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Factors Affecting Agricultural Credit Access to Farmers in The South Punjab Region Of Pakistan

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Abstract

Agricultural credit is an essential financial assistance for farmers, enabling them to purchase essential farming inputs such as pesticides, agricultural engineering equipment, seeds, and many more. These farming inputs enable farmers to improve the quality and quantity of yields, leading to financial stability. This study investigates the factors influencing farmers' access to agricultural credit in Pakistan, particularly in the southern Punjab region. For that purpose, a quantitative methodology was used, and a survey-based questionnaire was administered to a sample of 265 farmers. The Key household and farm parameters included are age, education, farming experience, off-farm income, distance to the nearest city, farm size, revenue, and mechanization levels. The data were evaluated using probit and ordinary least squares (OLS) regression models to identify the determinants of credit access. Findings reveal that all variables, except farming experience, significantly impact the likelihood of obtaining credit. Education, financial literacy, proximity to urban areas, and larger farm sizes positively influence access, while age and off-farm income present negative correlations. The analysis highlights the need for targeted interventions to improve farmers' financial literacy, streamline credit processes, and enhance institutional outreach. Strengthening agricultural credit access can drive higher agricultural productivity and improve farmers' economic well-being. This research provides valuable insights for policymakers and financial institutions aiming to address barriers to credit accessibility and develop inclusive financial frameworks for smallholder farmers in South Punjab.

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Keywords: Agricultural Credit; Financial Literacy; Smallholders; Farm Management; South Punjab

Introduction

Background

Rural development is one of the most significant requirements for Pakistan, as approximately 70% of its population belongs to rural areas, according to statistics reported by the Pakistan Bureau of Statistics in 2024. For that purpose, agricultural credit plays a significant role by helping the farmers to purchase their agricultural inputs such as seeds, fertilizers, machinery, and advanced farming technologies, whereas agricultural inputs tend to improve agricultural productivity, ensuring food security and fostering sustainable livelihoods of farming community (Irshad *et al.*, 2021). Despite the agriculture sector in Pakistan being a key contributor to its economy, accounting for 19.5% of GDP and employing over 42% of the labor force, the sector is constrained by insufficient financial support, limiting the ability of farmers, particularly smallholders, to optimize production and generate sustainable income, whereas access to agricultural credit is particularly vital for addressing the socio-economic challenges (Khan *et al.*, 2020; Lohana *et a.*, 2023).

The significance of financial institutions cannot be overstated, as the ineffectiveness of their policies and the complexity of application procedures obstruct credit access for marginalized farmers (Khan et al., 2021). Finally, environmental hazards and droughts intensify credit limitations by raising the likelihood of loan defaults, leading financial institutions to adopt a more cautious approach in lending to farmers situated in ecologically sensitive regions (Khaddage-Soboh et al., 2024).Agricultural credit is essential in enhancing farm productivity, securing food supply, and promoting rural development, especially in developing nations such as Pakistan. Access to credit in the South Punjab region is essential for farmers to implement modern agricultural techniques, acquire necessary inputs, and reduce the risks linked to farming (Elahi et al., 2018). Although the importance of agricultural credit is recognized, numerous farmers in this region encounter extensive difficulties when attempting to access formal credit sources.

Various factors, including insufficient collateral, complex loan procedures, and limited financial literacy, frequently hinder farmers from obtaining credit (Ali & Gillani, 2023). Additionally, socio-economic dynamics, such as gender disparities and income levels, intensify

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the challenges of acquiring credit (Tufail & Sheikh, 2023).Making the availability of agricultural credit is essential for overcoming the constraints. However, multiple issues hinder the ability of farmers to secure credit, such as limited financial literacy, inadequate collateral, high transaction costs, and the absence of financial institutions in rural areas (Ahmed *et al.*, 2024). Understanding the determinants of credit access and identifying the socio-economic factors influencing availability are critical for formulating effective policies that improve farmers' financial inclusion and economic well-being.

Although numerous studies have examined the components mentioned above separately, there is a significant dearth of extensive study that examines the aggregate effect of farmer's age (FAGE), farmer's education (FEDU), farming experience (FEXP), financial literacy (FINLIT), total landholding (TLAND), agricultural revenue (AREVENUE), off-farm income (OFINC), distance to financial institutions (DISTANCE), total credit required (TCREDIT), and duration of credit (DCREDIT) on credit access in South Punjab. This research void emphasizes the necessity of a comprehensive analysis of the interaction and combined influence of these factors on the capacity of farmers to obtain agricultural credit. This is also crucial for the growth of more efficient and personalized initiatives.

Problem Statement

Farmers in Pakistan's South Punjab region face continuous challenges in availing agricultural credit. The key factors are bureaucratic complexities, limited awareness of financial products, insufficient collateral, and high interest rates. Smallholder farmers, who form the backbone of agricultural production, are disproportionately affected due to their limited financial literacy and remote geographic locations, which restrict access to formal financial institutions. Additionally, socio-economic disparities and structural inefficiencies in credit distribution exacerbate these challenges, hindering the ability of farmers to obtain necessary financial support. Addressing these challenges is crucial to ensuring sustainable agricultural growth and improving livelihoods in the region.

Additionally, a lack of financial literacy restricts farmers' capacity to effectively engage with financial structures, while income generated from off-farm activities and agricultural revenue influences their creditworthiness. The physical distance to financial institutions further complicates these difficulties by increasing the cost and diligence required to access financial services. This research gap underscores the necessity to investigate the collective impact of these

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factors on credit access. Such studies will focus on measures to increase credit availability and promote the financial inclusion of farmers in the South Punjab region.

Objectives

The primary objectives of this study are as follows:

1. **Identify** the key factors influencing the farmers to gain agricultural credit in South Punjab.
2. **Analyze** the impact of socio-economic variables, including age, education, off-farm income, and farm size, on credit availability.
3. **Provide** policy recommendations to improve agricultural credit access, particularly for smallholder farmers.

Significance of the Study

This study will offer valuable suggestions for policymakers, financial institutions, and farmers by identifying the key factors of agricultural credit access. For policymakers, these findings will provide evidential recommendations to formulate targeted financial inclusion strategies that address regional disparities in credit access. Financial institutions will be able to understand farmers' particular barriers, enabling them to develop customized financial products and improve outreach efforts in rural areas. Furthermore, farmers will be able to gain awareness of the factors influencing credit access and the steps required to overcome these barriers, fostering greater financial inclusion. Ultimately, improving credit access will promote sustainable agricultural development, enhance productivity, and uplift rural communities in South Punjab.

Literatur Review

Pakistan's agricultural sector ensures food security and plays a crucial role in promoting international trade and sustaining livelihoods (Nurlina, 2022). Pakistan's agriculture sector contributes 19.5 percent to its gross domestic product (GPD) while offering 42.3 percent employment to its labour pool and catering to raw material demands to its several value-added sectors (Imran *et al.*, 2021; Asfaw *et al.*, 2010). Similarly, access to agricultural credit is essential for improving farm productivity and promoting rural development, especially in South Punjab, Pakistan. Multiple factors influence the accessibility and use of credit among farmers. A significant barrier is the absence of collateral, as numerous smallholder farmers lack land ownership or adequate assets to satisfy the criteria established by formal financial institutions. Previous research indicates that formal banking systems frequently require strict collateral requirements, which hinders farmers' access to essential funding (Munyambonera et al., 2012).

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Furthermore, the complexity of loan application processes and the bureaucratic hurdles frequently deter farmers from pursuing formal credit sources (Kuipa, 2019). Consequently, many individuals resort to informal lenders imposing excessively high interest rates, intensifying their financial drawbacks.

Additionally, a significant factor is the degree of financial literacy among farmers. Insufficient education and a lack of comprehension regarding financial products considerably impede their capacity to interact with formal credit institutions (Silong & Gadanakis, 2020). Farmers frequently exhibit insufficient awareness regarding the diverse agricultural credit schemes provided by government entities and commercial banks, resulting in a dependence on informal borrowing methods (Asante-Addo et al., 2017). Additionally, according to Nouman et al. (2013), socio-economic factors, including age, gender, and income levels, and firm size, significantly influence access to credit. On the other hand, women farmers experience substantial prejudice and encounter greater challenges in obtaining loans, primarily due to cultural constraints and institutional biases present in formal credit systems (Cherotich, 2018). Improving access to credit necessitates the resolution of institutional barriers alongside socio-economic disparities.

Socio-economic characteristics of farmers significantly impact their access to credit. Gender, age, education level, and farm size are crucial variables. According to Tadesse and Bahiigwa (2015), male farmers tend to have better access to credit than female farmers due to traditional norms and financial literacy disparities. Additionally, educated farmers are more likely to secure credit because they know better financial products and credit requirements (Moges, 2020). Furthermore, farm size plays a pivotal role. Larger farms often have better access to credit, as they can provide more collateral and are perceived as lower-risk borrowers (Chigbu *et al.*, 2018).

According to Murtaza *et al.* (2019), factors such as farmers' socio-economic background, education level, land ownership, and income significantly impact credit accessibility. Additionally, institutional factors, such as formal financial institutions' availability and lending policies, play a crucial role (Meng & Imran, 2024; Ali *et al.*, 2021). Cultural perceptions surrounding debt and credit can also hinder access, particularly in conservative agricultural communities (Raza & Asim, 2022).

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According to Saito and Villanueva (2019), the lack of proper credit facilities and agricultural banks in rural areas limits access for smallholder farmers. The role of microfinance institutions (MFIs) has been highlighted as a potential solution; however, their reach and effectiveness vary significantly across regions (Zeller & Sharma, 2000). Moreover, government policies and support systems can either facilitate or hinder credit access, for instance, subsidy programs and guarantee schemes can enhance access to credit for marginalized farmers (Meyer, 2016). Conversely, bureaucratic hurdles and corruption within agricultural credit systems can deter farmers from applying for loans (Hassan & Nguendjio, 2021). Market access is another critical element, whereas farmers with better access to markets are more likely to secure credit, as lenders perceive them as having better income prospects (Banda *et al.*, 2019).

Existing literature highlights several barriers to agricultural credit access, including institutional inefficiencies, lack of financial literacy, and economic instability (Khan & Memon, 2020). Previous studies in Pakistan have emphasized the role of microfinance institutions and government policies in facilitating credit access (Bashir *et al.*, 2019). However, there remains a need for a comprehensive understanding of regional-specific factors that impact South Punjab farmers' credit access.

Methodology

Econometric Model

In the statistical equation presented below, we model access to credit as a binary variable, with the dependent variable, DCREDIT, serving as a dummy variable to indicate whether credit has been accessed. If credit is obtained, the variable takes a value of 1; if not, it is assigned a value of 0. The explanatory variables are expressed in logarithmic form. The equation is estimated using the probit model, followed by the calculation of marginal effects.

$$DCREDIT_i = \beta_0 + \beta_1\, ln\_FAGE_i + \beta_2\, ln\_FEDU_i + \beta_3\, ln\_FEXP_i + \beta_4\, ln\_FINLIT_i + \beta_5\, ln\_TLAND_i + \beta_6\, ln\_AREVENUE_i + \beta_7\, OFINC_i + \beta_8\, ln\_DISTANCE_i + \varepsilon_i$$

In the second level of estimation, represented by the equation below, the continuous variable TCREDIT reflects the total amount of credit accessed. All the variables are expressed in logarithmic form, and the model is estimated using the ordinary least squares (OLS) method. Robust standard errors are calculated to ensure a reliable analysis.

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$$ln\_TCREDIT_i = \beta_0 + \beta_1\, ln\_FAGE_i + \beta_2\, ln\_FEDU_i + \beta_3\, ln\_FEXP_i + \beta_4\, ln\_FINLIT_i + \beta_5\, ln\_TLAND_i + \beta_6\, ln\_AREVENUE_i + \beta_7\, OFINC_i + \beta_8\, ln\_DISTANCE_i + \varepsilon_i$$

In the equation above, βs are the parameters to be estimated, ε demarks the regression error term. Other variables related to farmer's profile are labelled as Figure 1:

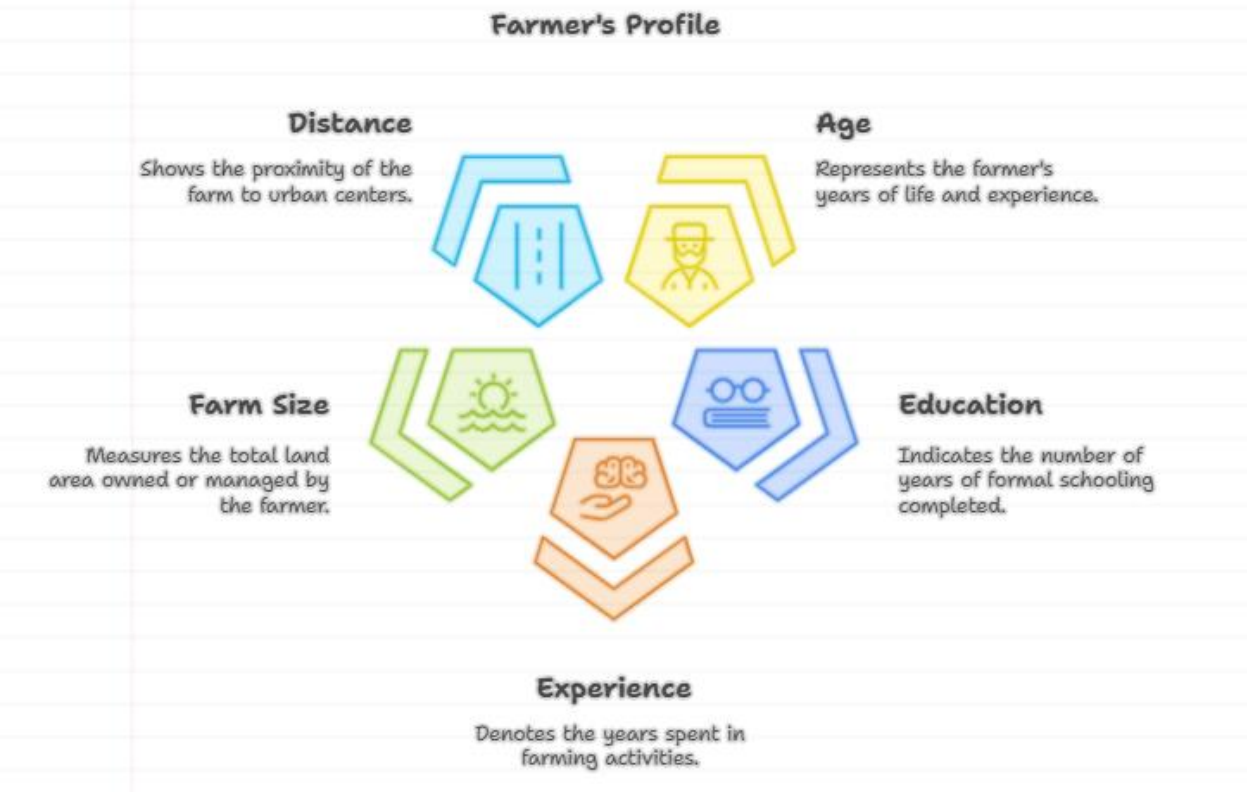

Figure 1: Farmer Profile

In Figure 1, The farmer's age (*FAGE*) is measured in years, while farmer's education (*FEDU*) level is recorded as number of schooling years. Moreover, farming experience (*FEXP*) is taken in years. Farm size or total land (*TLAND*) is measured as number of acres, and the distance of farm from the nearest city (*DISTANCE*) is taken in kilometers. Average revenue per acre (*AREVENUE*) as a general measure of managerial success is taken in rupees. Any sources of off farm income available to a farmer is also considered where off farm income (*OFINC*) is measured in rupees. The dependent variable in the probit model is a dummy variable (*DCREDIT*) which records whether any credit is access at all, or not. In case a credit is taken, the variable assumes value equal to 1, and zero otherwise, on the other hand, total credit accessed (*TCREDIT*) is measured in rupees.

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Data Collection

Following quantitative research approach, convenience sampling technique was employed to collect data using survey-based questionnaires from 265 farmers across the South Punjab region.

Results and Discussion

Descriptive Statistics

Table 1 displays descriptive statistics including mean, standard deviation, minimum and maximum values for the variables taken in the study. The table reveals considerable variation in the data, whereas mean value of farmers' education indicates overall low educational attainment within the sample farming community. There is also variability in landholding sizes. The maximum distance from a farming household to the nearest city is measured as 34 kilometers. The amount of credit accessed ranges from 0 to approximately 1.244 million, with a mean value close to 57,000.

Table 1: Descriptive Statistics

	(1)	(2)	(3)	(4)	(5)
Variables	N	Mean	SD	Min	Max
FAGE	265	47.50	9.919	24	84
FEDU	265	9.438	3.432	0	18
FEXP	265	22.93	10.34	4	56
FINLIT	265	4.113	2.433	1	8
TLAND	265	10.23	13.45	1	112
AREVENUE	265	55,762	7,579	41,000	84,000
OFINC	265	73,079	195,374	0	1.600e+06
DISTANCE	265	17.39	4.581	5	34
TCREDIT	265	57,079	146,437	0	1.244e+06
DCREDIT	265	0.279	0.449	0	1

Source: Authors' calculations

Comparison of group means using t-test

The two-sample t-test is a widely used statistical method for testing the hypothesis that the means of two groups are the same. In this study, we categorized the farmers into two groups: those who accessed agricultural credit and those who did not. We conducted a t-test to

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compare the means of all the variables included in the analysis. The results indicate significant differences between the two groups for all variables, except for i.e. off-farm income. The data show that the mean values for age, experience, off-farm income, and distance are significantly lower for farmers who accessed credit compared to those who did not. This suggests that, generally, younger farmers who live closer to urban areas and have fewer off-farm income sources are more likely to obtain credit. Conversely, farmers with higher levels of education and better financial literacy are also more likely to secure credit.

Table 2: t-test estimates

Variables	Farmers who accessed any credit	Farmers who did not access any credit	Absolute difference between means
FAGE	44.74	48.57	3.82**
FEDU	11.68	8.57	3.10***
FEXP	20.93	23.71	2.77*
FINLIT	5.55	3.55	2.00***
TLAND	19.46	6.66	12.80***
AREVENUE	60513.51	53921.47	6592.05***
OFINC	63513.51	76785.34	13271.83
DISTANCE	16.47	17.75	1.28*
Observations	265		

Source: Authors' calculations

Regression analysis

This research mainly focuses on identifying factors that may influence farmers' access to agricultural credit in the region of study. The analysis is conducted at two levels: first, by using a dummy variable to indicate whether a farmer accessed any agricultural credit; and second, by regressing the actual amount of credit received against the independent variables as detailed above in the methodology section. Table 3 presents the regression analysis of the probit model in column (1), the marginal effects of the probit model in column (2), and the OLS estimation in column (3). The adjacent right column provides robust standard error estimates for each model. A total of 265 observations were analyzed.

Table 3: Regression analysis

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Variables	(1) Probit estimation		(2) Marginal Effects		(3) OLS estimation	
ln_FAGE	-2.079***	(0.759)	-0.522***	(0.185)	-4.238**	(1.932)
ln_FEDU	1.472***	(0.559)	0.370***	(0.129)	2.590***	(0.912)
ln_FEXP	0.162	(0.334)	0.041	(0.084)	0.011	(0.836)
ln_FINLIT	0.455*	(0.236)	0.114*	(0.059)	0.991	(0.614)
ln_TLAND	0.725***	(0.150)	0.182***	(0.039)	1.975***	(0.438)
ln_AREVENUE	2.765**	(1.109)	0.695**	(0.301)	8.029***	(2.495)
ln_OFINC	-0.102***	(0.024)	-0.026***	(0.006)	-0.195***	(0.051)
ln_DISTANCE	-0.708**	(0.334)	-0.178**	(0.083)	-2.487**	(0.985)
Constant	-26.828**	(10.899)			-71.759***	(25.481)
Observations	265		265		265	
R-squared					0.378	

Source: Authors' calculations

The results indicate that higher education and financial literacy increase the likelihood of credit access. Conversely, distance from the market negatively impacts credit access, meaning that farmers closer to major cities with financial institutions are more likely to secure credit. Additionally, younger farmers are more inclined to seek credit, while older farmers are less likely to do so. Although farm size is positively associated with credit access, off-farm income and the age of the farmer are negatively related to it. Farming experience, however, does not significantly affect this context. When comparing the results of the probit and OLS estimators, it is noteworthy that the coefficients remain consistent across both models. Additionally, these findings align with the t-test estimates mentioned earlier. It is also important to highlight that the estimated standard errors are robust, enhancing the models' reliability.

Conclusion

The study examined several farm and household characteristics, including the farmer's age, education, farming experience, off-farm income, distance from the main city, farm size, revenue, and level of mechanization. Moreover, the results emphasize the necessity of integrated initiatives that deal with these factors jointly, rather than in isolation to enhance credit

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accessibility and promote economic growth in rural areas. The credit gap can be bridged, and sustainable agricultural growth can be promoted through customized strategies that account for the distinctive obstacles farmers in South Punjab encounter. Using probit and OLS regression, the analysis found that all variables, except for farming experience, significantly influence the likelihood of farmers accessing agricultural credit. The findings underscore the importance of the interaction between socio-economic factors and institutional policies, indicating a need for targeted interventions.

Furthermore, the findings indicate that enhancing financial literacy among farmers, simplifying the credit application process, and increasing outreach efforts by financial institutions can improve access to agricultural credit, tantamount to significantly boosting agricultural output and farmer livelihoods in the South Punjab region. In this regard, the findings of the study also pose certain recommendations to the government, including revision of collateral requirements and interest rates to make credit more accessible, initiatives to educate farmers about available financial products to enhance their ability to secure loans and enhancement of the capacity of microfinance institutions and agricultural extension services to facilitate better support for farmers.

REFERENCES

Ahmed, F., Rahman, M. U., Rehman, H. M., Imran, M., Dunay, A., & Hossain, M. B. (2024). Corporate capital structure effects on corporate performance pursuing a strategy of innovation in manufacturing companies. *Heliyon*, *10*(3).

Ali, A., Hussain, S., & Khawaja, A. (2021). Institutional factors affecting credit access among farmers in Pakistan. *Journal of Agricultural Economics*, 72(3), 624-638.

Ali, Z., & Gillani, S. U. A. (2023). Assessing the Challenges and Impact of Access to Agricultural Credit in Southern Punjab (Pakistan): A Qualitative Study. Pakistan Journal of Humanities and Social Sciences, 11(3), 3242-3254.

Asfaw, S., Mithöfer, D., & Waibel, H. (2010). What impact are EU supermarket standards having on developing countries' export of high-value horticultural products? Evidence from Kenya. *Journal of International Food & Agribusiness Marketing*, *22*(3-4), 252-276.

Banda, J., Kachaka, R., & Mufulira, M. (2019). Market access and agricultural credit: Implications for smallholder farmers. *Journal of Rural Studies*, 67, 93-101.

Journal of Business and Management Research
ISSN:2958-5074 pISSN:2958-5066
Volume No:3 Issue No:3(2024)

Bashir, M. K., Khan, I., & Rehman, S. (2019). The role of microfinance in improving access to credit for farmers: A case study from Pakistan. *Journal of Rural Studies*, 65, 145-154.

Cherotich, J. (2018). *Role of financial knowledge on extent of credit access and performance of women farm enterpreneurs in Kericho County, Kenya* (Doctoral dissertation, Egerton University).

Chigbu, U. E., Igbokwe, E. M., & Okeke, E. N. (2018). Farm size and access to credit: A study of smallholder farmers in Nigeria. *Agricultural Finance Review*, 78(4), 517-532.

Elahi, E., Abid, M., Zhang, L., Ul Haq, S., & Sahito, J. G. M. (2018). Agricultural advisory and financial services; farm level access, outreach and impact in a mixed cropping district of Punjab, Pakistan. Land use policy, 71, 249-260.

Hassan, A., & Nguendjio, M. (2021). Corruption and access to agricultural credit in sub-Saharan Africa. *African Journal of Agricultural Research*, 16(2), 115-123.

Imran, M., Ismail, F., Hussain, K., & Zeb, F. (2021, April). Job Satisfaction and Organizational Performance: Empirical Evidence from Pakistan's Banking sector. In *Proceedings of the International Conference on Industrial Engineering and Operations Management Sao Paulo, Brazil*.

Irshad, M. B. (2021). A Feasibility Study on GlobalGAP Adoption among Small Farmers in Pakistan. *Psychology and Education Journal*, 58(1), 3121-3126.

Khaddage-Soboh, N., Yunis, M., Imran, M., & Zeb, F. (2024). Sustainable practices in Malaysian manufacturing: The influence of CSR, transformational leadership, and green organizational culture on environmental performance. *Economic Analysis and Policy*, *82*, 753-768.

Khan, A., & Memon, A. (2020). Barriers to agricultural credit access in Pakistan: A review of the literature. *Pakistan Journal of Agricultural Research*, 33(1), 12-25.

Khan, M. A., Iqbal, M. Z., & Shah, S. (2020). Socio-economic determinants of agricultural credit access in Pakistan: A case study of Punjab province. *Asian Journal of Agriculture and Rural Development*, 10(1), 42-54.

Khan, M. S., Yousuf, A., & Khan, A. (2020). Economic factors influencing agricultural credit access in developing countries: Evidence from Pakistan. *International Journal of Agriculture and Economics*, 5(2), 76-89.

Kuipa, P. J. T. (2019). *The agricultural financing gap in Zimbabwe: rationing, sustainable credit access and participation in rural financial markets* (Doctoral dissertation, University of the Free State).

Journal of Business and Management Research
ISSN:2958-5074 pISSN:2958-5066
Volume No:3 Issue No:3(2024)

Lohana, S., Imran, M., Harouache, A., Sadia, A., & Rehman, Z. U. (2023). Impact of environment, culture, and sports tourism on the economy: a mediation-moderation model. *Economic research-Ekonomska istraživanja*, *36*(3).

Meng, X., & Imran, M. (2024). The impact of corporate social responsibility on organizational performance with the mediating role of employee engagement and green innovation: evidence from the Malaysian banking sector. *Economic Research-Ekonomska Istraživanja*, *37*(1), 2264945.

Meyer, R. L. (2016). Credit for smallholder farmers: What works and what doesn't. *Food Policy*, 62, 157-170.

Moges, A. (2020). The role of education in access to agricultural credit: Evidence from Ethiopian smallholder farmers. *Journal of Development Studies*, 56(10), 1970-1985.

Munyambonera, E., Nampewo, D., Adong, A., & Lwanga, M. (2012). Access and Use of Credit in Uganda: Unlocking the Dilemma of Financing Small Holder Farmers (No. 150229). Economic Policy Research Centre (EPRC).

Murtaza, G., Khalil, U., & Nawaz, K. (2019). Factors influencing access to agricultural credit: Evidence from rural Pakistan. *International Journal of Agricultural Economics and Rural Development*, 12(2), 137-147.

Nouman, M., Siddiqi, M., Asim, S., & Hussain, Z. (2013). Impact of socio-economic characteristics of farmers on access to agricultural credit. *Sarhad Journal of Agriculture*, *29*(3), 469-476.

Nurlina, N. (2022). Examining Linkage Between Transactional Leadership, Organizational Culture, Commitment and Compensation on Work Satisfaction and Performance. *Golden Ratio of Human Resource Management*, *2*(2), 108-122.

Raza, A., & Asim, M. (2022). Cultural perceptions and agricultural credit access: Insights from rural Pakistan. *Journal of Rural Studies*, 88, 181-189.

Saito, K. A., & Villanueva, D. (2019). Agricultural credit in Africa: Progress and challenges. *World Bank Policy Research Working Paper*, (8796).

Silong, A. K. F., & Gadanakis, Y. (2020). Credit sources, access and factors influencing credit demand among rural livestock farmers in Nigeria. *Agricultural Finance Review*, *80*(1), 68-90.

Tadesse, F., & Bahiigwa, G. (2015). Does gender affect access to credit in rural Uganda? *Agricultural Economics*, 46(1), 123-133.

Journal of Business and Management Research
ISSN:2958-5074 pISSN:2958-5066
Volume No:3 Issue No:3(2024)

Tufail, A., & Sheikh, M. R. (2023). Role of Gender Asset Ownership and Poverty in Determining Women Empowerment: A Village-based Study in South Punjab, Pakistan. IUB Journal of Social Sciences, 5(1), 1-31.

Zeller, M., & Sharma, M. (2000). Innovations in rural finance: Microfinance and its role in agricultural credit. *Agricultural Finance Review*, 60(2), 25-38.