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Assessing the Impact of Zarai Taraqiati Bank Limited on Farm Productivity and Farm Income in District Dir Lower, Pakistan

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ABSTRACT

This study assesses the impact of ZTBL credit on farm productivity and farm income in District Dir Lower. Convenience sampling technique was applied to select District Dir Lower due to easy accessibility, followed by two tehsils— Adenzai and Timergara— within Dir Lower. A total of 305 farmers who availed loans from ZTBL were selected. Interview schedules as well structured questionnaires were used to collect data from credit beneficiaries (farmers) represented as the sample size. Descriptive statistic was used to summarize data, and percentages were calculated. Inferential statistics, such as the paired t-statistic, was used for empirical analysis. The findings of the study indicate that ZTBL credit significantly increased wheat, maize, and tomato productivity of farmers. The results also show that ZTBL credit led to a significant increase in farm income in District Dir Lower. The study recommends that the government should increase the number of ZTBL branches, particularly in rural areas. ZTBL should ensure timely provision of loans to farmers to purchase inputs to increase their productivity and income. The capacity of credit should be increased to access more farmers to increase their productivity and income. Additionally, the ZTBL team should guide and supervise farmers to utilize agricultural loans only for livestock activities.

Keywords: *ZTBL Credit, Wheat Productivity, Maize Productivity, Tomato Productivity, Milk productivity, Livestock Productivity, Farm Income, Dir Lower*

INTRODUCTION

The agricultural sector is the main economic sector in Pakistan. It provides employment opportunities to approximately 45% of the labor force and contributes about 21% to GDP. The agricultural sector also accounts for about 60% of the country's exports (Ahmad & Ahmad, 2024). In the country, almost 68% of the population lives in rural areas directly or indirectly depends on the agricultural sector for their livelihoods (Khan et al., 2007). The agricultural sector is also the main supplier of raw materials to various industries such as textiles, food processing, and sugarcane production, which play a key role in export earnings (Chaudhary, 2024).

In Pakistan, the agricultural sector comprises major crops, minor crops, fishery, and forestry, and livestock. In 2024-25, major crops accounted for 17.82% of the value added in agriculture and 4.19% of GDP. Minor crops contributed 13.88% to value added in agriculture and 3.27% to GDP. Forestry provided 2.31% to agriculture value added and 0.54% to GDP. Fishery contributed 1.31% to agriculture value added and 0.31% to GDP (Government of Pakistan [GOP], 2025). Livestock is considered an important sub-sector of agriculture in Pakistan. It accounts for 63.6% of agriculture value added and 14.97% of GDP. Its contribution is about 2.9% in the total export earnings by the trade of animals, its meat, and animal-based products (Ali, 2025). Livestock farming is the most predominant economic activity of the rural population in Pakistan. More than 8 million rural families rely on livestock for their livelihood and derived nearly 35 to 40% of their income from livestock sector (ACIAR, 2025).

Despite the importance of the agricultural sector in Pakistan, its performance is not satisfactory. Productivity is low due to many challenges, including poverty and illiteracy. Lack of funds and knowledge hinders farmers' ability to increase their farming activities. Small and fragmented land sizes further create issues in efficiently utilizing lands. Furthermore, farmers depend on outdated farming practices, as well as the lack of research and extension services, and limited training continue to be the main hurdles in the way of increasing productivity (Aslam, 2016). The provision of credit and its facilities are also insufficient, restricting the utilization of the latest inputs and technology, leading to low productivity and consequently decreased farmers' income (Mustafa, 2024).

To meet farming financial requirements, agricultural credit in Pakistan is categorized into non-institutional and institutional sources. In the study by Fayaz et al. (2006), it was noted that moneylenders, friends, and relatives are considered sources of non-institutional loans. On the contrary, commercial banks, Zarai Taraqiati Bank Limited (ZTBL), cooperative societies, and microfinance institutions are the main sources of institutional credit. These institutions provide agricultural loans to farmers, with ZTBL being known as a specialized agricultural loan supplier. The ZTBL provides various types of loans to farmers. Shahid (2012) highlighted three types of loans: short-term loans, medium-term loans, and long-term loans. Short-term loans range up to 1 year, which are given for farm inputs such as seeds, fertilizer, pesticides, etc. Medium-term loans are up to 5 years which are granted for livestock and dairy farming. Long-term loans have a time up to 10 years which are provided for tube-well installation, land leveling, purchase of tractors and threshers, and heavy machinery.

District Dir Lower is mostly mountainous in nature, and the majority of the people live in rural areas. The agricultural sector is the main economic activity. Almost 46-48% of the people living in rural areas depend on the agricultural sector for their livelihoods (PPAF, 2015; Ahmad et al., 2025). They grow various types of crops such as wheat, maize, and tomatoes, supported by various vegetables and fruits. In some areas along the River Swat and River Panjkora, people cultivate rice and sugarcane. Additionally, people depend on livestock such as cattle, buffaloes, goats, sheep, horses, etc. for their personal and commercial purposes. The people cultivate their own lands as well as rented lands for both own and commercial uses. However, they use obsolete inputs and farming practices. The majority of people are poor, and they are unable to purchase the required and latest inputs for their farming. To address financial challenges, some of them depend on non-institutional sources such as moneylenders, relatives, and friends. However, these sources are not reliable and charge high interest rates as well. The farmers in this scenario depend on institutional sources such as ZTBL, which provides loans with a comparative interest rate. The current study examines the impact of ZTBL credit on farm productivity and farm income in District Dir Lower.

Hypotheses

H_{01}: There is no significant difference between the mean crop productivity before and after utilizing ZTBL credit

H_{02}: There is no significant difference between the mean farm income before and after utilizing ZTBL credit

Mathematically, the hypotheses (for farm productivity and farm income) can be written as:

H_0: $\mu_1 - \mu_2 = 0$ or $\mu_1 = \mu_2$, where H_0 represents both hypotheses.

Where;

μ_1 = mean farm productivity and farm income before utilizing ZTBL credit

μ_2 = mean farm productivity and farm income after utilizing ZTBL credit

LITERATURE REVIEW

This section highlights a summary of previous literature related to the stated issue. Some of the literature from within the country like Pakistan, and from outside the country is presented below.

Fayaz et al. (2006) examined the influences of short-term credit granted by ZTBL on crop productivity and farmers' income in District Swat, Pakistan. The data were collected from 80 farmers, including 40 credit beneficiaries and 40 non-beneficiaries. A paired t-test was applied to compare crop productivity and the income of beneficiaries and non- beneficiaries. The results revealed a significant difference between crop productivity and the income of farmers. Due to the utilization of credit, the farmers significantly increased tomato, wheat, maize, and onion productivity, as well as the income of farmers in the research area.

Shah et al. (2008) studied the impact of ZTBL credit on farm output and farm income in District Chitral, Pakistan. Data were collected from both borrowers and non- borrowers. The results indicated positive and significant association between ZTBL credit and farm output and farm income. A significant increase was observed in productivity of wheat, maize, potatoes, and apple between borrowers and non-borrowers. The income of borrowers significant increased compared to non- borrowers in the research area.

Bashir et al. (2010) discussed the influence of agricultural credit disbursed by United Bank Limited on wheat output in Punjab, Pakistan. The stratified sampling technique was used for the selection of the sample size. A well-structured questionnaire was used to collect primary data from 60 borrowers and 60 non- borrowers. The results revealed that credit led to a significant increase in the productivity for wheat of the borrowers compared to non-borrowers.

Rahman et al. (2011) highlighted the importance of rural loan for agricultural productivity in Bangladesh. They observed that credit plays an important role in increasing agricultural productivity. The credit let to increased productivity of food crops, fisheries, and livestock in the research area. However, farmers faced issues due to complex credit procedures and lack of supervision.

Saleem and Jan (2011) investigated the impact of agricultural credit on farm productivity in Pakistan. They found a favorable association between agricultural credit and farm productivity. They believed that the credit enabled farmers to purchase quality seeds, fertilizer, and adopt modern technology. The availability of farm inputs due to agricultural credit increased farm productivity of the farmers in the research area.

Riaz et al. (2012) pointed out the credit disbursement by ZTBL for agricultural sector development in Pakistan. They noticed a positive effect of credit on agricultural production and believed that institutional credit increases farm productivity, food security, and farmers' income. The results found that some loan recipients utilize their credit for other purposes and recommend that institutional credit should only be used for agricultural activities.

Iqbal et al. (2012) indicated the impact of ZTBL loans on livestock farmers' income in District Swat, Pakistan. A pre-tested structured questionnaire was used to collect data from 80 farmers. A paired t-statistic was used to compare the mean number of animals and farmers' income before and after ZTBL credit. The results revealed a significant increase in the number of animals and farmers' income after credit utilization in the research area.

Girabi and Mwakaje (2013) presented the impact of microfinance on agricultural productivity in Tanzania. They observed a favorable relationship between credit and agricultural productivity in the study area. The results found that borrowers had higher productivity compared to non-borrowers. However, the amount of credit was not sufficient to increase their productivity, and farmers faced issues due to high interest rate.

Rahman et al. (2014) estimated the effects of ZTBL credit on agricultural output in Pakistan. Filed survey was used to collect primary data from 300 farmers in Tehsil Bahawalpur. The results showed a positive and significant relationship between credit and agricultural output. The credit enabled farmers to purchase quality inputs, which, in turn, increased agricultural output in the research area. The study recommended timely provision of credit to purchase inputs that improve the agricultural output of farmers.

Ahmad et al. (2015) highlighted the influence of agricultural loans on wheat output in District Jhang, Pakistan. The data were collected from 160 borrowers and non- borrower farmers. The majority, 70%, utilized the loans for other purposes, while only 30% used it for agricultural purposes. The results indicate a positive and significant relationship between credit and wheat productivity. The productivity of credit beneficiaries significantly increased compared to non-beneficiaries in the study area.

Gebeyehu et al. (2020) emphasized the effect of agricultural loan on maize output of farmers in Ethiopia. The cross-sectional data were collected from 120 credit beneficiaries and 140 non-beneficiaries. The results showed that credit increases the use of farm inputs such as seeds, fertilizer, and labor in the farm, which in turn increases maize productivity of farmers in the research area.

Ahmad and Ahmad (2024) revealed the influence of ZTBL credit on farmers' income in District Dir Lower. A semi-structured questionnaire and interview schedule were used for data collection from 298 farmers. A positive and significant relationship was found between ZTBL credit and farmers' income. The credit led a significant increase the farmers' income in the research area.

Institutional credit is an important input for farming operations particularly in developing countries, including Pakistan. The majority of farmers are resource poor and unable to purchase the latest inputs and technology to boost their productivity and income. To finance their farming activities, they avail loans from non-institutional sources; however, these loans are expensive due to high interest rates. Instead of non-institutional credit, farmers prefer institutional credit from sources such as ZTBL, a specialized institution for agriculture in Pakistan. ZTBL is considered an important source of loans, as farmers depend on it to finance their farming operations. However, to the best of our knowledge, no empirical study has been conducted on the impact of ZTBL credit on farm productivity and farm income in District Dir Lower. The present study aims to fill this gap and empirically examines the impact of ZTBL credit on farm productivity and farm income in the research area.

MATERIALS AND METHODS

The present study was conducted in District Dir Lower, Khyber Pakhtunkhwa, Pakistan. Convenience sampling technique was used to select District Dir Lower from among 36 districts due to easy accessibility and availability of sampled respondents. Two tehsils — Tehsil Adenzai and Tehsil Timergara— were purposively selected based on consultation with ZTBL staff. A list of credit/loan beneficiaries was obtained from ZTBL Chakdara Branch, Tehsil Adenzai, Dir Lower. A total of 305

farmers had availed short- term credit and medium-term credit during 2023-2024. The short-term credit used for cropping activities are represented as crop credit, while the medium-term credit used for livestock activities are represented as livestock credit in the present study. Out of the total credit beneficiaries, 160 farmers had accessed crop credit, while 145 had availed livestock credit. Among the crop credit beneficiaries, 120 had utilized credit for agricultural uses, while 40 used it for non-agricultural uses. Among livestock credit beneficiaries, 110 had utilized it for agricultural purposes, while 35 used it for non-agricultural purposes. Overall, 230 farmers had used credit for agricultural purposes, while 75 farmers used it for non-agricultural purposes, as shown in Table 1.

Table 1: ***Distribution of Farmers by Utilization of Overall Credit (Crops + Livestock)***

Category	Agricultural Use	Non-Agricultural Use	Total
Crop Credit	120	40	160
Livestock Credit	110	35	145
Total	230	75	305

Note. Source: ZTBL Chakdara Branch, 2024

In tehsil-wise distribution, in the case of crop credit, 120 farmers had used it for agricultural requirements, including 65 farmers in Tehsil Timergara and 55 farmers in Tehsil Adenzai. On the other hand, a total of 40 farmers had utilized the loans for non- agricultural purposes, including 25 farmers in Tehsil Timergara and 15 farmers in Tehsil Adenzai. In livestock credit, 110 farmers had used it for agricultural requirements, including 58 farmers in Tehsil Adenzai and 52 in Tehsil Timergara. Conversely, 35 farmers used loans for non-agricultural purposes, including 18 farmers in Tehsil Timergara and 17 farmers in Tehsil Adenzai.

Table 2: ***Tehsil-wise Distribution of Farmers by Credit Utilization***

Tehsils	Crop Credit		Livestock Credit	
	Agricultural Use	Non- Agricultural Use	Agricultural Use	Non- Agricultural Use
Adenzai	55	15	58	17
Timergara	65	25	52	18
Total	120	40	110	35

Note. Source: ZTBL Chakdara Branch, 2024

Data were collected using interview schedules and pre-tested structured questionnaires were also used for some literate farmers. The data were analyzed through SPSS. The study applied both descriptive and inferential statistics. Descriptive statistics was used to summarize data, and percentages were calculated, while inferential statistics was used for empirical analysis, as shown below.

$$t = \frac{\bar{d}}{sd/\sqrt{n}}$$

Where:

t = t-test

$\bar{d}$= Means of farm productivity (wheat, maize, tomatoes, livestock, and income) before and after ZTBL credit

sd = Standard deviation of the differences

n = Sample size

RESULTS AND DISCUSSION

This section deals with the influences of ZTBL credit on farm productivity, including both crops and livestock productivity. In District Dir Lower, wheat, maize, and tomato are major crops, although tomato is officially considered a minor crop in Pakistan; however, in this district it occupies a large share of cultivated area and production. Livestock such as cattle, buffaloes, goats, and sheep are also commonly reared. All of these are discussed below.

Impact of Credit on Wheat Productivity

Wheat represents one of the most important staple crops in Pakistan, contributing approximately 1.9% to the national GDP and 8.2% to agricultural value addition (Larik et al., 2024). In research area, it serves as a primary source of food for household consumption, while any surplus production is marketed to generate farm income. In the study area, farmers relied on agricultural credit to finance wheat cultivation, and its effects on wheat production are presented in Table 3.

Table 3: ***Impact of Credit on Average Wheat Productivity (maund per acre)***

Tehsils	Before credit	After credit	% change	t-value	p-value
Adenzai	22	28	27	10.55	0.000
Timergara	24	30	25	11.89	0.000
Overall average	23	28	26		

Note. Source: Field Survey, 2024

Table 3 illustrates the average wheat productivity in maund per acre before and after availing credit, percentage change, and corresponding t and p values. As can be seen from the table results, the overall average wheat productivity, calculated as the combined average of both tehsils, increased from 23 maunds per acre to 28 maunds per acre, indicating a 26% improvement. The highest increase was recorded in Tehsil Adenzai, where the average wheat productivity increased from 22 maunds per acre to 28 maunds per acre, showing an increase of 27%. In Tehsil Timergara, the average wheat productivity increased from 24 maunds per acre to 30 maunds per acre, showing an increase of 25%. The p-values were calculated as 0.000, indicating that there is a significant difference between wheat productivity before and after credit utilization. This means that ZTBL credit led to a significant increase in wheat productivity in both tehsils. These findings are similar to the findings of Jehan et al. (2008) and Bashir et al. (2010); they also found an increase in wheat productivity due to ZTBL utilization in the research areas.

Impact of Credit on Maize Productivity

Maize is a major staple crop in Pakistan. It accounts for about 0.7% of the national GDP and contributes about 2.9% to the agricultural value addition (Haq, 2024). Maize is not only the main source of food and fodder, but it also provides raw materials to industries for producing various products. Maize is equally important in the research area, and it is cultivated in a large portion of the area. Farmers in the research area had availed credit utilized for maize crop, and its impact on productivity is presented in Table 4.

Table 4: ***Impact of Credit on Average Maize Productivity (maund per acre)***

Tehsils	Before credit	After credit	% change	t-value	p-value
Adenzai	21	26	24	8.78	0.000
Timergara	19	24	26	8.79	0.000
Overall Average	20	25	25		

Note. Source: Field Survey, 2024

The results in Table 4 display the average maize productivity in maund per acre before and after availing credit, percentage change, and corresponding t and p values. As can be seen from the table results, the overall average maize productivity, calculated as the combined average of both tehsils, increased from 20 maunds per acre to 25 maunds per acre, representing a 25% increase. The highest increase was noted in Tehsil Timergara, where maize productivity increased from 19 maunds per acre to 24 maunds per acre, indicating an increase of 26%. Similarly, Tehsil Adenzai also recorded an increase of 24% from 19 maunds per acre to 24 maunds per acre. Both tehsils had p-values of 0.000, representing the significant difference between maize productivity before and after ZTBL credit in the research area. These findings are similar to the studies of Jehan et al. (2008) and Jan et al. (2017). In both studies, they explored the effects of ZTBL credit on maize productivity and found that credit significantly increased maize productivity in the research areas.

Impact of Credit on Tomato Productivity

Tomato is considered an important vegetable crop after potato and onion in Pakistan. It shares 9.4% of the total vegetable cultivated area and 6.8% of the total vegetable production (Khokhar, 2014). Pakistan is the 34th largest producer of tomatoes worldwide with the KP province contributing 22% of the total production, including District Dir Lower (Akhtar et al. 2021). In the research area, farmers accessed credit to support tomato farming, and its impact on productivity is summarized in Table 5.

Table 5: ***Impact of Credit on Average Tomato Productivity (maund per acre)***

Tehsils	Before credit	After credit	% change	t-value	p-value
Adenzai	19	24	26	9.91	0.000
Timergara	18	22	22	7.93	0.000
Overall Average	19	23	24		

Note. Source: Field Survey, 2024

Table 5 displays the average tomato productivity in maund per acre before and after availing credit, percentage change, and corresponding t and p values. As can be seen from the table results, the overall average tomato productivity increased from 19 maunds per acre to 23 maunds per acre, showing a 24% increase. In Tehsil Adenzai, the highest increase of 26% was reported in tomato productivity, from 19 maunds per acre to 24 maunds per acre. Similarly, in Tehsil Timergara, a 22% increase was observed in tomato productivity from 18 maunds per acre to 22 maunds per acre. Both tehsils had p-values of 0.000, indicating a significant difference in tomato productivity before and after credit access. This means that ZTBL credit led to a significant increase in tomato productivity in the research area. A similar study has also been presented by Shah et al. (2016), who observed a favorable relationship between credit from ZTBL and tomato productivity. They found that ZTBL credit led to a significant increase in tomato productivity in the study area.

Impact of Credit on Milk Productivity

According to the Food and Agriculture Organization, Pakistan is ranked as the fourth largest dairy producer in the world (TDAP, 2023). In 2025, the country's total milk production was estimated at 72.34 million tonnes, showing a 3.2 percent increase compared to the previous year. Buffaloes were the major contributors, producing 43.13 million tonnes, followed by cows with about 27 million tonnes (Ali, 2015). In the research area, livestock plays a dual role, serving both subsistence requirements and commercial purposes. To support and expand these livestock-related activities, farmers relied on credit facilities, the impacts of which on milk productivity of the large animals—buffaloes and cows— are presented in Table 6.

Table 6: ***Impact of Credit on Average Milk Productivity per Large Animal (kg)***

Tehsils	Before credit	After credit	% change	t-value	p-value
Adenzai	4320	6200	44	10.51	0.000
Timergara	4400	6420	46	10.69	0.000
Overall average	4360	6310	45		

Note. Source: Field Survey, 2024

Table 6 depicts the average milk productivity in kg before and after access to credit, along with the percentage change, and the corresponding t and p values. The results show that the overall average milk productivity, calculated as the combined average of both tehsils, increased from 4360 kg per animal to 6310 kg per animal, demonstrating a 45% increase. At the tehsil level, milk productivity in Tehsil Timergara improved from 4400 to 6420 kg per animal, revealing a 46% increase, while in Tehsil Adenzai it improved from 4320 kg per animal to 6200 kg per animal, corresponding to a 44% increase. In both tehsils, the p-values were calculated as 0.000, implying a significant difference between milk productivity before and after credit. This shows that ZTBL credit led to a significant increase in milk productivity in the research area. In the studies by Mohsin et al. (2011) and Ahmad et al. (2022), they found that access to credit significantly increased milk productivity in the research area.

Impact of Credit on Crop Income

Institutional credit is a financial tool helps farmers purchase farm inputs and enables them to efficiently use their land, thus increasing productivity, and the surpluses are purchase to generate income. Crop income is the income farmers generate from selling the surpluses of crops such as wheat, maize, and tomatoes. The impact of credit on such income is summarized in Table 7.

Table 7: ***Impact of Credit on Average Annual Crop Income per Farmer (in '000)***

Tehsils	Before credit	After credit	% change	t-value	p-value
Adenzai	594	751	26	5.92	0.000
Timergara	600	783	31	5.64	0.000
Overall average	597	767	28		

Note. Source: Field Survey, 2024

Table 7 demonstrates the average annual crop income per farmer in PKR before and after availing credit, percentage change, and corresponding t and p values. As can be seen from the table results, the overall average crop income which as calculated as the combined average of both tehsil, increased from PKR 597 thousand per farmer to PKR 767 thousand per farmer, showing a 28% increase. Tehsil Timergara recorded a higher increase, with the average crop income increasing from PKR 600 thousand to PKR 783 thousand, reflecting a 31% increase, followed by Tehsil Adenzai where the average crop income increased from PKR 594 thousand to PKR 751 thousand, indicating a 26% increase. The p-values of 0.000 in both tehsils show that ZTBL credit significantly influenced crop income in the research area. Similar results were presented by Jehan et al. (2008), who showed the income of borrowers increased after availing and utilizing ZTBL credit. Similarly, Jan et al. (2017) estimated that credit utilization in various crops increased income of the farmers.

Impact of Credit on Livestock Income

Credit access enables farmers to timely purchase feeding and healthcare services, thus increasing yield per animal, leading to increased income (Ahmad, 2019). In research area, farmers earned a significant

portion of income from livestock financed through institutional credit. Table 8 points out the impact of credit access on livestock income.

Table 8: ***Impact of Credit on Average Annual Livestock Income per Farmer (PKR in '000)***

Tehsils	Before credit	After credit	% change	t-value	p-value
Adenzai	400	572	43	5.66	0.000
Timergara	420	610	45	5.64	0.000
Overall Average	410	591	44		

Note. Source: Field Survey, 2024

Table 8 portrays the average annual livestock income per farmer in PKR before and after availing credit, percentage change, and corresponding t and p values. As can be seen from the table results, the overall average livestock income which as calculated as the combined average of both tehsil, increased from PKR 410 thousand per farmer to PKR 591 thousand per farmer, indicating a 44% increase. Tehsil Timergara observed a higher increase, with the average livestock income increasing from PKR 420 thousand to PKR 610 thousand, showing a 45% increase, followed by Tehsil Adenzai where the average livestock income increased from PKR 400 thousand to PKR 572 thousand, reflecting a 43% increase. The p-values of 0.000 in both tehsils indicate that ZTBL credit significantly affected livestock income in the research area. Similar results were presented by Abedullah et al. (2009), who observed that institutional credit more than doubled the milk productivity, ultimately increasing family income. In the study by Ahmad et al. (2022) and Ahmad and Ahmad (2024), they found that ZTBL credit led to a significant increase in farmers' income in livestock farming.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Institutional credit is a backbone of agricultural sector in developing countries. It is equally important in Pakistan where the majority of farmers are poor. They depend on institutional credit to finance their agricultural operations. The farmers of District Dir Lower equally depend on institutional credit to finance their farming activities. Due to their poor status, they avail loans from ZTBL. The present study assesses the impact of ZTBL credit on farm productivity and farm income in District Dir Lower. The results found that ZTBL credit led to a significant increase in the wheat, maize, tomatoes, and livestock productivity. Additionally, a significant increase in farm income was observed in the research area.

IMPLICATIONS (PRACTICAL AND THEORETICAL IMPLICATIONS)

The findings of this study provide practical and theoretical implications. From a practical point of view, credit is considered an important financial tool from which farmers can benefit. It enables farmers to purchase quality inputs and ensure improved technology, thereby increasing farm productivity and farm income. Financial institutions and policymakers use this knowledge to make credit policies that support farmers and ensure rural development. Theoretically, the findings add new knowledge to the existing literature and theories regarding the influences of institutional credit, particularly from ZTBL, on farm productivity and income.

RECOMMENDATIONS

Based on the findings, some of the recommendations are as below.

- The government should increase the number of ZTBL branches, particularly in rural areas, to increase access to institutional credit.

- ZTBL should ensure timely provision of credit to farmers to buy inputs in time, thus increasing their productivity and income.
- The ZTBL should increase the size of loans so that more farmers can access them, thereby increasing crop and livestock productivity and income.
- ZTBL should provide guidance and supervision to ensure farmers use their loans for farming activities to increase their productivity and income.

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