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is found that most of institutions were not give credit to small farmers because the institutions have not accurate information about their farm productivity and also it was misperceive that small farmers were not capable of return the credit. Government encourages the credit for small farmers but it has been criticized as counterproductive. There are two key factors for the impeding small farmers to getting credit: one is variability in production and the other is lack of proper information. For the solution of this problem a mechanism should be made who have accurate information of production and this body also linked to credit agencies.

Presently, Agriculture credit is provided in various ways as providing subsidies on the prices of the pesticides, fertilizers, seeds, for advancing the technologies by purchasing the tractors, cutter, binder, thresher, trolley, spray, machinery and accession of tube well etc. these facilities can uplift the small farmers quality of life and at large it can contribute in gross domestic production.

Keeping in view aforementioned facts, main purpose of research study is to check the effect of institutional credit on agriculture production in Pakistan. For empirical analysis, time series data 1973-2010 of Pakistan is used. The rest of the research study balanced by representing review of literature that would help in bridging the knowledge gap of study area and then on the basis of findings conclusion and suggestions have been given.

**Literature Review:** Zuberi [3] explored the production function, “institutional credit and agriculture development in Pakistan” this study based on time series data from 1956 to 1986. this analysis used the output at the time period is dependent variable and capital input in time-period. Labor force employed in time-period used as an independent variable. Research study used the cob-Douglas production function as a econometrics model. and result of this study that can bring improvement in agriculture productivity through the credit and technology used.

Malik et al. [4] investigated the basic role played by institution credit in agriculture development in Pakistan. This study undertakes the primary data and this data collect from the 54,987 household interviews over the Pakistan. this revise used the total agriculture production is dependent variable and total institutional credit, fertilizer, water availability, tractors, etc used as independent variable. the investigator used the ordinary least squares estimation to find the relationship and results of this study explore that institutional credit have positive impact on agriculture growth.

Malik et al. [5] examined that what is relationship between rural poverty and institutional credit with respect to Pakistan. This schoolwork used household data in 1990 from a agent secondary model of the 1985 rural credit analysis of Pakistan and international food policy research institute (IFPRI) the examiner take the difference crops in different province of Pakistan and check the headcount measure poverty measure and foster –Greer thorbecke with net of credit and with credit. Conclusion of this study that credit is play important role to reduce the rural poverty especially for the poor farmer and farmer used the credit for adoption of the current technology and inputs in addition farmer allocate to accept more risk.

Iqbal et al [6] explored institutional credit impact on production of Agriculture in Pakistan. Study used (1971-2002) time series data and agriculture credit used as independent variable and agriculture production used as dependent variable and the technique was used is simple linear regression model. Study explored that impact of agriculture credit on agriculture production is positive and significant.

Abdullah et al. [7] examined the role of credit in cotton production in muzaffar-Garh. It was used the primary data and this data was collected from 120 household farmers in different villages of Muzaffar-Garh and these farmer divided into three groups large medium and small in the basis of land. researcher used the total output of cotton as dependent variable amount of seed, amount of labor, amount of pesticides, and tractor hours used independent variable and used the stochastic frontier to estimate this data. Conclusion of this study is that credits have positive and significant impact on cotton production and also believed that give the more credit to small farmer as compare to big farmer.

Abdullah et al. [8] estimate the mechanical effectiveness in form production of potato this study used the primary data and this data collect from two district Okara and Kasur in each district researcher randomly selected 50 farmer because this two district have a large contribution in potato production of Pakistan. The examiner used the total production of potato in tans dependent variable and tractor hours, seed in kg, plant protection cost and total labor used as explanatory variable to approximation for this data researcher used cobb douglas stochastic frontier approach. And conclusion of this study technically efficiency have significant impact on form production of potato.

Bashir et al. [9] look into the impact of commercial banks credit on production of sugarcane in Faisalabad district the researcher used the primary data and this data
Ali & Abdullah [10] investigated how much increased in rice production due to technical efficiency in Punjab (Pakistan) and its implications for opportunity speculation strategies. The study used the primary data and this data collect from 200 farmers in 2005 from two tehsil of shaikhupura which is one of most rising wheat production in Punjab province and the total rice output used as a dependent variable and area planted for rice, plowing hours/farm, irrigation hours/farm, labor hours/farm and plant protection cost, etc used an independent variable. The researcher used the stochastic frontier approach to estimate this data and conclusion of this study that plowing region and fertilizer have positive and negative crash on output of rice and the researcher thought that government should improved investment in water supervision.

Sidhu et al. [11] observe the dynamic of institutional credit for agriculture production growth in Punjab (India) and also contribution of supply-demand gap. The researchers used the primary and secondary data to approximation the demand supply condition of institutional credit for agriculture and the primary data collect from 160 farmers that are selected as randomly and secondary data take from different articles and reserve bank of India. Researchers used the agriculture output is dependent variable and seed, fertilizer, pesticides, diesel, higher machinery etc used an independent variable. the researcher used the three SLS model and conclusion of this study the involvement of institutional credit boost up the recent production inputs and also private savings has been positive and significant.

Izhar et al. [12] discover that how much contribution of institutional credit in agriculture production in during post improvement era in India the researcher used the time series data (1972-91) to (1992-2005) and examiner used gross domestic product of agriculture as dependent variable and consumption of fertilizer, irrigation area and total labor force used as explanatory variable. Researcher used the cob-Douglas production function to estimate the data and conclusion of this study in post restructuring phase the impact of credit are not efficient work and not increased in agriculture production.

Abdullah et al. [13] investigated the how much contribution of credit in livestock sector and this study related to Faisalabad region. The researchers used cross sectional data and for this data collection they selected three tehsil of Faisalabad and in each tehsil they selected the five farmers in different village. The examiner income per month of milk in liter used dependent variable and literacy rate, family size and amount of credit used independent variable. Study used the simple linear regression model. the conclusion of this study credit have positive impact on livestock sector and it’s also boost the live stock sector.

Saboor et al. [14] observed the force of micro credit to reduce the poverty in rural area of Rawalpindi in Pakistan. This study selected two villages Gujjar khan and Bawl for data collection and also selects credit user and non credit user farmers. Researcher used farm income is dependent variable and per acre yield, number of milch animal and landholding used as explanatory variable and for estimation of this data observer used the log linear function and final finding of this study give the more quantity of credit of poor farmers and give the new technology for boosting the farmer income.

Bashir et al. [15] examined how much institutional credit impact on the wheat production in Lahore, Pakistan. Study used the primary data to and estimates the how much effect of institutional credit in wheat production in district Lahore. and also this study used the united bank limited (UBL) was selected a reprehensive of institutional credit  for agriculture production growth in Punjab much effect of institutional credit in wheat production in Lahore, Pakistan. This study selected two villages Gujar khan and Bawl for data collection and also selects credit user and non credit user farmers. Researcher used farm income is dependent variable and per acre yield, number of milch animal and landholding used as explanatory variable and for estimation of this data observer used the log linear function and final finding of this study give the more quantity of credit of poor farmers and give the new technology for boosting the farmer income.

Ayaz & Hussein [16] estimated how much the institutional credit impact on the creation competence in farming region in district Faisalabad in the Punjab province. Reviewed-study used the primary data and the
primary data get from the 300 farmer of two teasel of the Faisalabad. This study used the technique is stochastic frontier analysis. this study used the dependent variable is agriculture output and the independent variable is output, labor (man-day), fertilizer nutrients(kg), irrigation(Acer inch), cash inputs and the expenditure on live stock. This study used also technical inefficiency model and in this model used the dependent variable is output and the independent variable is operated area, experience, education and herd size. And the results of this study is the if the farmer used the credit on the timely utilization on agriculture inputs and also adoption of the new technologies for to get more output in agriculture sector. and also the farmer need to finance to fill the expenditure and either be fulfilled by farmer on saving. and also give the credit on livestock’s because its ultimately reduce the poverty. In the last is the agriculture credit having positive impact in the agriculture output. agriculture efficiency and livestock’s in Pakistan.

Khan et al [17] explored the past writings on agriculture credit in rural area of Pakistan the basic motive of this study that how much credit are effective in rural area the researcher used the secondary data and this data collect from different books articles and journals because this study was depend on past literature so there is no involvement of variable the final finding of this study is credit have significant impact on agriculture production and as well as boost the economic growth and also researcher suggest that do the cost and benefit analysis before the stipulation of loan.

Ahmad [18] investigated the institutional credit force on the agriculture. Study used the annual data (1974-2008) and used the dependent variable is agriculture output. Study used the independent variable is harvest, land, employment strength, credit, water availability. researcher used the technique of ARDL model. The study concluded that agriculture credit have significant impact on agriculture.

Sial et al. [20] looked into the affiliation between institutional credit and agriculture production. This study used the time series data for the period of 1973-2009 and used the various source of data collection like different publications and ZTBL. This schoolwork used the agriculture gross domestic production is a dependent variable and availability of water, agriculture credit, agriculture labor force and cropped area used independent variable. This revise used augmented ducky fuller and Phillips Peron unit root test are in use in order to check the stationary of the variables. The conclusion of this study is a long run relationship between agriculture credit and agriculture production.

Data and Methodology: The researcher utilized time series data from international financial statistics (IFS). This study used the data from 1973 to 2009. For analysis, agriculture gross domestic product is taken as dependent variable and total labor force, agriculture credit, number of tractor and total cultivated land used an independent variable and green revolution used as dummy variable.

Equation:

\[
DLGDP = \beta_0 + \beta_1 \text{LAC} + \beta_2 \text{LCL} + \beta_3 \text{LLF} + \beta_4 \text{LNT} + \beta_5 \text{DUMMY} + U
\]

\[
DLGDP = \text{Natural logarithm of agriculture gross domestic product}
\]

\[
\text{LAC} = \text{natural logarithm of agriculture credit}
\]

\[
\text{LCL} = \text{Natural logarithm of total cultivate land}
\]

\[
\text{LLF} = \text{Natural logarithm of labor force}
\]

\[
\text{LNT} = \text{Natural logarithm of total number of tractor}
\]

\[
\text{DUMMY} = \text{Green Revolution}
\]

\[
U = \text{Random error term}
\]

In time series analysis, it is vital to check the data stationary. For checking of data stationary, researchers used Augmented Dickey-Fuller Test (ADF) and Phillips-Peron (PP). After unit root test researchers applied Johansen’s co integration approach to explore the long run result and after co integration researcher applied Cumulative Sum of Recursive Residual (CUSUM) and Cumulative Sum of Square Recursive Residual (CUSUMSQ) test to check the structural stability of variables. Besides, short term results were found by Error correlation model (ECM).
RESULTS AND DISCUSSIONS

Firstly, in this study checked the stationery of the all variables which are used in these equations. Study used Augmented Dickey-Fuller Test (ADF) and Phillips-Peron (PP) Test. In PP test (Table 1), all the variables are stationary at I (0). LLF and LCL are stationary at 1% level of significant and rests of variables are stationary at 5% level of significant in PP test. In ADF test, all the variables are stationary at I (1). LLF and LCL are stationary at 1% level of significant and rests of variables are stationary at 5% level of significant in ADF test.

In Table 2, Levels of integration of all the variables are same, so in this situation researchers used Johanson co-integration model. Johansen trace and Max- Eigen Statistic test results in Table show that R=2 co integrating vector exists between all variables. It is clearly seen that the results of Johansen trace and Max- Eigen statistic shows the co integration exist among GDP, LAC, LLF, LCF and LNT. LAC, LLF, LCF and LNT are statistically significant impact on GDP in long run.

In Table 3, it is important to investigate the short run result after investigating the long run relationship among variables. In a situation, one percent changes in agriculture credit; it causes. 11 unit changes in GDP. Omogimite [21] indicates the similar results that credit to agriculture sector have positive and significant impact on agriculture output. Also findings of the Obilar [22] showed that agriculture credit scheme fund and government fund allocation has positive and significant impact on the trade. In a condition, an agriculture land increases by one unit that’s impact is, 05 unit increase in economic output of the country. Table 3 indicates that one percent change in labor force turns its impact in 009 unit change in growth rate. Water availability and increase in labor has positive and significant impact on agriculture output. The estimates are related by Qureshi & Shah [23]. ECM term shows the speed of convergence towards equilibrium. If its sign is negative then ECM value shows the convergent and if its sign is positive then ECM value shows divergent to Equilibrium. In table ECM value is -.51 which shows that in short run period if disequilibrium shock occur then it converge to equilibrium 51% of a period.

Brown et al. (1975) put forward (Figure 1 & 2) two tests Cumulative Sum and Cumulative Sum of Square, to check the structural constancy. CUSUM test confined the orderly changes in regression coefficients, while CUSUMSQ restrain the departure of parameters from stability. Hence, parameter consistency is checked by using these two tests. It shows that Johansen co integration results are stable and there is structural stability occurs in this model.
CONCLUSION

Institutional credit has an imperative role in the progress of the agricultural sector of Pakistan as it raises the quality life of small farmers and also instrumental in adoption of new technologies. In this way, this study concludes that institutional credit has significant impact in agricultural productivity in the past years and trend of the agriculture credit have been gradually increased and institutional credit have positive impact on agriculture GDP. In detail, some variables have not significantly impact on agriculture production as cultivated land and labor force. In adoption of new technology, if credit process would be easy that will help in transmission on new technologies.

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