

# Critical Review of Past Literature of Agricultural Credit in the Developing World

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## Abstract

Agriculture credit play key role in the development of agriculture and without credit the development of agriculture is impossible. Every country in the developing world has arranged financial institution for solution of credit problem. Seeing to its importance the present study was arranged to critically review the past literature of agriculture credit to what extent the agriculture credit institution solve the problems of the farmers in the developing world. Total 75 studies were selected for the study. All studies were reviewed and analyzed the situation to what extent they solve the financial problems of the developing world. The result indicates that that the Developing World majority farmers are very poor and without credit the agriculture development is impossible. All governments have arranged financial institutions for loan provision in the rural areas while influential farmers get the loan more than the non influential farmer. The land lord spend money on the banker while the small land holder cannot access to them, so the bankers give more loan to landlord and not give full attention to small land holder. In developing world credit institutions have not arranged on the basis of actual needs of the farmers. Poor farmers when get the loan they spend 75% on the consumption goods while 25% loan on the inputs of the farming. The poor farmers cannot get the target production which is obtained in the developed world. So due to less production the farmers become the defaulter of the bank and sell the land for returning the loan to the banker, which instead of benefits give loss to the farmers. It was also observed in the critical review that the farmers of the developing world is not highly educated, so they face problems in the adaptation of modern technology and awareness about the new technology application in the field. The study further explains that credit impact on the farmer production is positive while the monitoring cell checking in the developing world is very poor. They provide the loan to the farmers while monitoring cell does not check the loan where the loan have been utilized. The study also reflects that the banker number in the developing world is less than the requirement. So they charge high interest rate on the credit which is great problem for the farmers in the developing world. The security procedures in the banks are very complicated which not attract the farmers for loan obtaining. The extension staffs in the developing world do not perform the duty in proper way to help the farmer for uplifting agriculture production whose offices are in the urban area and their duties are in the rural , so the farmers can not trained by extension staff on regular basis. The developing world majority farmers are very poor and they always in the problems, born in the debts and die in the debts while cannot come out from the vicious circle. On the basis of finding, the study recommend to increase the supply of credit in the developing world; Free interest loan should be provided to farmers in the developing world; Tight monitoring cell for credit checking should be implemented by government; Peace is required in world developing zone for agriculture development; Support and subsidized price for farmer protection is requested; Good marketing facilities for agriculture products is required; Soil testing laboratories are requested for checking of the soil; Developed irrigation system is required; Inputs on low price should be provided to farmers in the developing world; High yield varieties should be supplied to farmers; High level Agriculture Universities should be established in the developing world for quality agriculture students production; Agriculture minister should have Ph.D Degree in agriculture; Tax on agriculture crops and on machinery should be removed . Good infrastructure should be developed in the developing world. Extra help of the farmer is requested in the developing world

**Keywords:** Critical Review, Past Literature, Agriculture Credit, Developing WorldI.

## 1. Introduction

Developing world majority countries depend on agriculture and farmers are very poor while cannot afford input cost for their farming. So, the production are less than the developed countries. The government has arranged financial institutions for fulfilling the financial gap while still they are facing problems in obtaining loan and the required amount for their farming in time are not facilitated to them. The influential farmers access to loan is very high while the poor farmers have no access to these institutions for getting loan because of this they use low level inputs to their field and get less production from their crops. The interest rate of the loan is very high which latter on instead of benefits receive the loss. They sell their land for returning the loan. Similarly the marketing system of the developing countries, are very weak and the farmers sell their commodities on low price and recieve low revenues from their crops. Terrorism is the fate of those countries which affect their per acre production adversely and decrease the production. They always in problems and can not come out from the vicious circle. Those countries saving, expenditures, investment are low and facing problems of unemployment.

There farmers born in debts and die in debts. Among developing Countries Pakistan, Bangladesh, India, Keynya, Butan, Nigeria etc are very well known.(Dr.Naushad Khan). Similarly the agriculture sector is still the largest sector of the Pakistan economy. Its contribution to labor force is 43.7%, while GDP share is 21% and foreign exchange is 70%. Agriculture is not only the source of food and fiber of the 188 million population of Pakistan, but also the major supplier of raw material to agro-based industries. No policy of economic development can be realized without wide based agricultural development (GoP, 2013-14).

Pakistan is gifted with diversified climate and soil, hardworking men power, enormous irrigation and agricultural research system that give competitiveness and edge to our farmers, over their competitors in the international market (Khan, 2001). Pakistan's economy is agrarian in nature. It is the main income source of majority of population in the country. Subsistence kind of cultivation merely allows the farmers to use high quality seeds, sufficient fertilizer and improved farm implements because of non availability of credit. Generally, small farmers having low income, less saving and low capital in the study area (Saboor *et al.*, 2009). Pakistan agriculture performance is low as compared to developed countries, due to a number of constraints i.e, lack of proper technologies, improved agronomic practices, crop management techniques, timely availability of water and modern inputs, marketing and supportive infrastructure, raising production Investment, volatile year to year prices hike and supply of credit (Ahmad and Battece, 1997). Our farming community consists of subsistence economy and not capable to use high quality seeds, sufficient fertilizers and superior farm implements due to lack of finances available to them. Financing deficiency is one of the major bottlenecks for low per acre productivity in our agriculture. The matter of enhancing agricultural productivity, therefore, depends on the availability of finance and credit facilities on hand to the farmers in their respective areas (Ahmad, 2007). The study reported that good system of agriculture credit was only the solution of agriculture development, because the majority area farmers were poor and did not capable for purchasing inputs for their farming activities. The study recommended the sustainable financial system, farmer access to extension services, and pilot demonstration plot for the education of farmers and easy access to agriculture credit and good market availability for uplifting the agriculture productivity in the study area (Ochola and Kosura, 2007).

The study reflected that the credit raised the inputs and fertilizer application, which enhanced the crop productivity. Thus credit had a substantial significant impact on the yield of Teff production and return. However, impact on wheat and maize production was found non-significant due to low quality seed application. And return was also found less than the Teff crop due to low price. So, quality of seed and price are the significant factor for agricultural development and considered low profitability due to low output price and high input Investment of agricultural production in the study area (Matsumoto and Yamano, 2010). Agricultural credit is a significant financial support that a small farmer can get in order to bridge the gap between his income and spending on farming. Agricultural finance is an essential component in the growth of this sector. Farming not only requires improved seeds, fertilizer and modern implements, but also requires liquid capital for financing the harvesting, transport of products to the markets and other similar farm operations (Iqbal *et. al*, 2003). Agricultural credit is a public requisite for agricultural development in Pakistan. The policy makers and bankers suggest agricultural finance only way of eliminating the two major hindrance of Pakistan's rural economy, correspondingly low per acre yield and enormous losses due to non recovery of credit. It gives to farmer's financial and social identity in the community (Anka, 1992). There are two major sources of agricultural finance in Pakistan i.e, institutional and non-institutional. Among institutional sources Zari Tarkiati Bank Limited (ZTBL), commercial banks, cooperatives and domestic private banks are very well known, while in non-institutional finance friends, neighbors, and professional money lenders are included (Idress and Ibrahim, 1993).

For small and landless farmers, it is very difficult to avail the institutional credit due to lack of collateral and complex procedure followed by various banks. Therefore, to benefit the maximum number of farming communities, a finance program shall be started without collateral system in the study area (Ahmad, 2007). The agricultural credit is a pertinent vehicle for improved efficiency among small scale farmers. Mbata (1991) evaluated the role of institutional credit and its impact on small scale farmers in Rivers State, Nigeria. The results of the investigation showed that despite high interest charged, small farmers were found profitable but the bureaucratic procedures for the institutions, untimely payments, high interest rates and absence of banking facilities in rural areas were found major bottlenecks, to credit extension and promptly loan distribution was recommended for increase in agriculture productivity. The unavailability of financial resources to farmers in the developing countries is one of the major constraint in increasing farm production. The importance of agricultural credits, especially from the institutional source is widely recognized as the effective tool to enhance agricultural productivity. Short-term agricultural credit by Zarai Taraqiati Bank has positive effects on wheat, gram and livestock production. Based on the encouraging response of the farmers towards credit program and timely repayment by the farmers, for increasing production per unit area, ZTBL should expand the short term credit program and increase the credit limits, so that large number of farmers could benefit from the credit program of the bank (Khan *et al.*, 2007). Seeing to its importance the present study was arranged to critical review the past literature of agriculture credit in the developing world to what extent the financial institutions succeeded in their

mention for filling the financial gap to farmer in the developing world.

## **2. Material and Methods**

The Universe of the study was the developing world. Total 76 past studies about agriculture credit of the developing world were selected for the study. All were critically reviewed and analyzed the researcher focus on the agriculture credit to what extent the governments of the developing world were succeeded in filling the financial gap to the farmers for enhancing agriculture productivity.

## **3. Critical Review of Past Literature of Agriculture Credit in the Developing World**

Muhammad and Shah (1981) studied that the loaning system of credit institution was not based on the actual need of the farmers. He further suggested that the structure of society was such that land lord obtained more credit than their need, while small and landless farmers could not get the credit according to their requirements. Khan (1986) suggested the Korean type credit system for the establishment of agro-based industries, for generating the employment for rural community, especially for small farmers and women. It was further recommended that the crops and livestock insurance policies should be established in the study area, in order to decrease the risk of borrowers and lenders. Salami (1988) found no difference between beneficiaries and non beneficiaries in per unit productivity due to miss utilization of the credit and monitoring cell failure. The study recommended efficient, well monitored and supervised credit scheme establishment for productivity enhancement in the study area. Kamdar (1989) noted the results of a survey in District Nawabshah, Sind Province, Pakistan, with the primary focus on the terms and circumstances of agricultural credit contracts. In the agricultural sector of Pakistan, especially in Sind the terms of agricultural credit in the informal money market were generally interrelated with the output market imperfections, which adversely affect the farmers and turns the marketing channels in favor of moneylender traders, which robbed the producers freedom in decision making at the time of sale of their output. Economic constraints faced by producers push them into unequal relations of mutual dependence with agricultural traders. In this way agricultural trader dominates over agricultural production and hence overall agricultural development.

Malik (1989) studied the comparative importance of institutional and non institutional credit sources. He found institutional source impact better than non-institutional sources for farming sector, while found tenant and small farmer access to the institutional credit less than land lord. He concluded that this problem was existed with the passage of time but no one had worked on this problem for its solution in the past. Zuberi (1989) reported that the fertilizer utilization was increased from 283.2 tons to 1511.70 tons in 1970-71 to 1985-86 respectively, although credit disbursed was increased from Rs.158.38.million to Rs.11174 million in the mentioned period. About 70 percent was used in the purchase of seeds and fertilizers. Despite this the yield in Pakistan was found still lower than the other developing countries in the region. He concluded that seed and fertilizer technology did not result in higher yields. The study recommended that any policy without investment in human capital, particularly in primary and secondary education could not boost per acre productivity in the study area. Mbata (1991) found that the agricultural credit was a pertinent vehicle for improving efficiency among small scale farmers. The study, therefore, evaluated the role of institutional credit and its impact on small scale farmers in Rivers State, Nigeria. The results of the investigation showed that despite high interest charged, small farmers were found profitable, but the bureaucratic procedures for the institutions, untimely payment, high interest rates and absence of banking facilities in rural areas were found major bottlenecks to credit extension. Promptly loan distribution was recommended for agriculture productivity enhancement in the study area. Anka (1992) discussed the historical perspective of agricultural credit in Pakistan: credit policies and procedures, Credit allocation, Loan security and loan repayment etc. Measures were suggested to handle the loan recovery. He found that supervised credit was a necessity for agricultural development in Pakistan. It was only the source of uplifting the rural economy, while due to low per acre yield the small farmers failed, in recovery of loans by banks, which latter on become defaulter of the bank.

Qureshi and Shah (1992) analyzed the rural credit policy in Pakistan and told that institutional credit had distributed at a higher rate and the relationship between loan and the agriculture value added was found positive, but weak below the expectation of women borrowers. They had also mentioned the movement by such institutions to increase their loan coverage and saving mobilization by strengthening linkages with the formal financial sector. The challenge was to harvest the benefits of sealing up, without compromising on the run of bureaucratic approaches for attraction of women micro entrepreneurs. Azid (1993) reported that credit provision to farmers are essential for purchasing inputs and modern technology. The study advised more loans to low income farmer and less to the richest, because they were more responsible for miss-utilization of the credit in the study area. Gul and Khan (1993) presented an assessment of the supervised credit advanced by the Agricultural Development Bank of Pakistan in selected villages of Mardan District. The ADBP financed fertilizer, leveling and tractors under short, medium and long-term loans. The results showed that most of the credit in the area was obtained by influential and absentee landlords. The collateral system was found complicated to most of the

borrowers. They observed that, loan return to bank by small farmers was found better than large farmer. And found some bottleneck in agricultural development and recommended its removal for credit system enhancement by dissemination of improved technologies for the development of agriculture in the study area. Mohiuddian (1993) considered the credit as a powerful tool for the reduction of poverty in underdeveloped countries and examined the factors, which affect the loan refunding of both borrowers and institutions in the study area. The results showed that no independent variables; gender, credit delivery systems, saving ratio, sector activity, size and maturity of the length of a grace period and the frequency of repayment were found significant in explaining variations in the non-payment rate borrower.

Singh *et al.* (1993) focused "Rapid expansion in institutional finance in rural areas in India". The paper assessed the issues in a context of Sultanpur District in Uttar Pradesh which was the only most backwards areas of India. The first part of the paper examined the financial situation, which covered different aspects of the indebtedness among the sampled households of India, while the final part of the paper examined the policy implications emerging from the study and found the cooperative credit system performance weak and unsatisfactory at the grassroots level and recommended re-organization of the cooperative credit system for its effective role in the study area. Idress and Ibrahim (1993) reported that agricultural credit played crucial role in development of agriculture. They examined the relationship between farmer's income and attitude toward adopting new modern technologies. The study found that after credit the improved practices were observed more than before. The saving was found more in educational respondents i.e. 50% above middle level while 36 % up to middle level. It was also observed that majority educational farmers utilized modern technology, in their field for enhancing agricultural productivity in the study area. Malik (1993) used data from two large national surveys conducted by the Agricultural Census Organization in 1983 and 1985. The study major objectives were to examine, who were the lenders and borrowers and to assess the consequences of the market structure. The study concluded that access to credit was important for agricultural growth and rural development. The remarkable increase was observed in institutional credit and change was found in rural credit market structure, while access to subsidized formal credit was found in declining for the small and tenant farmers. The research finally concluded that due to declining access to subsidized credit of the small and tenant farmers, the governmental schemes failed in gaining their specific objectives.

Himayatullah (1995) reported that between 1980 and 1995 institutional credit of the sector had registered an average annual growth rate of above five percent. The increase in agriculture credit reason was the new financial institutions establishment and the implementation of the credit policies, credit flow in general and for small farmers in the study area. He further mentioned that despite of the government efforts, the institutional credit was not reached to small farmers, while influential farmers got more than the needs. The reason behind the problem was that majority farmers were poor, illiterate and reluctant, to accept new ideas or technology. The existing credit system was found unsound and defective and recommended restructuring for trickled down credit to the specific group, which were not benefited from the credit scheme in the past. Kabeer *et al.* (1996) stated that poverty can be conceptualized as the product multiple and frequently inter locking forms of institutional exclusion, He also discussed the comparison of the efforts of government and non government agencies, to recompense institutional failure through substitution credit programmed, in order to dig out some key lessons for policy formulation. Khan (1996) highlighted a number of programmes, in the developing countries of Asia's which reflects outstanding success in reaching the poor, while at the same time maintaining high repayment rates. He recommended credit as one of the most efficient tools for reduction of poverty. AKRSP (1997) determined that small farmers' ability to purchase new inputs and increased agricultural production had been made possible process of both group and individual lending of credit and saving section. Amir (1999) studied the factors affecting farmers' access to borrowing in formal credit markets in District Peshawar. The objectives of the study were to review the agriculture credit policy of Pakistan, to identify factors determining farmers' access to credit in formal markets, to examine factors hindering farmer access to formal credit and to probe purpose of the credit. The study showed that 20% farmers had got the loan from formal institution, while 80% obtained the loan from informal sources. The study recommended that credit system should be made simple, to give due share to small farmer and monitoring cell should be developed, to avoid credit defaulter and made efficient utilization of the credit in the study area. Abid (2001) studied the micro credit effect on the rural community in Shakardara Lachi Tehsil District Kohat and observed that 67% respondents had availed credit for enterprise business, while 33% for live stock trading. Out of the total 24% failed but 76% found success in their respective field. The study recommended regular monitoring, follows up of the loans for avoiding loans miss-utilization and proper vaccination for livestock productivity enhancing and enterprise development was required for the development of community in the study area.

Arif (2001) studied the effects of Micro Credit disbursement by ADBP on Agricultural production in three selected villages in District Attock. He studied the effect of micro credit on cropping intensity, wheat and vegetable production and the factors that made obstacles in obtaining credit from ADBP. The farmers obtained credit for purchasing inputs, which increased per acre productivity. The increase was observed in the wheat

production while in vegetable, positive change was found only in one village. Due to proper utilization of credits, the income increase was observed in the study area, while two third respondents were not found satisfactory from security procedure due to its time longevity and late payment process. The study finally concluded that credit had made a positive change in both crop and vegetable productivity. Waqar (2002) reported that due to proper utilization of credit, the monthly income and monthly savings of all the respondents were found, more than before and as a whole 73 % increase was observed in monthly income of the farmers. Employment trend was also found in upward movement in the target area. Finally the study concluded that the credit had been brought the positive effect in the living standard of the beneficiaries of micro-credits in the study area. Muhammad (2003) evaluated the effectiveness of the micro credit programme of AKRSP in District Gilgit” which showed positive change in cropping patterns, crop yields, composition of livestock herds, natural resources and living standard of the people by AKRSP programme in the study area. The results estimated that average monthly income of recipient households had been increased from Rs.8696. to 10,085 while maize and wheat crop area was estimated less, but cash crops and vegetables area were found higher than before obtaining the credit. The recovery of loan trend was found better than before, due to high productivity of agriculture in the study area.

Wasim (2005) study showed that in the process of making the production decisions for milk production, all the variable relative price, credit availability and lagged milk production were found equally important. The results of the study showed a positive response of milk resource allocation to relative price. This means that the producer can find possible to make adjustments on production allocation under milk through the manipulation of the price of milk and competing products. Claessens *et al.* (2006) found that financial sector development significantly reduced hunger. They found evidence of specific financial sector development channels, including increased access to productivity enhancing equipment fertilizer and tractor use translating into higher agricultural productivity and cereal yields, with accompanying beneficial income and general quantity and price effects. Results were vigorous to various specifications and econometric tests, including both cross-country and panel regressions, and using various control variables. They are economically large and imply that a 1 percent increase in private credit to GDP reduces undernourishment by 0.22-2.45 percent, or about one-quarter of the impact of GDP per capita on undernourishment. Javed *et al.* (2006) reported that Punjab Rural Support micro credit programme had significant impact on the increased of production of wheat and sugarcane which had boosted their incomes level and living standard in the study area. Bashir *et al.* (2007) studied “The impact of credit Disbursed by Commercial bank on the Productivity of Sugarcane in Faisalabad District.” Cob Douglass Production Function was used for the analysis and from the coefficients was found that the credit has positive impact on the productivity of sugarcane. All coefficients were found highly significant. Training in technical knowhow of the borrowers, proper loan utilization, cooperative societies restructuring, low interest and zero interest rate initiation, lurching for development of agriculture were recommended. Khan *et al.* (2007) study revealed that the unavailability of financial resources to farmers in the developing countries was one of the major constraints for enhancing farm production. The importance of agricultural credits, especially from the institutional sources, is widely recognized as the effective tool to enhance agricultural productivity. The result showed that the short term credit had positive effects on wheat, gram and livestock production and recommended that ZTBL should expand the short term credit programme and increase the credit limits, so that large number of farmers could benefited from the credit programme of the bank for enhancing agricultural production in the study area. Khan *et al.* (2007) study results determined that 33% households used the credit according to the project objectives and increased their income, which resulted in positive effect on the consumption, as well as children education of respondents, while 67% did not use according to project objectives, because of this, no impact on their socioeconomic condition was identified. The study suggested the measures such as credit provision to the potential borrowers, community people, training in the establishment and livestock enterprises development, and monitoring cell initiation in the bank for proper utilization of credit in the study area.

Ochola and Kosura (2007) reported that good system of agriculture credit was only the solution of agriculture development, because the majority farmers were found poor and not capable for purchasing inputs for their farming activities in the study area and recommended the sustainable financial system for agricultural uplifting. Jehan *et al.* (2008) study showed the Micro-finance programme of ZTBL advanced loan effect on the agricultural productivity. The result showed that the credit effect on maize and wheat with respect to area and production was significant, while on pea and peach was non-significant and recommended; low interest rate; government support to small farmer and tenant; for raising agricultural productivity in the study area. Singh *et al.* (2008) reported that very few farmers got highest loan, while large number farmers obtained minimum loan. He also found that Kisan Credit Card was got only by 21 percent farmers. Sugarcane generated maximum employment for rural community, followed by livestock and wheat. Family member earns Rs.41270 per year, which was much lower than that in Punjab Rs.74,080 per year. The study recommended that institutional innovation, technology combination and policy formulation was required for livestock and crop productivity enhancement in the study area. Abeedullah *et al.* (2009) reported that credit supply had increased the livestock

owner income more than 100%. The result showed that the credit supply not only enlarged the economies of size, but also boosted the productivity of the livestock sector from the available resources. They generated employment for rural people, which have absorbed the unemployed and untrained rural labor at their door steps and stopped migration process towards cities from rural area. Saboor *et al.* (2009) studied that Pakistan's economy was agrarian in nature. Agriculture sector was the main source of income for majority of population in the country. Subsistence kind of cultivation merely allowed the farmers to use high quality seeds, sufficient fertilizer and improved farm implements, because of non availability of credit. Small farmers were generally characterized as having low income, less saving and low capital formation. Apparently, credit seemed to be the dire need of these clusters of farming community. Regression results showed that model was best fit for with credit farmers as compared to without credit.  $R_2$  value for wheat with credit was .92 as compared to without credit which was .88. Similar sort of significance was found for other crops. It was concluded that credit system should further be improved; so that the full benefits could be reaped both in the crop and livestock sectors and miss-utilization of credit by farmers could be minimized. Similarly, the role of Mobile Credit Officers (MCOs) should be redefined according to the changing scenarios. Tanaw and Islam (2009) studied the "Rural financial Services and effects of microfinance on agricultural productivity and on poverty in Bangladesh and Ethiopia". They found adoption of poor technology, unreliable climate, poor infrastructure and delicate market, unsafe income flows considered hindrance for financial access in the study area. The study recommended, the rural financial services system improvement for the mentioned problems solution, like Grameen bank methodology application, for agricultural productivity improvement and tackling poverty in the study area. Khan *et al.*, (2009) conducted review in Pakistan. The aim of the review was that to examine agriculture credit studies impacts in rural area of Pakistan i) to observe the short fall and success in the field ii) to study the monitoring cell of the institution to what extent they are working properly in the project area iii) suggestion and recommendations for further improvement. All studies results were reviewed and finally concluded that agriculture credit not only developed the farming but also furnished every sector of the economy positively while tight monitoring cells induction in the project areas is required for control of bribery Through this cell exact communication, auditing, and check up of the credit will be processed and error will be omitted in time. Miss utilization of the fund will be controlled on the spot while benefit cost analysis will be processed before credit approval. Bashir *et al.* (2010) studied "The impact of agricultural Credit on Productivity of Wheat Crop: Evidence from Lahore, Punjab, Pakistan". Cob Douglass production type regression was run and the credit result was found significant on the wheat crop. The credit used on the fertilizer, seed and weedicides etc and productivity after input application was checked and found wheat productivity significant. These numbers of inputs are functioning in output production such as land, seed, fertilizer, water, plough etc. Without credit these inputs gaining was impossible for productivity producing. Matsumoto and Yamano (2010) study reflected that fertilizer credit increased the fertilizer application for crop production. This credit had a substantial impact on the yield of teff, production and return, while on wheat and maize production was found insignificant due to low quality seed adoption and return was found also less than the teff, due to low price. So price is also a significant factor for agricultural development and consider low profitability due to low output price and high input Investment of agricultural production in the study area. Saleem and Jan (2010) studied the impact of Agricultural Credit on Agricultural Productivity in Dera Ismail Khan District. The major objective was to test credit impact on agricultural gross domestic product in the study area. Secondary data regarding disbursement of credit 1990-2008 from different formal sources for different purposes and agricultural gross domestic product of major crops were recorded for the purpose of analysis. Cob-Douglass type model was run. Credit disbursed for seed, fertilizers and pesticides, irrigation and tractors were found strongly correlated to agricultural gross domestic product. F statistics was also found highly significant and more credit supply to farmer was recommended for boosting the agricultural production. Hussain and Khattak (2011) investigated "The Economic analysis of sugarcane crop in district Charsada". The result revealed that the socio-economic variables like credit and financing, capital, employment, labor employment, marketing source of income were more closely related with sugarcane production. The farmer in the study area were basically poor and depend on credit, while formal credit were found inadequate and farmers got loan from informal source friend, money lender etc, which later on make great hurdles for sugarcane production in the study area. Ashfaq and Khan (2012) studied the determinants of Credit off Take in Informal Credit Market. The major objectives were to examine the factors responsible for expansion of the informal credit market and its impacts on farm output. The study found that due to lack of collateral, awareness, understanding of formal sector policy, small farmers got loan from friend and money lender, relatives, wholesaler, commission agents in the project area. The study also found that most loans used for agricultural development while some amount used on non farming items. Based on the finding the study suggested that the procedure of formal lending should be made simplified, loan should be provided in time, and delay tactics should be removed, so that it can be utilized properly, while credit should be given according to farmer requirement.

Okoboi *et al.* (2012) study graphical result revealed that the farmer, who had used fertilizer with improved seed in maize growing, had obtained the highest yield, while lower gross profit. On the other hand farmers, who

had not applied the fertilizer with improved seed obtained low yield, but the gross profit was found more than the others. The regression results showed that higher expenditure on fertilizer and tractor per hectare had a significant positive effect on yield, while non significant effect on gross profit margin, while area increase has negative effect on the yield in the study area. The result also showed that the education level and access to extension services have positive effect on the profit, but non significant effect on the yield. It was also notable that maize producer, who were the member of National Agricultural advisory Services organization had lower yield than farmers not in NAADS. These results suggested that NAADS and other agencies were involved in promoting use of modern agricultural technologies in Uganda have an uphill task of proving and hence persuading farmers that use of these technologies not only had enhanced yield, but also increased the farm profits. Girei and Giroh (2012) studied the analysis of productivity and resource use efficiency in sugarcane production by random selection of 120 out grower farmers. Collected data were analyzed using descriptive statistics and the production function analysis. The study identified that inadequate and late allocation of farms and inadequate credit provision to farmers were the major constraints of sugarcane production and it was suggested to overcome on the mentioned constraints for uplifting sugarcane production in the study area Syed (2012) studied the role of ZTBL in agriculture productivity through agricultural loan in the rural areas of District Buner. The major objectives were to find out the utilization of credit and its effects on agricultural production and income of the sampled respondents. The results of the study revealed that majority (49%) of the beneficiaries utilized the agricultural loan for agricultural inputs i.e. improved seeds, fertilizers and agricultural tools. Furthermore, the findings showed that production of all the crops grown by beneficiaries in the project area were higher than that of non beneficiaries due to efficient utilization of loan, which ultimately increased the income level of beneficiaries significantly. The result also highlighted that timely availability of loan and low interest rate could give a big push to agricultural productivity in the study area. The study recommended low interest rates on agricultural loan, available in time, amount according to requirement, bank cooperation with the farmers etc were only the solutions, which only enhance the agricultural productivity in the study area. Shirazi (2012) studied 30% poor borrowers and 70% non poor borrowers. The impact on the poverty status was found to be marginal. The income of the poor borrowers hardly could grow by 2 percent during the study period. However, the consumption of the poor borrowers increased by 10 percent, which indicates that poor primarily borrow for smoothing their consumption. Results showed that poor non-borrowers were better off in terms of change in most of their assets compared to the poor borrowers. However, the net effect of microfinance on households durables items of the non-poor borrowers were marginal' while the net effect of microfinance on few household durable items like fan, bicycle and sewing machine, of the poor borrowers were found to be positive. Compared to the poor borrowers, the majority of the poor non-borrowers reported no change in their livestock. Similarly, some poor borrowers reported positive changes in their livestock as compared to non poor borrowers during the study period, which showed positive net impact of microcredit on the livestock of the poor borrowers. Expenditures on social and other miscellaneous items were found very small. Chughtai (2012) studied the "Utilization of Zari Taraqiathi Bank Agricultural Credit in Rural area of Tehsil Rawalpindi". The major objective was that to see the credit impact on per acre wheat production. From the Tehsil Rawalpindi 285 respondents on random basis were selected. Cob Douglass Production Function were run to see the efficiency of the credit, labor, and machinery in wheat per acre Production. All coefficients were found highly significant at .05 level, which indicate the positive impact of the credit on the wheat per acre production in the study area. On the basis of problems few suggestions were recommended for its solution. Among these, Credit process should be simplified; technical guidance by ZTBL; low interest rate and more financial institution encouragement in the study area for boosting wheat production were requested. Khan *et al* (2013) study indicated "The Effect of Zari Taraqiati Bank in Enhancing Farm Productivity through Agricultural Credit in District Lakki Marwat KPK-Pakistan". The major objective was to find out the impact of agricultural credit on productivity and income of farmers in the study area. The universe was District Lakki Marwat while two villages purposively were selected for the study. Total respondents were 100, which consist of 50 beneficiaries and 50 non beneficiaries from the same villages. Independent t-test was run for its comparison of productivity. After result it was found that only 12% beneficiaries were benefited while the remaining beneficiaries miss-utilized the funds in other activities such as business, school, reconciliation etc. The beneficiaries production and income level was found less than the non beneficiaries while 12% respondents who utilized in agriculture was found better than the non beneficiaries. On the basis of problems and constraints few suggestions were recommended for boosting the agricultural production in the study area. Among these:- interest rate should be decreased; problems of water should be solved; in time payment to farmers are requested; monitoring cell should be developed, to monitor well the activities of the farmers and protect miss utilization of the credit in the fields. Rahman *et al*. (2014) investigate the impact of Zari Taraqiati bank limited's credit to farmers on their agricultural productivity by using logit regression analysis. The study is based on primary source of data collected through field survey of Bahawalpur Tehsil. It is concluded that Household size, income of the household, education of the famers, agricultural credit, short term and long term loans have significant positive

impact on agricultural yield per acre. The positive association between credit and agricultural productivity represents that credit enables the farmers to purchase superior quality or high yield variety seeds, fertilizers and pesticides and agricultural yield increases because of timely and adequate inputs. The study suggests that the in time provision of appropriate amount of loan to farmers may be helpful for the enhancement of agricultural productivity of Pakistan

Khan and Khan (2014) conducted study in rural area of District Mardan. The main objectives were to assess the effects of ZTBL's credit program on milk cow productivity by various size of farms, problems and constraints faced by farmer in financing procedure by bank, recommendations for improvement of ZTBL's credit program for agriculture development. Three tehsils, namely Mardan, Takhth Bahi and Katlang were purposively selected from each tehsil two villages namely Gujar Garhi, Rustum, Lund khwar, Shergarh, Katlang and Jamal Garhi were selected. All beneficiaries of the ZTBL consists of 260 respondents, out of which cows, owner was 107. With the help of interview schedule data were collected from the respondents. According to results the literate respondents was 73%. The owner was 97%, owner-cum-tenant,3%. In various size of land in 0.1-5 hectares category the cows owner was 92%, in 5.1-10 hectare category was 3%, in 10.1-15 category was 2% while in 15.1-20 category hectare was 2% however in above 20 hectares was only 1% . The Short term credit respondents were recorded 43%, medium term 53% where as the long term was counted only 4%. The total amount disbursed to sampled cows owner was Rs.25546000 and the coverage of the short term was 16%, medium term was 77% while the long term was only 3%. However continuation status of the sampled credit owner was 70%. According to result average milk cow number after credit was 1.5980 and before 1.4019 and change was 13%. Average annual cost after credit was Rs. 48777 and before Rs.26941. Percent change was 81%. The average annual production value after credit was Rs.90990 and before 48570, the % change was 87%. The farmers are still facing a number of problems, such as shortage of finance, high costs of food, non availability of quality breeds, high interest rate charging by ZTBL, complicated procedure of the bank, non availability of loan in time etc. Recommendations for solution are; loan should be provided to farmers according to requirements; in time availability of loan to farmer is requested; interest rate should be decreased in future, fodder cost of the cows should be decreased; one window operation policy should be applied by bank for enhancement of milk cows productivity in the study area etc.

Thirston (2015) offered a critical survey of the microfinance literature of the past 10 years. It reviews studies on the effectiveness of different microfinance techniques and offers a critical assessment of the impact literature of microfinance. The literature so far suggests moderate but not transformative effects of microcredit, with effects being conditional on individuals' characteristics. The effects of micro-savings interventions seem more promising, while micro-insurance interventions suffer mostly from limited take-up. The biggest impact seems to come from expanding payment services. The paper discusses these findings in the broader context of the financial development literature and touches on methodological issues and regulatory challenges. There have been two revolutions in financial inclusion over the past decade. First, access to and use of formal financial services has increased rapidly across the developing world thanks to innovation and technology. Second, evaluation of policies and interventions to increase inclusion and evaluation of the impact of financial inclusion has been made possible by new methodologies, cooperation between researchers and financial service providers, and the financial support and encouragement of donors. Both revolutions are still unfolding. First, new technologies and innovations are still being tried and rolled out across the world, partly but not only related to mobile technology. Second, the evaluation of financial inclusion has moved beyond simple good-bad-ugly comparisons to more nuanced assessments. This paper has offered a critical literature survey on financial inclusion efforts over the past decade. The verdict is mixed, and only tentative conclusions can be drawn. The effect of microcredit seems limited, with efforts to increase take-up of savings products somewhat more promising. Micro-insurance service seem also helpful, with take-up being the main challenge. Digital payment services seem to have the largest immediate success, but research in this area is just starting. As the microfinance industry keeps expanding in institutions, outreach, and products, questions on how to regulate and supervise it properly will become more and more important. His reading of the literature is that tailored credit and insurance interventions for specific groups with well-identified needs and opportunities on one hand and broader outreach efforts in payment and savings services on the other might be a promising way forward. In any case, tailored interventions and approaches should not side-track any attempts at broader policy reforms to deepen financial systems in developing countries. In conclusion, there are some important research questions going forward. The challenge on assessing the impact of financial inclusion will be to reconcile micro interventions and macro-impact. First, macro-level assessments of microfinance expansion have been undertaken. This "upward trend" in microfinance evaluation mirrors a "downward trend" in the finance-growth literature, which started out with aggregate regressions, toward country-level, industry-level, and ultimately firm-level studies, with identification strategies getting more refined. The micro- and macro literature on finance and development have developed relatively separate ; bringing them closer together will be a challenge for the future. Another important area is that of government's role. Microfinance addresses very specific market failures; to what extent can we rely



exclusively on NGOs and donors to overcome it? There has been a trend toward the visible hand of government, market-friendly interventions that try to address market failure without creating government failures resulting from rent seeking and inefficiencies, including providing infrastructure platforms and covering fixed costs to avoid first-mover and coordination problems.

Noonari et al. (2015) discussed that 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 constraints faced by the farmers in acquisition 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 landholding. 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 concluded 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 amount in agricultural sector. The most common utilization of credit amount as construction, repair and renovation of the houses, by the beneficiary farmers.

Khan *et al.* (2017) conducted study in rural area of district Mardan. The major objectives were to examine the effects of ZTBL Finance Program on buffaloes production on various size of farms, problems and constraints faced by farmer in financing procedure by bank, The universe of the study consists of three tehsils, namely Mardan, Takhth Bahi and Katlang. Purposively from each tehsil two villages namely Gujar gari, Rustum, Lund khawar, Sharegarh, Katlang and Jamal Gari were respectively selected. All beneficiaries of the ZTBL consist of 260 while the number of buffalo owners was 100 in the study area. In tehsil Mardan 29, Takhth Bahi 19, Katlang 52 while through questionnaire data were collected. Descriptive statistics, correlation and paired t-test were used for analysis. The result indicates illiterate farmers 28% and literate 72%. The owner farmer 93%, owner-cum-tenant,7% and tenant zero percent. The total amount disbursed to sampled buffalo owners was Rs.25736000 and short term 16%, medium term 80% while the long term exposure was only 4%. Average buffalo number after credit was 1.87 and before 1.91, while percent change was -2 %, t value -.180 and P value .857 at .05 levels. The result was found non- significant which explains that credit has no effect on buffalo's number. Average annual cost after credit were Rs. 90810 and before Rs.48730 however percent change was 86%. The result was found highly significant at .05 levels. The average annual production value after credit was Rs.149860 and before 100760, while % changes was estimated 49% and result was found significant at .05 level. High costs of fodder; non availability of quality breeds; high interest rate; complicated procedure of the bank; non availability of loan in time etc were observed in the study area On the basis of problems which are stated as Loan should be provided to farmers according to requirements; interest rate should be decreased in future; fodder cost of the buffalo should be decreased by protecting grazing field; hospitals facilities should be provided for treatment of animals; one window operation policy should be applied by bank and Special buffaloes program should be arranged in future for enhancement of buffaloes production for high return to farmer in the study area etc

Khan and Khan, (2017) carried out study in rural area of district Maradn. They told that credit availability play great role in the development of vegetable. The main aim of the research title was to investigate the effects of Zarai Tarqiati Bank Limited Finance Program on Marrow productivity, and to see the hurdles and obstacles to marrow growers by ZTBL. The total credit owners of ZTBL was 260 while 58 have grown the marrow in their farms. All 58 were interviewed and through questionnaire data were collected from the respondents. For analysis different statistics were applied. The result indicates average yield per hectare before 2812 Kg and after 4145Kg which was significant at 5% level. The total average per hectare cost before was Rs.17152 and after Rs.38708, and found the result significant at 5% level. The total return per hectare before was recorded Rs 83362 and after Rs.165791 and found significant at 5% confidence level. The study further explains that marrow growers facing large number of problems such as non availability of pure seed, water shortage, complicated procedure of credit availability and high interest rate of the bank, non availability of loan in time for purchasing inputs by bank, lack of proper market for their output, instability of support and subsidized price system. On the basis of hurdles and obstacles the study recommend pure seed accessibility, water channel improvement, credit provision on easy

term, low interest rate by ZTBL, accessibility of proper market, support price and subsidized price system for enhancement of Marrow productivity.

Khan *et al.* (2017) conducted study in rural area of District Mardan. The major objective was to examine the effects of ZTBL Credit Program on Bitter Gourd production in the study area. The Universe of the study was consisted of three tehsils, namely Mardan, Takhth Bahi and Katlang. All beneficiaries of the ZTBL was 260 while the number of Bitter Gourd growers was 81 among the beneficiaries. Through questionnaire data were collected from the respondents. With the help of descriptive statistics, correlation and sign test were used for data analysis. The results shows disbursed amount Rs.17405000 to beneficiaries of the study area. The average production per hectare after credit was 43620 Kg and before 29645 Kg and the result was found highly significant which explains that credit has positive effects on Bitter Gourd production in the study area. Average annual cost after credit per hectare was found Rs.127499 while before was Rs.66235. The result was found highly significant at .05 level. The result further explains the return of the production before and after credit Rs. 592900 and Rs.654300 and the Benefit Cost Ratio was Rs 5.13, Rs.8.95 respectively. Majority problems such as high costs per hectare; high interest rate: complicated procedure of the bank; non availability of loan in time etc. were observed to farmers in Bitter Gourd production enhancement in the study area. So quick actions by Govt for future policy implications in different section of the economy is requested for filling the gap. Such as Loan should be provided to farmers according to requirements; interest rate should be decreased in future; quality seed should be provided on low price in the study area for boosting Bitter Gourd production. Proper utilization of the farmer for specific activities are recommended.

Khan *et al.* (2017) study reflects that poplar plants play important role in the development of farming community while due to financial problems it is difficult for the community to invest more in the plantation of poplar. The farming communities get loan from the Banks in their area. The study was carried out in rural area of District Mardan, to analyze the effects of Zarai Tarqati Bank limited Finance Program on poplar plantations on various size of farms, problems and constraints faced by farmer in financing procedure. The Universe was District Mardan which consists of three tehsils, namely Mardan, Takhth Bahi and Katlang. Purposively from each tehsil two villages were selected. In the study area the total beneficiaries were 260. From all, data were collected with the help of questionnaire. Wilcoxon Sign test and correlation were used for data analysis. The total amount disbursed to sampled farmers was Rs.57420000 and the share of the Short term 17%, Medium term 80% while the long term share was only 3%. The total plants number before credit on all farms of the sampled respondents were 47451. After credit the number was estimated 109407. However the total differences of plants were 61956. Wilcoxon Sign Rank test result was also found highly significant at 0.01 levels while the coefficient of correlation between size of land and poplar plants were .383 and found highly significant at 0.01 levels however the. Shortage of finance, high costs, high interest rate, complicated procedure of the bank, non availability of loan in time etc were found the problems for taking loan in the study area. Few recommendations, finance provision according to requirements, in time availability of finance; low interest rate; one window operation policy; Special poplar plantation program were suggested for enhancing poplar plantation in the study area etc.

Khan and Khan (2017) stressed that credit play key role in the development of agriculture. Farmers get loan from different sources from friends and banks for purchasing their inputs in the time of sowing for productivity increasing. The present study was carried out in rural area of District Mardan. The major objective was to see the effects of the credit program of ZTBL on wheat productivity in the study area. Three tehsil of district Mardan namely Katlang, Thakhth Bai and Mardan were selected. On the basis of more beneficiaries of the bank two villages from each tehsil were chosen. The total number of the credit beneficiaries was 260 while the number of wheat growers was 243. All 243 wheat growers were selected for the study and through questionnaire schedule data were collected from the respondents. Descriptive statistics paired t-test and correlation were used for data analysis. The average yield, cost and return per hectare were found more than before and highly significant which shows the positive effect of the credit program on the wheat productivity. During survey large number of problems, such as shortage of finance; high costs, non availability of quality seeds; high interest rate; complicated procedure of the bank; non availability of loan in time etc were observed in the growers field. On the basis of problems recommendations were suggested for problems solution which is given as loan should be provided to farmers according to inputs requirements; in time availability of credit is requested; low interest rate should be imposed on the loan by bank; one window operation policy should be implemented by bank and loan provision to tenants were suggested for boosting the wheat productivity in the study area etc.

Khan and Munir (2017) study explained that fruits play key role in the development of a country and provide Sucrose, vitamins and starch etc to human body. Seeing to its scope and demand the present study was arranged, to see the impacts of credit program of ZTBL on fruits plant number, return and problems faced to fruit growers in the selected area. The universe of the study was district Mardan which consist of three tehsil namely Mardan, Takhth Bai and Katlang. The total bank beneficiaries were 260 while the fruits growers were only 21. With the help of interview schedule data were collected from the respondents according to objectives and

analyzed with the help of descriptive statistics and Paired t-test was used for comparison of fruit plant number and return. The finding of the study shows 76% effect of the credit was positive while 24% claimed the effects were negative. The total plant number of fruit after credit was 8523 and before credit was 3618, difference was 4905 while total change was 136% and plants number were found significant at 5% level. The total return after and before credit were Rs.1420341 and Rs.808347 respectively and difference was Rs.611994 and change was 76% and return was found significant. The fruit grower faced larger number of problems i.e. shortage of finance, lack of quality variety, water shortage, attack of white ants and stem borer attacks, complaint of stealing, unproper marketing system, lack of support and subsidized price system and different pest attack etc. On the basis of problems following suggestions were recommended i.e. Credit facility according to requirement on low interest rate should be provided to the farmers; quality variety supply to the farmer on low price by Government Department is requested, Pesticide availability on low price and, proper security to fruit production, provision of proper marketing system, agro-based industries establishment in the local region, Provision of loan in time and on easy term for enhancement of fruit production in the study area are recommended.

Khan and Munir (2017) studied that credit played key role in the development of agriculture which further boost the income, expenditure and saving level of agriculture community which improve the investment of the farmer in their field. Seeing to its importance the study was conducted in rural area of District Mardan. The major objectives were to see the credit program impacts on income, expenditure and saving level of the beneficiaries, problems and constraints faced to credit owner in the study area. The study area consist of three tehsil namely Mardan, Thakth Bai and Katlang. On the basis of more beneficiaries two villages from each tehsil were chosen. The total beneficiaries in the study area were 260. All were selected for the study and with the help of interview schedule data were collected from the respondents. Descriptive statistics and pair t-test were used for data analysis. The results indicates mean annual income after credit Rs.618599 and before credit Rs.356767 and difference Rs. 261833 and found the result highly significant at 5% level. The annual farming income was found Rs.366812 and before Rs.174781, difference Rs.192031 and found highly significant at 5% level. The annual expenditure after credit was Rs.472296 and before was Rs.248296, difference Rs.224510 and found highly significant at 5% level. The annual saving after credit program was Rs.207124 and before was Rs.113439 and difference Rs.93689 and the difference found highly significant at 5%. So all results show that, credit has improved income, expenditure and saving of the sampled farmers. Large number problems and constraints were observed by taking loan from the bank by sampled farmers. The problems and constraints faced to farmers are complication of application process, non availability of loan in time, amount less than requirement, banks on more distance, high interest rate and non availability of collateral etc. On the basis of problems few recommendations were suggested for solution of problems. One window operation for loan provision is requested, on low interest rate loan should be provided to farming community and according to requirement of the farmer, banks facilities should be multiplied, banks staff cooperation is requested, monitoring cell should be promoted for check and balance for enhancing income level of the farmers in the study area.

Khan (2017) told that finance play a key role in the development of agriculture. On the basis of scope and demand the present study was carried out in rural area of District Mardan. The major objective was to see the effects of finance program of ZTBL on Sugarcane per hectare yield in the study area. The Universe of the study was District Mardan which composed of three tehsil Mardan, Thakth Bai and Katlang. Purposively from each tehsil two village was selected. The total beneficiaries' number of the bank was 260 while sugarcane growers were only 105. With the help of interview schedule data were collected from the respondents. Descriptive statistics, Paired t-test and Benefit Cost Ratio were used for data analysis. Average yield after program was 54165 Kg per hectare and before was 37171 Kg per hectare. The result was found significant at 5% level. The correlation between various size of land and sugarcane per hectare yield was .031 and found non significant. It explains that one unit land increase, boost 3.1 percent yield per hectare in the total production of sugarcane. Average cost per hectare before was Rs.60857 and after was Rs.107493 and found statistically highly significant at 5% confidence level. Average return after credit per hectare was Rs.216658 and before was Rs.92929. The result was found highly significant. The benefit cost ratio of sugarcane after credit was Rs.2.02, while before credit was 1.53 and increase was 33%, which shows positive effects of the credit on return. The farmers facing number of problems and constrains such as high cost per hectare, high interest rate by bank, complicated procedure of the bank, non availability of loan in time and bank away from the growers etc. On the basis of problems few recommendation were suggested. such as Loan should be given on the right time to growers on low interest rate, sugarcane seed should be provided to farmers on low price. A stable Support and subsidized price system should be implemented by government for encouraging the sugarcane growers. According to requirement loan should be provided to sugarcane growers in the study area for boosting sugarcane production.

Khan et al. (2017) investigated that maize, for its easy and excess availability in the rural areas of Khyber Pakhtunkhwa province is considered a main staple food in low income households. Due to small scale farming in the province the maize growers are always in need of loan for the purchase of inputs. The present study examined the effect of ZTBL credit program on maize productivity in district Mardan of Khyber Pakhtunkhwa,

Pakistan. For this, a sample of 226 farmers was selected by employing multi stage sampling technique. At first stage, all the three tehsils (i.e.; Mardan, Thakth Bhai and Katlang) of the district were selected. At second stage, two villages from each tehsil were randomly selected. In third stage, all the beneficiaries of ZTBL credit program for maize crop was selected and interviewed. Descriptive statistics, paired t-test and correlation analysis were used to analyze the data. It was found, that ZTBL credit program has overall a positive effect on maize productivity in the study area. Majority of the credit beneficiaries were small scale farmers who obtained medium term credit followed by short term credit type. Thus, higher amount of credit was disbursed under the category of medium term followed by short term. The average yield, cost and return for the maize crop showed significant results due to the proper utilization of the credit by the farmers. The major constraints to farmers while obtaining credit were complicated procedure of pass book preparation, amount less than requirement, unavailability of timely credit and non-availability of collateral. The study recommends amount of loan according to the farmers' requirements, bank staff cooperation and one window operation to address the problems of farmers while obtaining loan/credit from ZTBL. Such type of credit program ensuring proper utilization of credit should also be replicated to other districts of the province.

Khan et al. (2017) discussed that Pakistan is an agriculture country and the role of livestock is highly appreciated in agricultural development. The present study major objectives were to analyzed the effects of ZTBL credit program on goat productivity, correlation with size of land and average goat number, problems and constraints faced to farmers in financing procedure by ZTBL. The universe of the study is District Mardan which consist of three Tehsil, namely Mardan, Thakth Bai and Katlang. Through interview schedule data were collected. Using descriptive statistics and paired t-test for data analysis. The total goat number after credit was 108 and before was 134 and difference was -24. The average goat number after credit was 1.6875 and before was 2.0938. The result was found significant at 10% level which indicates negative effect of the credit on goat number and miss-utilization of the credit by farmers in the study area. Average cost after credit was Rs.16828 whereas before was Rs.8680 and the result was found significant at 5% level. The cost difference was Rs.8148 which explains the increase of the cost after credit program. The average annual return after credit was Rs.35531 although before was Rs.17562 and the result was found significant at 5% level. The return difference was Rs.17969 which explains the positivity of the credit program. The correlation with size of land and average goat number of the respondents, were -.156 which shows negative relationship with goat number and land size. Major problems were complicated process of pass book preparation, non availability of collateral; non availability of loan in time; high interest rate, amount less than requirement and non cooperation of the bank staff were observed in the study area. On the basis of finding, provision of more loan in future; one window operation policy application; low interest rate by bank, cooperation of bank staff with farmers and monitoring cell development in the bank for enhancement of goat productivity were recommended.

#### **4. Conclusion and Recommendations**

The study concluded that the Developing World majority farmers are very poor and without credit the agriculture development is impossible. All governments have arranged financial institutions for loan provision in the rural sectors while influential farmers get the loan more than the non influential farmer. The land lord spend money on the banker while the small land holder cannot access to them, so the bank staff give more loan to landlord and not give full attention to small land holder. In developing world credit institutions were not arranged on the basis of actual needs of the farmers. Poor farmers when get the loan they spend 75% on the consumption goods while 25% loan on the inputs of the farming. The poor farmers cannot get the target production which is obtained in the developed world. So due to less production the farmers become the defaulter of the bank and sell the land for returning the loan to the banker, which instead of benefits give loss to the farmers. It was also observed in the critical review that the farmers of the developing world is not highly educated, so they face problems in the adaptation of modern technology and awareness about the new technology application in the field. The study further explains that credit impact on the farmer production is positive while the monitoring cell checking in the developing world is very poor. They provide the loan to the farmers while monitoring sector does not check the loan where the loan was utilized. The study also reflects that the banker number in the developing world is less than the requirement. So they charge high interest rate on the credit which is great problem for the farmers in the developing world. The security procedures in the banks are very complicated which not attract the farmers for loan obtaining. The extension staffs in the developing world do not perform the duty in proper way to help the farmer for uplifting agriculture production whose offices are in the urban area and their duties are in the rural area, so the farmers can not trained by extension staff on regular basis. The developing world majority farmers are very poor and they always in the problems, born in the debts and die in the debts while cannot come out from the vicious circle. On the basis of finding, the study recommend to increase the supply of credit in the developing world; Free interest loan should be provided to farmers in the developing world; Tight monitoring cell for credit checking should be implemented by government; Peace is required in world developing zone for agriculture development; Support and subsidized price for farmer

protection is requested; Good marketing facilities for agriculture products is required; Soil testing laboratories are requested for checking of the soil; Developed irrigation system is required; High yield varieties should be supplied to farmers; High level Agriculture Universities should be established in the developing world for quality agriculture students production; Ph.D in Agriculture level minister should be required for agriculture ministry; Tax on agriculture crops and on machinery should be removed . Good infrastructure should be developed in the developing world.

## 5. References

1. H. 2001. Micro-Credit and Rural Development effect Evaluation in Union Council Shakardra. Faculty of Rural Social Sciences, M.Sc (Hons) Thesis, IDS, KP, AUP.
2. Ahmad, M., and G.C, Battese 1997. A Probit Analysis of the Incidence of the Cotton Leaf Curl Virus in Punjab, Pakistan' *The Pakistan Development Review* 36:155-169.
3. Ahmad, M. 2007. Evaluation of AKRSP' Micro Credit Program on Agriculture and Enterprise Development in District Astore, Northern Areas. Faculty of rural Social Sciences, M.Sc (Hons) Thesis Agric: KP, AUP.
4. Amir. 1999. Factor affecting farmer access to borrowing in formal credit markets in District Peshawar. Department of Agriculture Economics, KP, Agriculture University, Peshawar Pakistan
5. AKRSP. 1997. Agha Khan Rural Support Program. *Fifteenth Annual Review of AKRSP* p.67
6. Anka, A.M.L. 1992. Analytical Report on Supervised Agricultural Credit, its Problems Prospects and Suggestions for Implementation in Pakistan' *Journal of Rural Development and Administration*.24 (1):137-147.
7. Arif, 2001. Effect of micro credit disbursed by ADBP on agricultural production in District Attock: Institute of Development Studies Faculty of Rural Social Sciences, KP, Agriculture University Peshawar, Pakistan.
8. Ashfaq, M. and Khan H.(2012). "Determinants of Credit off Take in Informal Credit Market.(A case study of village Regi District Mardan)"Thesis M.Phil(Economics). Institute of Development studies Faculty of Rural Social Sciences Agricultural University Peshawar-Pakistan.
9. Bashir, M.K., Z.A. Gill, S.Hussain, S.A. Adil and K. Bakhsh, 2007." Impact of credit disbursed by commercial banks on the productivity of sugarcane in Faisalabad district" *Pak. J. Aric. Sci.* vol. 44(2): 1-3 ([http://www.academia.edu/1137548/Impact\\_of\\_Credit\\_disbursed ...](http://www.academia.edu/1137548/Impact_of_Credit_disbursed...))
10. Bashir, M.K., Y. Memood and S. Hussain, 2010. "Impact of Agricultural Credit on Productivity of Wehat Crop: Evidence from Lahore, Punjab, Pakistan. *Pak J. Agric. Sci.* vol.47(4): 405-409.
11. Claessens, S. 2006. Finance and Hunger, Empirical Evidence of the Agricultural Productivity channel, *World Bank Policy Research Paper 4080 p.1.*
12. District Census Report of Mardan, 1998. Population Census organization Statistics Division, Govt. of Pakistan Islamabad.
13. Girei, A.A. and D.Y. Giroh 2012."Analysis of the Factors Affecting Sugarcane(Saccharum officinarum) Production Under the out growers scheme in Human Local Government Area Admawa State, Nigeria"Science Education Development Institute, Volume 2(5): 158-164
14. <http://www.ilri.org/InfoServ/Webpub/fulldocs/Outlk2840/Goats.htm>
15. Govt of Pakistan Economic Surveys (1998-2009). Economic Affairs Finance Division, Islamabad
16. Govt of Pakistan Economic Survey (2009-2010). Advisory Wing Finance Division, Islamabad.
17. Gul. S and M.N. Khan. 1993. A critical assessment of the supervised credit scheme of the Agricultural Development Bank of Pakistan: A case study of Mardan District. *Journal of Rural Development and Administration* 25(2):119-126
18. Hassan, S., Nazia T., and Javaid, I. 2005. An Economic Analysis of Wheat Farming, in the Mixed Farming Zone of Punjab Province, Pakistan. *Journal of Agriculture and Social sciences* (<http://www.ijabjass.org>).
19. Himaytullayh. 1995. Agricultural Credit Availability and requirement in Pakisttan: A detailed Analysis *Journal of Rural Development and Administration*. 27(4):67-76
20. Hussain, A. and N.Khattak 2011." Economic Analysis of Sugarcane Crop in District Charsada". *Journal of Agric.Research* 49(1).
21. Idrees, M. and M. Ibrahim. 1993. Agricultural Credit role in the Development of Agriculture. *Journal of Rural Development and Administration* 25(4): 64-74
22. Javed S.M et al. 2006. "Impact Assessment of Micro-Credit Program of PRSP on Crops Productivity". *Pak J. Agri. Sci.* Vol.(43): 3-4.
23. Jehan, N., and M. Ahmad, 2008. "Raising of Productivity Through Agricultural Credit". (A Case study of Zari Tarqiati Bank of Pakistan Limited). *Sarhad J. Agric.* Vol.24(4): 693-696
24. Kabeer. N. and R.K Murthy, 1996. Discussion Paper Institute of Development .pp. 117-120.
25. Kamdar.M.S 1989. The marketed surplus of wheat in Nawabshah District: a micro level model' *Sarhad Journal of Agriculture*. 5 (5): 437-442.
26. Khan, R.A.R. 1986 Strategy for farm Planning and Agricultural Credit for Rural Development. *Agri. Digest*.

- 6(10186):21
27. Khan, S.A. 1981. Growth of Agricultural Credit Facilities in Pakistan. A Historical Review, in *Agricultural Credit Pakistan's Experience Karachi: The institute of Bankers in Pakistan.*
  28. Khan, R.A. 1996. Some Success Stories of Poverty Alleviation Credit Program's in Asia' *Journal of Rural Development and Administration. 1(28): 159-166.*
  29. Khan N. et.al, P. 2001. Comparative Advantage of wheat Production to Pakistan and its Policy Implications' *Pakistan Journal. of Agr: Eco. Islamabad.v4:2.*
  30. Khan N. Jan I. Rehman M. Latif M. Ali A. Khan J. 2007. The Impact of Micro-Credit on Livestock Enterprise Development in District Abbottabad, A case of SRSP Micro Credit Program, *Sarhad J. Agric, 23 (4): 1205-1209.*
  31. Khan N. Jan I. Rehman M. Mehmood A. Ali A. 2007. The Effects of Short Term Agricultural Loans Scheme of Zari Taraqiati Bank on Increase in Farm Production in District Karak, *Sarhad J. Agric, 23 (4): 1285-1290.*
  32. Khan, N., M. M. Shafi, M. Shah, Z. Islam, M. Arif, R. Javed and N. Shah. 2011. Review of past literature on agriculture credit in rural area of Pakistan. *Sarhad J. Agric. 27(1): 103-110*
  33. Khan. N. and M. Khan. 2014. Effects of credit programme of zari tarqiati bank limited on milk cows productivity in rural areas of district mardan. *Sarhad J. Agric. 30(2):265-269*
  34. Khan, N., M. Khan, S. Naz, H. Khan, S. Khan and M.H. Khan. 2017. Effects of Zarai Taraqiati Bank Limited Credit Program on Buffalo Production in Rural Areas of Distract Mardan , Pakistan. *Journal of Poverty, Investment and Development www.iiste.org ISSN 2422-846X An International Peer-reviewed Journal Vol.32, Page59-64. file:///C:/Users/dell/Downloads/35635-38658-1-PB.pdf*
  35. Khan, N and M. Khan, 2017. ZTBL Credit Program Effects On Marrow (Cucurbita Maximia) Productivity In The Community Of District Mardan Pakistan. Volume 1 Issue 3, Pages.189-191. [www.ijarp.org](http://www.ijarp.org)
  36. Khan, N., S. Khan, A. Adnan, and M. Hanif, 2017. Bitter Gourd Production Enhancement through Credit Program of Zari Tarqiati Bank Limited in Rural Areas of District Mardan-Pakistan. *Journal of Poverty, Investment and Development www.iiste.org ISSN 2422-846X An International Peer-reviewed Journal Vol.34, Pages. 9-14.*
  37. Khan, N., A. Adnan, S. Khan and A. Iqbal. 2017. Effects of Zarai Taraqiati Bank Limited Finance Program on Poplar Plantations in Rural areas of District Mardan-Pakistan. *Journal of Economics and Sustainable Development www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.8, No.3. Pages.86-91.*
  38. Khan, N and M. Khan, 2017. Enhancement Of Wheat Productivity Through Credit Program Of Zarai Tarqiati Bank Limited In Rural Areas Of District Mardan Khyber Pukhthun Khawa Pakistan. *International Journal of Advanced Research and Publications ISSN: 2456-9992. Vol.1, (1): 16-20.*
  39. Khan N., and M. Khan 2017. Impact Of Credit Programs Of Zarai Tarqiati Bank Limited On Fruits Plantation And Return In The Rural Community Of District MardanInternational Journal of Advanced Research and Publications ISSN: 2456-9992. Vol. 1(2):32-35.
  40. Khan N. and M. Khan 2017. Zarai Tarqiati Bank Limited Credit Program Impact On Income, Expenditures And Saving Of The Agricultural Community Of District Mardan Pakistan. *International Journal of Advanced Research and Publications ISSN: 2456-9992. Volume 1 Issue (2): 54-69, www.ijarp.org.*
  41. Khan N., 2017. Effects of Zarai Tarqiati Bank Limited Finance Program on Sugarcane per Hectare Yield in Rural Area of District Mardan. *Research Journal of Finance and Accounting www.iiste.org ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) Vol.8(9):38-42.*
  42. Khan, N., S. Akhtar., M. Khan., S. Naz and J. Tanveer. 2017. Maize productivity enhancement through credit program of Zari Tarqiati Bank Limited in rural areas of District Mardan. *Sarhad Journal of Agriculture. 33(1): 139-143.*
  43. Khan N., M.Khan., M. Hanif.,H. Khan.,A. Khan and J. Khan. (2017). Zarai Tarqiati Bank Limited Credit Program Role in the Development of Goat Production in Rural Area of District Mardan, Pakistan.
  44. KP Development Statistics, 1997-98
  45. Malik, S.J. 1989. Differential Access and the Rural Credit Market in Pakistan Some Recent Evidence. *The Pakistan Development Review.28:4.*
  46. Malik, S.J. 1993. Agricultural Credit Markets for Sustained Growth and Development of Agriculture in Pakistan.
  47. Matsumoto, T., and T. Yamano, 2010. "The Impact of Fertilizer Credit on Crop Production and Income in Ethiopia". GRIPS Discussion Paper 10-23. National Institute for Policy Studies 7-22-1 Roppongi,Minatoku, Tokyo, Japan 106-8677. P.1.
  48. Mbata, J.N. 1991. An Evaluation of institutional Credit and its Role in Agricultural Production in Rivers State, Nigeria, *Savings and Development Supplement Vo.1:5-2.*
  49. Mohiuddin, Y. 1993. Credit Worthiness of Poor Women' Compassion of Some Minimalist Credit Program in Asia, A Preliminary Analysis. *Pakistan Development Review-.pp. 1027*

50. Noonari, S., Irfana N., A. A. Bijarani., M. B. Peerzdo., Q.A. Memon., S. A. Wagan.,A.A. Chandio.,A.A. Sethar., M. A. Bhatti and G.Y. Kalwar. 2015. *Impact of Credit on Agricultural Productivity: A Case Study of Zarai Taraqiati Bank Ltd (ZTBL) Loans in District Kashmore at Kandh Kot, Sindh Pakistan*. Available from [https://www.researchgate.net/publication/308595501\\_Impact\\_of\\_Credit\\_on\\_Agricultural\\_Productivity\\_A\\_Case\\_Study\\_of\\_Zarai\\_Taraqiati\\_Bank\\_Ltd\\_ZTBL\\_Loans\\_in\\_District\\_Kashmore\\_at\\_Kandh\\_Kot\\_Sindh\\_Pakistan](https://www.researchgate.net/publication/308595501_Impact_of_Credit_on_Agricultural_Productivity_A_Case_Study_of_Zarai_Taraqiati_Bank_Ltd_ZTBL_Loans_in_District_Kashmore_at_Kandh_Kot_Sindh_Pakistan)
51. Ochola S.A., and W. Kosura 2007. "Case study on Tobacco cultivation and possible alternative crops-Kenya". Institute for Natural Resources and Technology Studies(INRS) Page -23
52. Okoboi G., J. Muwanga and T. Mwebaze, 2012. "Use of Improved Inputs and Its effects on Maize yield and Profit in Uganda"College of Business and Management Science, Makere University ,P.O.Box 702, Kampala, Uganda.Scholarly Peer Reviewed Vol.12 No.7.
53. Oladejo, J.A and Adentunji, M.O. 2012. Economic Analysis of maize (*Zea mays*. I) Production in Oyo state of Nigeria. Department of Agricultural Economics, Ladoke Akintola University of Technology, Ogbomosho, Oyo state, Nigeria. *Agricultural Science Research Journals* Vol.2(2): 77-83 (Available online <http://www.resjournals.com/ARJ>).
54. Iqbal M. and K. Nawab (2013).Farmers Field Schools and Bitter Gourd Productivity: An Empirical analysis of District Charsada, Khyber Pakhtunkhwa-Pakistan. Department of Agricultural Education and Communication. The University of Agriculture, Peshwar-Pakistan. *Sarhad J.Agric.* Vol. 29. No.4.
55. Iqbal M. et.al, 2003. The Impact of Institutional Credit on Agricultural Production in Pakistan. *The Pakistan Development Review*.42:4 Part III (Winter 2003)pp. 469-485.
56. Mohiuddin M. (2011). Economic Impact of Integrated Pest Management Technology on Bitter Gourd Production in Selected Areas of Bangladesh. *International Journal of Applied Research in Business Administration and Economics* Vol.2, No.6. (Economic Impact of IPM Technology on Bitter Gourd Production in Selected Areas of Bangladesh! *International Journal of Applied Research*. 5/26/2014).
57. Muhammad, W. 2003. An Investigation into Effectiveness of Micro-Credit Program of AKRSP' A Case Study of Three Villages of Sub-Division Hunza District Gilgit, M.Sc(Hons) Thesis, Department of Agricultural Economics and Rural Sociology. KP, AUP.
58. Muhammad, A.K and M.K. Shah. 1981. Agricultural Production Credit Requirements in D.I. Khan District. Publication No. 148. Institute of Economic Studies. KP, Agricultural University, Peshawar.
59. Pak Dairy Info-Introduction of Dairy Sector of Pakistan (<http://www.pakdairyinfo.com/introduction.htm>)
60. Pak. Hot. Dev. & Export Company, 2010. Citrus fruits.
61. Qureshi, S.K. and A.H Shah. 1992. A Critical Review of Rural Credit Policy in *Pakistan*. *The Pakistan Development Review Oxford* 31(4): 781-801.
62. Rahman,S., A. Hussain., M. Taqi. 2014. IMPACT OF AGRICULTURAL CREDIT ON AGRICULTURAL PRODUCTIVITY IN PAKISTAN: AN EMPIRICAL ANALYSIS. *International Journal of Advanced Research in Management and Social Sciences* ISSN: 2278-6236. Vol. 3 ( 4 ):125-139
63. Saboor, A., M.,Hussain and M. Munir, 2009. "Impact of Micro Credit in Alleviating Poverty: An Insight from Rural Rawalpindi Pakistan". Deptt. of Agri. Eco. Univ. of Agriculture, Faisalabad-Pakistan. *Pak J. Life soc. Sci.* 7(1):90-97
64. Salami. K.A. 1988. Impact of Formal Agricultural Credit on small Farm Development in the Ashanti Region of Ghana. *Eastern Africa Economic Review*. 4(2):1-8.
65. Saleem M.A and F .A. Jan 2010 ."The impact of Agricultural Productivity in Dera Ismail Khan District". *European Journal of Business and Management* ([www.iiste.org](http://www.iiste.org)).
66. Singh S.P., B. Gangwar and M.P. Singh 2008."Economics of Sugarcane-based Farming System in Western Uttar Pradesh". *Agricultural Economics Research Review* Vol.(21):09-117.
67. Syed I. 2012. "Role of Zari Tarqiati Bank Limited in Agricultural Productivity Through Agricultural Loan in Rural Areas of District Buner" Thesis M.Sc.(Hons) Rural Development, Institute of Development studies Faculty of Rural Social Sciences Agricultural University Peshawar-Pakistan.
68. Tenaw S. and K.M.Z. Islam 2009. "Rural financial services and effects of microfinance on agricultural productivity and on Poverty". University of Helsinki Department of Economics and Management. Discussion Papers No.037.
69. Todaro, C.P., 1997. Economic Development Sixth Edition. British Library Cataloguing- in- Publication Data. Longman London and New York.
70. Thorsten B. 2015. *Microfinance : a critical literature survey (English)*. IEG working paper; 2015/No.4. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/588931467993754857/Microfinance-a-critical-literature-survey>
71. Wale, Pole 1982. Statistics.
72. Waqar, M. 2002. Effects of SRSPs Micro-Enterprise Development Program, on Income and Employment. Thesis of M.Sc, KP, Agric. Uni.Peshawar.

73. Wasim M.P 2005. "Milk Production Response in Pakistan". The Lahore J. of Economics 10(1): 105-121
74. Rezitis, A.N., Kostas, T. and Stauros, T., 2009. Effects of the European Union
75. Farm Credit Programs on Efficiency and Productivity of the Greek Livestock Sector: A Stochastic DEA Application, 8<sup>th</sup> annual EEFS Conference, Current Challenges in the Global Economy, Prospects and policy Reforms, University of Warsaw, Faculty of Economic and Science.
76. Zuberi, H.A. 1989. "Production Function, Institutional Credit and Agricultural Development in Pakistan" *The Pakistan Development Review* 28:1, 43-56.