

## **Impact of Advancement in Agricultural Credit on Productivity of Agricultural Sector in Pakistan**

### **A case study of five leading banks in Punjab**

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### **Abstract**

Agricultural financing plays a significant role in promoting agricultural productivity in Pakistan, and is especially important in the province of Punjab. The purpose of this study is to identify the role of agricultural financing in improving agricultural productivity in Punjab. The study analyzed the performance of agricultural loans in the province, and assessed the impact of agricultural financing on farmers' productivity and income. The study found that agricultural financing play a critical role in supporting the growth and development of the agricultural sector in Punjab, and in improving the productivity and income of farmers. However, the study also identified challenges, such as high levels of non-performing loans and limited access to financing for small-scale farmers that impact the performance of agricultural loans in the province. This study highlights the need for continued efforts by the government and other stakeholders to improve the availability and accessibility of agricultural financing, and to support the growth and development of the agricultural sector in Punjab.

**Keywords:** Agricultural; Financing; Productivity; Growth; Farmers

## Introduction

Agriculture has always been a crucial sector of the economy in Pakistan, providing food security and livelihoods for a significant portion of the population. The development of the agricultural sector is essential for the overall economic growth of the country and the improvement of the standard of living for its citizens. One of the key factors in the development of the agricultural sector is access to credit. The availability of credit allows farmers to invest in inputs, such as seeds, fertilizers, and equipment that can increase yields and improve the quality of crops.

Advancements in agricultural credit have the potential to play a critical role in the development of the agricultural sector by providing farmers with improved access to financing. Banks have emerged as an important source of credit for small-scale farmers, offering flexible loan terms and innovative financial products that can meet their unique needs.

The performance of agricultural loans in Pakistan has been mixed. On one hand, the growth of the agricultural sector has been supported by access to financing, allowing farmers to purchase inputs, improve production, and increase their income. On the other hand, the performance of agricultural loans has been impacted by various challenges, such as high levels of non-performing loans, limited access to financing for small-scale farmers, and the difficulty of reaching remote and underserved areas.

In this study, we examine the impact of advancements in agricultural credit on the productivity of the agricultural sector in Pakistan, with a focus on the case of five leading banks in Punjab. Through a case study approach, we aim to assess the impact of these advancements on the productivity of the agricultural sector in Pakistan, and to provide insights into the effectiveness of banks in serving the needs of the agricultural sector. This study will contribute to a deeper understanding of the role of advancements in agricultural credit in the development of the

agricultural sector in Pakistan and will be of interest to policymakers, practitioners, and researchers working in the field of agriculture and microfinance.

During the period of July to March in FY2022, banks disbursed Rs 958.3 billion for agricultural credit in Pakistan, accounting for 56.4% of the annual target. This study aims to assess the impact of advancements in agricultural credit on the productivity of the agricultural sector in Pakistan, with a focus on five leading banks in Punjab. The outstanding portfolio of agricultural loans increased by Rs 30.9 billion, and the number of outstanding credits reached 3.2 million in March 2022. This study will provide valuable insights for policymakers, practitioners, and researchers in the field of agriculture and microfinance.

### **Literature Review**

The study conducted by Bashir et al (2009) aimed to examine the impact of credit on the productivity of wheat crop in Lahore, Punjab, Pakistan. The study used primary data collected through a structured questionnaire and multiple regression analysis to evaluate the impact of credit. The United Bank Limited (UBL) was selected as a representative of institutional credit sources. The study selected two villages randomly from each of the three strata in the district, and then 10 loan recipients and non-loan recipients were interviewed from each village. The results showed that agricultural credit plays a significant role in facilitating agriculture and increasing the participation of farmers in the production process. The findings indicated that credit had a positive impact on the productivity of wheat crop, leading to the conclusion that credit is important in transforming agriculture and improving the living standards of the rural poor. However, the impact of credit was found to be low, and other factors such as loan usage patterns and simplified loan procedures were also identified as important factors in reducing poverty. The authors suggested several measures to improve the impact of credit on agricultural productivity. These measures

include reviving farmer cooperative societies, implementing Islamic finance, providing proper technical guidance, and supervised credit schemes. The authors also suggested that the loaning procedures should be simplified and convenient to make them accessible to more farmers. Moreover, they suggested that proper technical guidance should be provided by the bank and extension staff, and that inputs should be provided in a timely manner instead of cash. In conclusion, the study by Bashir et al (2009) found that credit has a positive impact on the productivity of wheat crop and can improve the living standards of the rural poor. However, the impact of credit was found to be low, and other factors such as loan usage patterns and simplified loan procedures are also important in reducing poverty. The authors suggested several measures to improve the impact of credit on agricultural productivity.

The study conducted by Rehman et al in 2017 aimed to examine the relationship between the agricultural gross domestic product (AGDP) and several variables, including total food production, cropped area, loan disbursed by Zari Taraqiati Bank Ltd (ZTBL), cooperative loan and total loan disbursed by various institutions in Pakistan. The researchers collected time series data from secondary sources such as the Pakistan Bureau of Statistics, Statistical Year Books, and the Economic Survey of Pakistan, from the years 1960 to 2015. The data was analyzed using the Phillips-Perron (P-P) test and the Johansen Co-integration test. The results of the study showed that total food production, loan disbursed by ZTBL and the total loan disbursed by various institutions had a positive and significant influence on the AGDP. On the other hand, cropped area and loan disbursed by cooperatives had a negative but insignificant influence on the AGDP. Based on these findings, the researchers suggest that the Government of Pakistan should initiate new policies and funding schemes for the development and improvement of the agricultural sector, which contributes to 60% of the country's GDP and is the main revenue source for the overall

economy. The study highlights the importance of ensuring adequate loan availability to increase agricultural productivity, but also acknowledges the need to review the interest rates charged and simplify the procedures for obtaining credit. Additionally, the negative impact of cooperatives loan on the AGDP suggests that it is important to revitalize farmer's cooperative societies to help farmers acquire and manage loans effectively.

Chandio et al (2019) studied the impact of agricultural credit and farm size on the technical efficiency of rice productivity in Sindh, Pakistan. A cross-sectional random sample of 180 rice farmers was collected through face-to-face interviews and analyzed using the stochastic production frontier technique. The results of Maximum Likelihood Estimation showed that credit, farm size, fertilizer, and labor had a significant impact on rice productivity in Sindh. The mean technical efficiency was found to be 0.97, indicating that 97% of rice farmers were technically efficient. The study found that agricultural credit and farm size were dominant factors in improving rice production and the technical efficiency of smallholder farmers in Sindh. The study recommended that the Zarai Taraqiyati Bank Limited (ZTBL) should improve its credit disbursement system, supply credit during the sowing season, provide technical guidance through training workshops, and ensure proper utilization of credit to enhance rice productivity and improve the livelihoods of rural households.

### **Research methodology**

The increasing demand for food and the need to improve farmers' conditions have prompted the exploration of factors that contribute to the growth of the agricultural sector. Despite the growth in the demand for agricultural inputs, a significant number of farmers lack the financial resources to adopt agricultural innovations. Agricultural credits, in the form of loans, cash, or commodity, are seen as the only alternative for farmers. However, the widespread availability and access to

these credits have been limited, affecting the agricultural productivity of farms in the region. This research aims to examine the problems faced by farmers in accessing agricultural credits and its impact on agricultural productivity in the context of farming in Punjab, Pakistan. The study will delve into the challenges and opportunities in the agriculture credit market, specifically in the context of the banking sector, to uncover the relationship between agricultural credits and agriculture productivity. The ultimate goal is to provide insights into the effectiveness of agricultural credits in promoting agricultural productivity and recommend improvements to support the growth of the agricultural sector.

**Hypothesis:** Agricultural productivity has been increasing due to advancement in agricultural Credits by banks in Punjab, Pakistan.

#### **Sampling Technique & Tools:**

The present study aimed to examine the experiences and perceptions of both agricultural credit borrowers in Pakistan who were involved in the process of providing and receiving agricultural credit. The research design adopted for this study was a mixed-methods approach, and data was collected through the use of structured questionnaires.

#### **Population & Sampling:**

The study population comprised of agricultural credit borrowers who obtained loans from five banks in Punjab, Pakistan: Bank of Punjab, Habib Bank Limited, BankIslami, ZTBL, and Habib Metropolitan Bank. The sample was chosen through stratified random sampling based on the availability and accessibility of participants and resources. Data from the previous year's economic survey of Pakistan and the banks' annual reports was used to examine past trends in agricultural credit disbursement in the study area. The results were interpreted and presented in a meaningful manner to draw conclusions and offer recommendations for future studies.

## Findings

The economic survey of Pakistan over the past decade reveals insights into agricultural credit disbursement and productivity. Analyzing this data is crucial to understand the state of the agriculture sector and identify areas that need improvement. Informed decision-making by policy makers can contribute to the growth and development of the agriculture sector, leading to increased food security and overall economic stability in the country.

### Trend Analysis of Agriculture Financing in Pakistan

This table provides data on agriculture financing by four types of banks in Pakistan over a ten-year period from 2012-2013 to 2021-2022. The data

reveals that all four types of banks increased their financing for agriculture over the ten-year period. Commercial Banks were the largest contributor,

increasing their financing from 107 billion

Rupees in 2012-2013 to 554.2 billion Rupees in

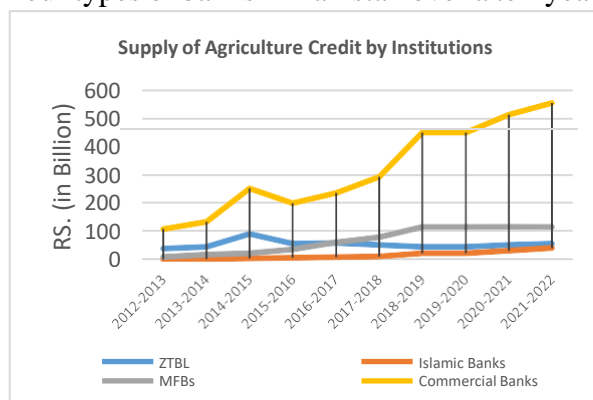


Figure 1: Supply of Agriculture Credit

2021-2022. This represents a steady upward trend, with the growth in financing being much faster compared to the other types of banks. ZTBL, being a specialized financial institution, provided financing for agriculture activities, with an upward trend in financing over the ten-year period, starting from 38 billion Rupees in 2012-2013 to 56.5 billion Rupees in 2021-2022. The financing provided by ZTBL showed fluctuations from year to year, but overall the trend was upward. Islamic Banks also increased their financing for agriculture over the ten-year period, starting from 0.5 billion Rupees in 2013-2014 to 40 billion Rupees in 2021-2022. The growth was slower compared to ZTBL, but still represented a steady increase in financing. Microfinance Banks (MFBs) were also a significant source of financing for agriculture in Pakistan, with a sharp increase

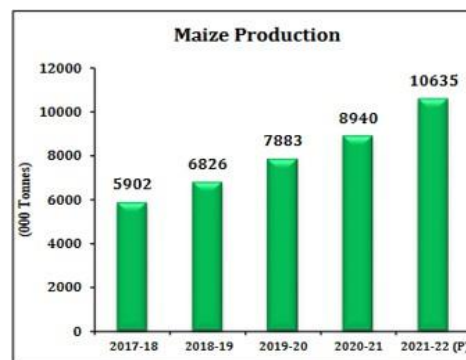
from 8.5 billion Rupees in 2012-2013 to 114 billion Rupees in 2021-2022. The financing provided by MFBs was relatively stable over the ten-year period. Overall, the data provides evidence that all four types of banks in Pakistan increased their financing for agriculture over the ten-year period, with Commercial Banks being the largest contributor. The rate of growth and stability of financing varied among the different types of banks

### **Trend Analysis of annual production of Rice and Maize in Pakistan**

Maize and rice are the most important crops grown in the districts of Hafizabad, Depalpur, and Okara in Punjab, Pakistan. These districts play a significant role in the national production of these crops. Let's see the past trend of annual production of Rice and Maize in Pakistan. To understand the trend of national productivity of rice and maize in the last five years, it is important to analyze the last five years of the *economic survey of Pakistan*

#### **1. Maize**

The data in the bar graph represents the area, production and yield of maize in Pakistan over a four-year period from 2017-18 to 2020-21. The data also includes a projection for the year 2021-22. From the data, we can see that the area under maize cultivation increased by 9.8% in 2018-19 and by 2.2% in 2019-20. However, in 2020-21, the area increased



**Fig 2: Maize Production**

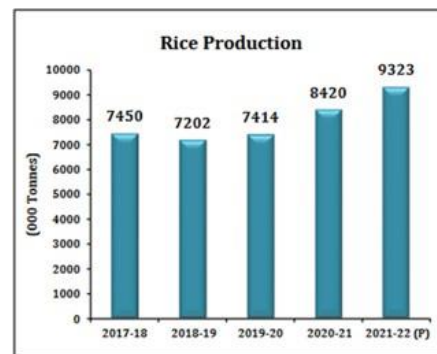
by only 1%. The production of maize increased by 15.7% in 2018-19 and by 15.5% in 2019-20. In 2020-21, the production increased by 13.4%. The yield of maize increased by 5.3% in 2018-19 and by 13% in 2019-20. In 2020-21, the yield increased by 12.3%. The projected yield for 2021-22 is 2.1% higher than the yield in 2020-21.



Overall, the data suggests that there has been an increase in the area, production, and yield of maize in Pakistan over the four-year period, with some fluctuations. The projection for 2021-22 indicates a continuation of this trend. The maize production position over the last five years is given in Figure 2.

## 2. Rice:

The graph shows the area, production and yield of rice in Pakistan from 2017-2022 (with a projection for 2022). The area under rice cultivation decreased by 3.1% in 2018-19 compared to 2017-18. The production of rice also decreased by 3.3% in 2018-19, but increased by 2.9% in 2019-20. The yield of rice was 2,563 kg/hectare in 2018-19 and decreased by 0.2% compared to the previous year.



**Fig 3: Rice Production**

The area under rice cultivation increased by 9.9% in 2020-21 and the production increased by 13.6%. A projection for 2022 shows a 6.1% increase in the area under rice cultivation and a 10.7% increase in production.

Overall, the data suggests that there has been an increase in the area, production, and yield of rice in Pakistan over the four-year period, with some fluctuations. The projection for 2021-22 indicates a continuation of this trend, with a 6.1% increase in the area under rice cultivation and a 10.7% increase in production expected. The rice production position over the last five years is given in Figure 3.

## Results

Following are characteristics of 30 respondents that are contacted for data collection of research on hand, and the characteristics being analyzed are age, education level, marital status, agriculture

land tenure, times of receiving loan amount, and purpose of getting loan. The results of the survey are summarized below:

The age group of the respondents ranges from under 25 years to over 50 years, with the largest group being 25-50 years (50%). 17% of the respondents are under 25 years of age, and 33% are over 50 years. The education level of the respondents ranges from illiterate to matriculation. The largest group has a primary education (33%), followed by those who are illiterate (27%), have middle education (20%), and matriculation (20%). The majority of the respondents are married (67%), while 13% are single and 20% are widow or widower. The respondents have different agriculture land tenure status, with the largest group being owners (57%). 13% of the respondents are tenants, and 30% are owner-cum-tenants. 63% of the respondents received the loan amount once, 27% received it twice, and 10% received it more than twice. The primary purpose of getting a loan among the respondents was for seed (43%), followed by pesticide (27%), fertilizer (20%), and others (10%). The most preferred bank among the respondents is HBL and BOP, with each having 27% of the respondents using them. ZTBL and BankIslami were the second most preferred bank with 17% of the respondents using them. Lastly, Habib Metro Bank was the least preferred among the respondents with only 13%. In total, the survey included 30 respondents, constituting 100% of the sample population.

## **Responses**

After the descriptive analysis, primary data results derived on the basis of frequency distribution table, shows that the values of means of most of the questions are moving forward from 0.2 to 1.2 respectively i.e: Improved productivity, increase investments in (technology, seeds, and fertilizer), improvement in House Hold living standard, easy mode of Agri-credit repayment. That suggest that Agri credits my five leading banks (HBL, BOP, ZTBL, HMP, BankIslami) are mainly

impacting the productivity of studied three districts of Punjab (Hafizabad, Okara & Depalpur) Pakistan, which shows that responses are shifting from positively to very positively agreed. According to the data analysis, the results reveal that 27.3% of the surveyed farmers in the three districts of Punjab, Pakistan held a positive stance (P) towards the hypothesis that agricultural productivity has been increasing due to advancements in agricultural credits offered by banks. Conversely, 15.5% of the respondents had a negative perspective (N) on the hypothesis. A significant portion of the sample, 38.6%, held a very positive view (VP) on the hypothesis. However, a small proportion of the respondents, 10.5%, held a very negative perspective (VN). A neutral viewpoint (NTRL) was observed in 8% of the sample. (P) agreed. Whereas, the highest percentage of respondents i.e. 38.6% respondents very positively (VP) agreed that the fluctuations in exchange rate are positively impacting the profitability of insurance companies.

Thus, the results indicate that the farmers in Punjab, Pakistan, have had a positive perception towards the impact of advancements in agricultural credits by banks on their agricultural productivity. On the other hand, 15.5% of respondents agreed negatively (N) to the statement, suggesting that some farmers may still be facing challenges in utilizing these advancements effectively. Nonetheless, it is important for the concerned authorities to continue their efforts towards improving these credits in order to ensure the productivity of the farmers in the region is maximized.

### **Conclusion**

The research aimed to investigate the impact of Agri-credit on the development of the agricultural sector. The findings showed that Agri-credit plays a crucial role in improving the agriculture field, economic status, and household living standards of farmers. Agri-credit provides financial support to farmers to increase their agricultural production and income. The majority of the respondents

were from low socio-economic backgrounds, hence a large portion of them utilized the loan facility for agricultural purposes. The study concluded that Agri-credit has a positive impact on agricultural development, however, there is room for improvement. To make the Agri-credit program more productive for the farmers, it is recommended to increase the loan amount for agriculture purposes, provide modern machinery for agriculture processes at reasonable prices, improve understanding of the objectives of the program, make training in business mandatory for loan recipients, and arrange for a benevolent fund. Additionally, it is suggested to relax repayment periods for unexpected household needs, expand loan facilities to rural areas, offer low-interest rates, and conduct proper monitoring and evaluation of the loan recipients.

### **Recommendations**

Based on the findings of the study and considering the practical observations, the following suggestions are proposed to enhance the effectiveness of the Agri-credit program for farmers who receive credit for agricultural purposes.

- Increase loan amount for better productivity
- Provide affordable modern equipment
- Improve understanding of program objectives through community meetings
- Provide training and guidance to loan recipients
- Make guidance and support mandatory
- Establish a benevolent fund for natural calamities
- Provide grace period for loan repayment
- Expand program to rural areas
- Reduce interest rates
- Conduct monitoring and evaluation of loan recipients

The Agri-credit program should prioritize EWR financing initiatives by SECP and Naymat Collateral, which have enabled banks to offer agri-credits worth over PKR 1 billion with 100% repayment rate, to drive further progress in the agricultural sector.

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### **Author's Biography**

Muneeb Ahmed is a dedicated marketing professional with a Bachelor's degree in Business Administration and currently pursuing a Master's degree in Business Administration (Marketing) from Karachi University Business School. He has extensive experience in the industry and currently serves as a member of the marketing operations department at a collateral management

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