-loanee it is 1663.33Rs per acre for wheat respectively and in case of loanees it is 1573.33 Rs. Per acre for wheat.

Table .24 Comparison of mean cost of seed wheat crop (Rs) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	1425.00
	Number	30
	Std. Deviation	227.46
Loanee	Mean	1556.67
	Number	30
	Std. Deviation	287.22
Total	Mean	1490.83
	Number	60
	Std. Deviation	266.31

Table .24 shows the average cost of seed for wheat crop. In case of non-loanee it is 1425.00,Rs per acre for wheat respectively and in case of loanees it is 1556.67 Rs. Per acre for wheat.

Table .25 Comparison of mean cost of fertilizer of wheat crop (Rs) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	772.87
	Number	30
	Std. Deviation	28.22
Loanee	Mean	808.60
	Number	30
	Std. Deviation	286.26
Total	Mean	790.73
	Number	60
	Std. Deviation	203.33

Table .25 shows the average cost of fertilizer for wheat crop. In case of non-loanee it is 772.87Rs, per acre for wheat respectively and in case of loanees it is 808.60 Rs. Per acre are for wheat.

Table .25 Comparison of mean cost of DAP of wheat crop (Rs) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	2650.83
	Number	30
	Std. Deviation	62.09
Loanee	Mean	2980.00
	Number	30
	Std. Deviation	1314.82
Total	Mean	2815.42
	Number	60
	Std. Deviation	941.45

Table .25 shows the average cost of fertilizer for wheat crop. In case of non-loanee it is 2650.83 Rs, per acre for wheat respectively and in case of loanees it is 2980.00Rs. Per acre are for wheat.

Table .26 Comparison of mean cost of FYM of wheat crop (Rs/per acre) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	108.34
	Number	30
	Std. Deviation	244.28
Loanee	Mean	83.33
	Number	30
	Std. Deviation	214.45
Total	Mean	95.83
	Number	60
	Std. Deviation	229.23

Table .26 shows the average cost of FYM for wheat crop. In case of non-loanee it is 108.34, per acre for wheat respectively and in case of loanees it is 83.33Rs. Per acre for wheat.

Table .27 Comparison of mean cost of canal water of wheat crop (Rs/per acre) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	100.00
	Number	30
	Std. Deviation	0.00
Loanee	Mean	100.00
	Number	30
	Std. Deviation	0.00
Total	Mean	100.00
	Number	60
	Std. Deviation	0.00

Table .27 shows the average cost of canal water for wheat crop. In case of non-loanee it is 100.00Rs, per acre for wheat respectively and in case of loanees it is 100.00Rs. per acre for wheat.

Table .28 Comparison of mean cost of tube well water of wheat crop (Rs/per acre) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	0.00
	Number	30
	Std. Deviation	0.00
Loanee	Mean	166.67
	Number	30
	Std. Deviation	423.33
Total	Mean	83.33
	Number	60
	Std. Deviation	309.60

Table .28 shows the average cost of tube well for wheat crop. In case of non-loanee it is 0.00Rs, per acre for wheat respectively and in case of loanees it is 166.67 Rs. Per acre for wheat.

Table .28 Comparison between cost of production of wheat crop (Rs/per acre) in the study area, during-2013

Respondent		**Wheat(Rs/per acre)**
Non-Loanee	Mean	14921.60
	Number	30
	Std. Deviation	1879.64
Loanee	Mean	15804.64
	Number	30
	Std. Deviation	3082.56
Total	Mean	15362.95
	Number	60
	Std. Deviation	2580.55

Table .28 shows the average cost of production for wheat crop. In case of non-loanee it is 14921.60 Rs, per acre for wheat respectively and in case of loanees it is 15804.64 Rs. Per acre for wheat.

Table .29 Relationship between cost of production of wheat crop (Rs/per acre) in the study area, during-2013

Total cost on wheat crop (Rs)	**Respondent**		**Total**
	Non-Loanees	**Loanees**	
Up 25000	11	08	19
	36.7%	26.7%	31.7%
25001-35000	07	08	15
	25.0%	26.7%	25.8%
35001-45000	10	03	13
	33.3%	19.0%	21.7%
Above 45000	02	11	13
	5,0%	36.7%	20.8%
Total	30	30	60
	100.0%	100.0%	100.0%

Gamma value shows a positive relationship between the variable. Its mean loanee farmers had more cost on wheat crop as non loanee farmers. Table 29. Shows the compression of total per acre cost of production of wheat crop between loanee and non loanee farmers. Data shows that 36.7% of non loanee farmer and 26.7 % of loanee farmers had per acre cost of production up to 25000 Rs per acre and 25 % of non loanee and 26.7 % of loanee farmers had per acre cost of production up to 35000 Rs per acre and 33.3 % of non loanee and 10% of loanee farmers have per acre cost of production up to 45000 Rs per acre 5% of non loanee 36.7 % of loanee farmers had per acre cost of production above 45000 Rs per acre ,the trend shows that loanee farmers had higher average per acre cost of production than non loanee farmers.

Output of Wheat Crop

Table .30 Comparison of mean output of wheat crop (40 K.g/per acre) in the study area, during-2013

Respondent		**Wheat(40K.g per acre)**
Non-Loanee	Mean	32.7
	Number	30
	Std. Deviation	1.83
Loanee	Mean	33.67
	Number	30
	Std. Deviation	2.58
Total	Mean	33.20
	Number	60
	Std. Deviation	2.28

Table .30 shows the average production of wheat crop. In case of non-loanee it is 32.7(40K.g per acre) for wheat respectively and in case of loanees it is 33.67 (40K.g per acre) for wheat.

Table .31 Comparison of mean total value of wheat crop (Rs/per acre) in the study area, during-2013

Respondent		**Wheat(Rs/ per acre)**
Non-Loanee	Mean	29317.83
	Number	30
	Std. Deviation	1759.27
Loanee	Mean	28874.00
	Number	30
	Std. Deviation	5485.54
Total	Mean	29095.92
	Number	60
	Std. Deviation	4070.23

Table .31 shows the average value per acre of wheat crop. In case of non-loanee it is 29317.83 (Rs/ per acre) for wheat respectively and in case of loanees it is 28874.00 (Rs/ Per acre) for wheat.

Table .32 Comparison of farmers on the basis of Gross Margin of wheat crop (Rs/per acre) in the study area, during-2013

Gross Margin for Wheat crop(Rs/p.a)	**Respondent**		**Total**
	Non-Loanees	**Loanees**	
Up 75000	10	06	16
	62.5%	37.5%	100.0%
75001-100000	10	08	18
	55.6%	44.4%	100.0%
100001-125000	07	08	15
	46.7%	53.3%	100.0%
Above 125000	03	08	11
	527.3%	72.7%	100.0%
Total	30	30	60
	50.0%	50.0%	100.0%

Gamma value shows a strong positive relationship between gross margin of wheat crop and type respondents. Data show in this table total 16 farmers belong to income category up to 75000 Rs per acre out of 62.5%are non loanees and 37.5% are loanees and 18 farmer belong to category to 75001-100000 Rs per acre out which 55.6% are non loanees and 44.4% are loanees and 5 farmers belong to 100000-125000 Rs per acre out of above 125000 Rs per acre out of which 27,3% are non loanees and 27,7%are loanees farmers. So above result clearly indicates that loanee's farmers gain more income from their wheat crop as compare to non loanee farmers.

Table 33 Comparison of total cost of production and gross margin for wheat crop (Rs/per acre).

	Wheat Crop	
Items	**Non Loanee**	**Loanee**
Seed Cost	1425.00	1556.67
Ploughing	2575.00	2560.00
Planking	1663.33	1573.33
Fertilizer	772.87	808.60
DAP	2650.83	2980.00
FYM	108.33	83.33
Canal Irrigation	100.00	100.00
Harvesting/Threshing	5236.23	5359.03
Total Cost	**14531.33**	**15020.45**
Total Value Product	**33124.83**	**34142.67**
Gross Margin	**18593.83**	**1922.76**

CHAPTER – V
DISCUSSION

Agriculture is the ministry of Pakistan economy and provides live hood to majority of rural population. Today, Pakistan's agriculture is facing many challenges like energy crises, water shortage, rising prices of inputs including seed, fertilizer pesticide, and natural resource conservation. The farmers particularly the small farmers are facing problems in the early adoption of new technology because of financial shortage. Facilitation to this sector, expanding agricultural credit at the grass root level is a credible effort towards economic development. SBP has taken several initiatives during last 6-7 years to enhance the flow of credit to the agricultural sector. These initiatives have paid rich dividends in the form of substantial rise in agricultural credit disbursements.

Zarai Taraqiati Bank Limited (ZTBL) former Agricultural Development Bank of Pakistan (ADBP) is the premier financial institution geared towards the development of agriculture sector through provision of financial services and technical knowhow. The restructuring of former ADBP is being carried out with the aim to uplift the agriculture and rural sector by raising farm productivity, streamlining the institutional credit and increasing income generating capacity of the farming community.

Agricultural credit plays an important role in enhancing the agricultural productivity in developing countries like Pakistan. The government of Pakistan introduced several agricultural credit loans through ZTBL and other commercial banks and institutional sources. Now the problem is to remove the constraints which small farmers are facing in this regard and then improve the utilization of the credit amount as planned at the time of disbursement in agriculture production process following findings were found.

- A major proportion i.e.40.8% of the farmers belonged to young age group (36-45 years).
- It was found that majority of the respondents had low level of education in the selected area.
- More than 51.7% of the respondents had 6-10 acres of the land holding.
- A huge majority 95% of the respondents had knowledge about the agricultural credit scheme of the ZTBL Bank.
- More than 56.75 of the loanees' farmers avail credit facilities for the first time from the ZTBL bank.
- A large majority 63.3 of the farmers were not satisfied with the interest rate charged by the banks.
- It was found that a large number of farmers mutualized the credit amount.
- About 66.7% farmers got agricultural credit facility from bank without facing any problem.
- Result indicates that average cultivated area in case of loanee farmers is higher than non-loanee farmers.
- It was conclude that the loanee farmers had more cost of production as compare to non loanee farmers.
- Results of regression analysis indicate that credit had very normal impact on agricultural productivity as limiting factors is the proper utilization of loan mount in agricultural sector.

CHAPTER – VI
CONCLUSION AND SUGESTIONS

It is clear from the above discussion that the credit does have an impact on the productivity of major crops i.e. sugarcane and wheat crop but limiting factor is the proper utilization of the credit amount. All these findings make any one to conclude that ZTBL bank are effectively serving the agricultural sector of Pakistan through their credit disbursement scheme hence improving the living standard of people living in rural areas, reducing the poverty and ultimately helping the economy of the country. Improvements can always be made in any system so is the case with credit disbursement schemes, according to the problems which were noted during the survey, a few suggestions are listed below to make the credit impact better:

1. Proper utilization of the loan must be ensured by providing an appropriate amount of loan at the time when it is needed otherwise the loan may be misused and recovery would become difficult.
2. Improvement in technical now how of the borrowers by the bank officials. For this purpose proper training of the staff concerned is necessary so the workshops and seminars should be arranged for the field staff.
3. To avoid the misuse of the loan and provide technical and economic know how, supervised credit schemes must be revived and restructured.
4. ZTBL bank staff should motivate farmers for the investment of credit amount provided by ZTBL bank in agriculture sector.
5. In case of any natural calamity by the bank should revise the repayment schedule at the convenience of the borrowers.
6. ZTBL bank can provide farmers required inputs directly to ensure proper utilization.
7. To avoid the problem of high interest rate the ZTBL bank should introduce interest free lending on the basis of Islamic partnership, that is, Musharke/ Muzarba as per Islamic banking.
8. It is suggested that ZTBL bank should simply the terms and conditions involved in process of loan disbursement and also simply the disbursement process in sense of one window operation.

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QUESTIONNAIRE
TITLE: IMPACT OF CREDIT ON AGRICULTURAL PRODUCITIVITY: A CASE STUDY OF ZARI TARAQIATI BANK LTD (ZTBL) LOANS IN DISTRICT KASHMORE AT KANDH KOT, SINDH

Name of Farmer: _____

Status _____

Total holding _____

Area under study _____

Name of Deh _____

Name of Investigator: **AZHAR ALI BIJARANI**

Student of
M. Sc (Agri.) Honours in
Agricultural Economics
REG. NO. 2K11-AE-340

SYNOPSIS

SYNOPSIS OF THE PROPOSED THESIS WORK TO BE DONE IN CONNECTION WITH THE PARTIAL FULFILMENT OF REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE (HONOURS) IN AGRICULTURAL ECONOMICS TO BE SUBMITTED TO SINDH AGRICULTURE UNIVERSITY TANDOJAM BY MR. AZHAR ALI S/O ABDUL AZIZ BIJARANI, REG.NO. 2K11-AE-340.

TITLE: IMPACT OF CREDIT ON AGRICULTURAL PRODUCITIVITY: A CASE STUDY OF ZARI TARAQIATI BANK LTD (ZTBL) LOANS IN DISTRICT KASHMORE AT KANDH KOT, SINDH

Introduction

Agriculture was the dominant sector of the Pakistan's economy in 1947 as it contributed over 53 percent towards the Gross Domestic Product (GDP). Its share in the GOP has, however, fallen considerably over the years where as the share of other sectors of the economy such as manufacturing, construction and services, which was rudimentary at the time of independence, has increased. Nevertheless, agriculture still occupies a pivotal position in the economy of Pakistan by contributing about 21.8 percent to the GDP and providing, employment to over half of the labor force. Agriculture and agro based products account for around 74 percent of total export earnings. It also supplies many of the major industries with essential raw materials (GOP 2012).

Agriculture continues to be the single largest sector of the economy of Pakistan and is main source of livelihood for 66 percent of country's pop t½n employs about 44 percent of total work force. Its share in country's export earnings is 65 percent. Out of about 5000 industrial establishments in Pakistan, about 58 percent are agro based. So agriculture growth is bound to affect not only country's overall growth performance but also country's population as well (Ali, et all 2009).

Agriculture is the base sector for major industries like textile and sugar etc., the agriculture sector stands out as the largest source of foreign exchange earnings. Thus, a progressive and well developed agriculture sector can play a pivotal role in accelerating the overa11 pace of development of the country and alleviating poverty, it is also a fact that the slate of development of Pakistan's Agriculture Sector lags behind man)' developing countries, including our neighboring country. While there are a number of steps, which can be taken to bring our agriculture sector at par with other countries, one critical factor is the sufficient availability of credit for agriculture (SBP, 2009).

Most countries including Pakistan motivate by consideration of the potential gain and the increase in welfare of the farmers, specially the smaller farmers, have undertaken widespread credit programs. However, in most such cases, the Government intervention takes the form of interest rate ceiling or subsidies interest rates thereby necessitating rationing. When credit was rationed some borrowers could not obtain the amount of credit they desired at the prevailing interest rates, nor did they secure more credit by offering to pay higher interest rate. In sue cases, liquidity can become a constraint and most binding where the access to credit is limited by consideration inherent either in the sign of credit program or those that arise out of the skewed socio- economic and political structure which diverted such credit away from those that need it (Malik, 1999).

The government of Pakistan introduced several agricultural credit programs through institutional sources. The impact of these programs was less than optimal due to rambling credit policies. The farmers were facing many constraints to avail agricultural credit in a timely fashion. Majority of the farmers revealed that they could not avail credit because of needed collateral. The hard hits were tenants and share croppers who do not own land, and thus were unable to avail credit. The high markup both from formal and informal sources was another constraint (Akram et at. 2008).

The government of Pakistan has allocated Rs 260 billion as agriculture credit for the year 2009-10 as compared to Rs 250 billion for last year, which indicates an increase of 4 percent over the last year. Out of total credit target of Rs 260 billion, Rs 124 billion were allocated to five big commercial banks, Rs 80 billion to ZTBL, Rs 6 billion to Punjab Provincial Cooperative Bank Ltd (PPCBL), and Rs 50 billion to domestic private banks. The government had also allocated province-wise and sector wise targets whereby 78 percent, 14 percent, 6 percent, 1.5 percent and 0.5 percent to be disbursed in Punjab, Sindh, NWFP, Balochistan and AJK & NA, respectively. Credit was advanced to farmers to supplement their resources for purchase of inputs like seed, fertilizer, and pesticide as well as for purchase of agricultural machinery etc. (Kakakhel, 2009).

Objectives

The present study shall be undertaken with the following specific objective.

1. To identity the constraints involved in acquisition of agricultural credit and to
2. evaluate the actual utilization of agricultural credit in comparison to the purpose it was disbursed.
3. To study the impact of credit on agriculture productivity.
4. To suggest policy measures to overcome constraints involved in agriculture credit acquisition and avoid

misutilization of credit amount.

Methodology
This study will be carried out through survey method. The discussion is mainly focused on various aspects such as study design, sample selection, construction of measuring instrument, pilot study or pre-testing and measures adopted during development of questionnaire to ensure its validity

Study Design
This study is based on the primary data, which will be collected from loanees (agriculture credit) of ZTBL (Zain) and non-loanees of district. A detailed questioner will be developed to explore the research objectives. A random selection of loanees of ZTBL and noon-loanees of agricultural credit of District will be carried out to ensure the generalization of research findings. The respondent selection form the selected branches of ZTBL Bank will be based on the simple random sampling technique. The list of the active loanees will be provided by the bank and every fifth loanee will be interviewed from the sequence of the list.

Sample Size
A sample is any subset of sampling units from a population. A subset is any combination of sampling units that does not includes the entire set of sampling units that has been defined as the population. From the selected branches of ZTBL bank sixty farmers (loanees) shall be selected randomly i.e. twenty farmers from each branch and sixty farmers (noon-loanees) shall be also selected randomly from the above mentioned area of District Kashmore at Kandh Kot.

Pre -Testing
Five loanees and five non-Loanees shall be interviewed to check the sensitivity of the questionnaire. Another objective of this pre-testing shall be to ensure whether respondent really understand the questions and yield true response. The ambiguities encountered during this trial and error stage shall be carefully rectified on revision and modification of the questionnaire. Question on the cost and production of wheat shall be rephrased in the light pre-testing.

Interviewing
Questions shall be asked from the respondent (farmers) in a face-to-face situation. The interview schedule shall be prepared in English and asked in Sindh (Local language) from farmers.

Data Analysis
The data thus, collected shall be fed to computer for analysis. The coded data shall be analyzed through statistical package for social sciences (SPSS). Analysis shall be done by using statistical techniques like means, comparison of means and frequency distribution to draw the conclusions and interpret the research findings and to suggest measures for improvement.

Review of Literature
Review of the previous relevant research studies is generally considered as a valuable exercise as it highlights the findings of the past studies relevant to the problem under investigation. In the following paragraphs, the review of studies already conducted covering some of the aspects relevant to this topic has been made in order to fully

Muhammad et al. (2000) reported that the farmers' perception of the difficulties obtaining agricultural loans from Agricultural Development Bank of Pakistan (ADI3P). The credit facilities provided by the bank were likely to be effective only if these were available to the loaners according to the procedure as prescribed by the bank and without causing much inconvenience to them. It was generally thought that the farmers usually face number of obstacles in obtaining agricultural credit. A great majority of the respondents reported the loaning procedure either difficult or very difficult. The major difficulties faced by the loanees were illegal demands by "Patwaris", overcharging for the completion of pass book and complicated and lengthy loan, granting procedure of the bank.

Iqbal *et* at. (2003) studied the impact of institutional credit on agricultural production in Pakistan. They analyzed the data regarding variables of interest pertaining to financial years 1971 to 2002. The study computed various credit indicators and calculated share of various financial institutions in total agricultural loans. They concluded that at quite a high rate during the past three decades the rate of growth of nominal credit was slowest especially in the period after the mid 1980- 90, while the growth of real credit was negative during the same period.

Ahmed and Gill (2007) found that agricultural sector is the largest contributor to Pakistan's GDP.

Commercial banks are the most important component of Pakistan's financial sector and at the same time an important source for agricultural credit. This study estimated the technical efficiency of commercial banks operating in Pakistan by employing Data envelopment analysis (DEA) under variable returns to scale (VRS) after intensive agricultural lending by commercial banks. For this purpose, inputs and outputs of the commercial banks were defined on the basis of intermediation approach. After the estimation of technical efficiency, Tobi model was used to develop its relationship with bank specific variables. The result shows that the assets ownership characteristic and after merger year affects are significant contributors to the technical efficiency, while agricultural lending has no significant impact over time on the efficiency of commercial banks.

Khan (2007) found that the resources required for agricultural operation are land, layout, livestock, farm equipment's, seeds, fertilizers, irrigation, transport etc. for the convenient and timely procurement of these resources the farmers must have easy access to credit. The A.D.B.P and commercial bank provide loans to the farmers which are insufficient because our farmers are very poor. The use of better seeds facilities for the farmers, the government has extended the existing credit facilities to a large extent. The commercial Banks also grant loans to the farmer, but still there is a need for more facilities as our farmers are very poor./ The commercial Bank may be encouraged to provide credit to small farmers in addition to Zarai Taraqiati Bank.

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Research Supervisor	**Mr.Sanaullah Noonari** Assistant Professor Department of Agricultural Economics Faculty of Agricultural Social Sciences Sindh Agriculture University, Tando Jam
Place of Work	District Kashmore at Kandh Kot Sindh
Duration of Work	The study will be completed with in two academic years.
Educational Unit Involved	Sindh Agriculture University, Tando Jam

APPROVED BY	**STUDENT**
MRS.IRFANA NOOR MEMON Assistant Professor Department of Agricultural Economics Faculty of Agricultural Social Sciences Sindh Agriculture University Tandojam	**AZHAR ALI BIJARANI** Student of M.Sc. (Agri) Honours in Agricultural Economics REG. NO. 2K11-AE-340

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