

Investigating the Role of Agribusiness in Financial Insecurity Reduction in Shakardara District of Kabul, Afghanistan

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Abstract

Agriculture remains the primary source of livelihood for rural households in Afghanistan; however, persistent financial insecurity continues to affect farmers due to limited agribusiness opportunities, weak market linkages, inadequate access to inputs, and low participation in value chains. This study examines the role of agribusiness in reducing financial insecurity among rural households in the Shakardara District of Kabul, Afghanistan. The research specifically investigates how participation in the agribusiness value chain, market access, and access to agricultural inputs, agricultural extension and training, access to market information and prices, and off-farm agribusiness employment contribute to financial insecurity reduction. A case study research design with a deductive approach was employed. Primary data were collected through a structured questionnaire administered to 384 randomly selected farmers and agribusiness traders in the study area. The reliability of the instrument was confirmed using Cronbach's alpha, with all variables exceeding acceptable thresholds. Data were analyzed using descriptive statistics and inferential techniques with the help of SPSS software. The findings indicate that agribusiness plays a significant role in reducing financial insecurity by enhancing income stability, improving market participation, and diversifying livelihood opportunities. Engagement in livestock farming, value addition activities, and off-farm agribusiness employment emerged as key contributors to financial resilience. However, the results also reveal challenges such as limited access to local markets, transportation constraints, and barriers to participation across multiple stages of the value chain. Demographic factors such as education level, income, and farming experience were found to influence the extent to which agribusiness contributes to financial security. The study concludes that strengthening agribusiness systems through improved market access, extension services, input availability, and coordinated stakeholder support can significantly enhance financial security among rural households. The findings provide valuable insights for policymakers, development agencies, and practitioners aiming to promote sustainable agribusiness development and rural financial resilience in Afghanistan.

Keywords: Agribusiness, Financial Insecurity and Shakardara

Introduction

Agriculture remains one of the main sources of livelihood for households in Shakardara District of Kabul, yet many rural families continue to experience financial difficulties. Limited access to agribusiness opportunities, weak connections to markets, poor access to agricultural inputs, and limited participation in value chains make it difficult for farmers to increase their incomes and achieve greater economic stability (Khaliq & Boz, 2018). Although agribusiness has considerable potential to create employment, increase household income, and strengthen rural economies, its contribution to reducing financial insecurity among households in Shakardara

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District is still not clearly understood. This lack of evidence makes it difficult for government institutions, NGOs, and development organizations to design effective programs that can use agribusiness as a means of improving rural livelihoods (World Bank, 2014). Activities such as improved access to markets, agricultural inputs, extension services, processing facilities, and off-farm employment can potentially improve farmers' financial conditions. However, there is limited empirical evidence showing how these factors work together to reduce financial insecurity in Shakardara. A better understanding of this relationship is therefore important for developing practical interventions that can strengthen the financial resilience of rural households (Diao et al., 2007). Agribusiness organizations also play an important role in supporting rural livelihoods and promoting economic development in Shakardara and throughout Afghanistan. These organizations include input suppliers, cooperatives, processing businesses, traders, and other small- and medium-sized enterprises that connect farmers with markets and services. Their performance directly affects agricultural productivity, farmers' incomes, and access to markets (Goeldner, 2004). However, many of these organizations face serious challenges, including limited financial resources, poor infrastructure, weak management, inadequate coordination, and limited technical capacity. Although some organizations have improved through partnerships and stronger value-chain relationships, systematic mechanisms for evaluating their performance remain limited (De Weijer, 2005). As a result, the performance of agribusiness organizations can generally be described as moderate, while there remains considerable room for improvement through better management, appropriate technology, value addition, stronger coordination, and improved market access. Understanding the performance of these organizations is therefore important for determining how effectively they contribute to reducing financial insecurity among rural households.

Previous studies have consistently emphasized the importance of agriculture and agribusiness in improving rural livelihoods and reducing poverty. Khaliq and Boz (2018) explain that agriculture is central to Afghanistan's economy, providing employment and income for a large proportion of the population. However, most farms are small, have low productivity, and are largely subsistence-oriented, which limits farmers' ability to participate in commercial markets. Despite these challenges, agriculture remains particularly important for rural households, many of whom depend on farming and livestock for their livelihoods. Otsuka (2000) similarly argues that poor rural households often live in less productive agricultural areas, depend heavily on labour income, and spend a significant share of their income on food. He therefore emphasizes the importance of agricultural research and technologies that can increase productivity, create employment opportunities, and benefit farmers in disadvantaged areas. In the same way, Osabohien (2019) found that rural farmers in the ECOWAS region are particularly vulnerable to poverty because of their dependence on agriculture. According to the study, agricultural growth can increase farmers' incomes and create employment, but achieving these benefits requires investment in human capital, market access, sustainable land and water management, social protection, and modern agricultural practices. Evidence from other developing countries also demonstrates the strong connection between agricultural development and poverty reduction. Hayat et al. (2019) found that agricultural growth in Pakistan significantly contributes to poverty reduction, with livestock, fisheries, forestry, and cash crops all playing important roles in improving household incomes. The study highlights the need for long-term and well-planned agricultural development policies that focus on the specific needs and opportunities of different agricultural subsectors. Similarly, Aderemi et al. (2021) found that increased agricultural output can contribute to poverty reduction in Nigeria. Their findings suggest that improving agricultural productivity and restructuring the sector can help governments address rural poverty and contribute to achieving the Sustainable Development Goals. More recently, Li et al. (2025) found that participation in agricultural industry organizations significantly increased household income and reduced income inequality among kiwi farmers in China. The improvement was linked to better human capital, higher production, improved sales premiums, and stronger connections between farmers and agricultural enterprises. The study further suggests that strengthening market integration, expanding training opportunities, and improving relationships between farmers and businesses can play an important role in increasing income and reducing financial insecurity. Nthabeleng et al. (2024) also found that commercial agriculture can improve household food and nutrition security. Their study in Lesotho showed that participation in commercial agriculture improved dietary diversity and reduced household food insecurity, demonstrating that agricultural commercialization can provide benefits beyond income generation. Overall, the literature suggests that agriculture and agribusiness can make an important contribution to improving household income, employment, food security, and financial stability. However, these benefits do not occur automatically. Farmers need access to markets, productive inputs, technology, training, financial services, infrastructure, and effective value-chain organizations. For households in Shakardara District, strengthening these areas could create better opportunities for farmers to move beyond subsistence production and participate more effectively in profitable agricultural activities. Therefore, examining the role and performance of agribusiness organizations, as well as the relationship between agribusiness participation and household financial security, is important for identifying practical ways to strengthen rural livelihoods and support sustainable economic development in the district.

Research Objectives

To examine the role of agribusiness in reducing financial insecurity in Shakardara District of Kabul, Afghanistan.

To assess the Role of agribusiness in reducing the financial insecurity among different demographic groups (age, education and farming experience) in Shakardara district, Kabul, Afghanistan

Related Hypothesis

H₀: Agribusiness does not play a significant role in reducing financial insecurity among households in Shakardara District.

H₁: Agribusiness plays a significant positive role in reducing financial insecurity among households in Shakardara District.

H₀₂: The role of agribusiness in reducing financial insecurity does not significantly differ across demographic factors such as age, education and farming experience.

H₂: The role of agribusiness in reducing financial insecurity significantly differs across demographic factors such as age, education and farming experience.

Importance of the Problem

In Kabul's Shakardara District, agriculture continues to be the primary source of income for the majority of households; however, due to a lack of agribusiness opportunities, weak market connections, and insufficient value chain participation, many farmers and rural families continue to experience ongoing financial instability (World Bank, 2014). Although agribusiness is becoming more and more important as a possible source of employment and income, little is known about its actual contribution to lowering financial instability in Shakardara's rural villages. The development of successful policies and initiatives that could use agribusiness to enhance rural livelihoods and economic stability is hampered by this information gap (CSO, 2016). Although it is thought that agribusiness activities like market access, agricultural inputs, extension services, and off-farm employment improve farmers' financial circumstances, there is not enough empirical data to determine how these elements work together to reduce financial insecurity in the Shakardara District (MAIL, 2009). Policymakers, non-governmental organizations, and development professionals are unable to create focused interventions that improve rural households' financial resilience due to the lack of comprehensive research on the connection between agribusiness engagement and financial stability (Samuel Hall Consulting, 2012).

Research Design

In this research the case study, research design and deductive approach are used. The aim of this research is to determine role of agribusiness in financial insecurity reduction in Shakardara district of Kabul, Afghanistan. Descriptive Research is trying to describe what is happening in more detail, filling in the missing parts and expanding our understanding, to expand understanding about existing knowledge.

Instrument used for primary data collection

This work was carried out based on the primary data collected through the survey instrument. The survey instrument used for this work is a standardized well-structured questionnaire. The questionnaires were employed to collect the primary data and relevant information from the farmers and agribusiness traders of agriculture sector. This survey instrument was designed and tested as a part of this work and proved reliability.

Pre-testing

A pilot study was conducted to obtain the preliminary assessment of internal validity of the research survey instrument questionnaire. For this purpose primary data were collected from 25 farmers and residents of Shakardara district in the agricultural sector. The results of the pilot study confirmed the internal reliability of the instrument deployed and hence, the same instrument was used in the identified sampling areas to collect the primary data needed for the present study.

Survey Instrument Reliability

The survey instrument was tested with appropriate reliability analysis comprising the computed value of Cronbach alpha and the alpha value for all the study variable taken up in the survey instrument is found to be

well above the suggested value of 0.6 (Nunnally, 1978). The specific, details of alpha value for each of the study variable constituting the present work is shown in the Exhibit-1.

Exhibit-1: Details of the Measurement Scales with Corresponding Reliability values

S.No.	Dimensions	Cronbach Alpha
(i)	Participation in Agribusiness value chain	0.832
(ii)	Market Access	0.793
(iii)	Access to Agricultural inputs	0.813
(iv)	Agricultural extension and trainings	0.844
(v)	Access to market information / price	0.852
(vi)	Off - farm agribusiness employment	0.783
(vii)	Financial Insecurity Reduction	0.845

Population

Shakardara district farmers and agribusiness traders were taken as a population of the study because the study used a case study design. A total number of 384 farmers, and residents out of n numbers of the Shakardara district farmers and residents were selected that would give the in-depth coverage and analysis of the results or the findings. A total of 384 farmers and residents were selected from the population of farmers and residents in Shakardara District

Cochran's formula is used to determine the sample size when the population size is unknown:

$$n_0 = [Z^2 \times p \times (1-p)] / e^2$$

n₀ = The sample size you want to find

Z² = Z- score, representing the number of standard deviations a point is from the mean for the desired confidence level (e.g 1.96 for 95% confidence).

P = estimated proportion of the population (if unknown, use 0.5 as this gives the maximum sample size).

e = margin of error (desired precision level, often expressed as a decimal (e.g 0.05 for 5%).

Results and Discussion

Financial Insecurity Reduction = **B0 + B1 (PACV) + B2 (MA) +B3 (AAI) + B4 (AET) + B5 (AMIP) + B6 (OFAE)**

Financial Insecurity Reduction = 10.675+ 0.234 (PACV) + .012 (MA) +.021 (AAI) +. 031 (AET) + 0. 17 (AMIP) +. 351 (OFAE)

This can be interpreted as 1unit change in PACV, MA, AAI, AET, AMIP and OFAE will bring about 0.234, 0.012, 0.021, 0.031, 0.17 and 0.351units' positive changes in FIR respectively.

The dependency effects of Financial Insecurity Reduction on dimensions like Participation in Agribusiness value chain, Market Access, Access to Agricultural inputs, Agricultural extension and trainings, Access to market information / price and Off - farm agribusiness employment among the farmers of Shakardara district is defined in H₀ and H₁ taken up and its results are shown in the table-1, as an outcome of multiple regression model conceptualized. From the results, it can be inferred that the F value of 19.053is found to be significant at 5 percent level and hence, the null hypothesis (H₀) is rejected and alternative hypothesis (H₁) is accepted. These results suggest that financial insecurity reduction among farmers in the Shakardara District of Kabul depends on a set of 6 independent dimensions. Further, the adjusted R square value of 0.374 from the table-1 indicate that 37 percent of financial Insecurity R depend on these group of 6 independent dimensions in farmers of Shakardara district. Also the 't' values of 1.994, 0.723, 1.153, 1.053, 2.844, and 1.280, corresponding Financial Insecurity Reduction dimensions such as Participation in Agribusiness value chain, Market Access, Access to Agricultural inputs, Agricultural extension and trainings, Access to market information / price and Off - farm agribusiness employment, are found to be having significant effects on the model conceived. More specifically, the results of this study indicate that among the residents and farmers of Shakardara District, access to market information and price updates has the most significant positive effect on reducing financial insecurity, as evidenced by a t-value of 2.844. This influence is reflected in farmers' ability to access current market prices of agricultural products, stay informed about trends in demand for their crops or livestock, and easily obtain information about buyers and available markets. Moreover, farmers are able to adjust their production decisions based on updated market information, utilize mobile phones or other communication tools to receive timely market updates, and rely on trustworthy sources to compare prices before selling their products, all of which contribute to enhanced financial stability.

Similarly, the results show that participation in the agribusiness value chain has a significant positive effect on reducing financial insecurity among farmers in Shakardara District, with a t-value of 1.994. This suggests that farmers who actively engage in various stages of agribusiness such as participating in crop production activities, being involved in livestock farming, processing agricultural products before selling them, and taking part in the distribution or marketing of farm outputs experience greater financial stability. Additionally, involvement in value-addition practices such as packaging or branding, as well as participating in more than one stage of the agribusiness value chain, further strengthens their ability to mitigate financial insecurity. In a similar vein, the findings show that off-farm agribusiness employment plays a beneficial role in mitigating financial insecurity among farming households, with a t-value of 1.280. Engagement in off-farm activities supplies additional and often more stable earnings that enhance household financial resilience, particularly during periods of low agricultural productivity or market volatility. Such employment not only provides farmers with regular income but also reduces their dependence on seasonal farm outputs, thereby helping them better manage unexpected expenses and maintain a steady livelihood. Moreover, off-farm agribusiness work exposes individuals to new skills, technologies, and business practices that can improve their overall capacity to manage and expand their agricultural enterprises. The ability to combine farm and off-farm employment also allows farmers to diversify their income sources, reduce financial risks, and reinvest part of their earnings into improving farm operations, purchasing inputs, or adopting value-added activities. This diversification ultimately strengthens their economic stability and contributes meaningfully to reducing financial insecurity in the district.

Notably, the findings reveal that access to agricultural inputs positively influences financial vulnerability, with a t-value of 1.153. Reliable access to essential farming resources such as quality seeds, fertilizers, irrigation equipment, tools, and livestock enables households to enhance crop yields and livestock productivity, which directly contributes to higher income and improved food security. Consistent availability of these inputs allows farmers to plan and execute their agricultural activities more efficiently, reducing the risk of crop failure or low productivity due to shortages or poor-quality materials. Furthermore, timely access to inputs helps households adopt modern farming techniques, diversify crop production, and engage in value-added activities, all of which strengthen their economic resilience. By ensuring that resources are available when needed, households can better withstand financial shocks, manage operational costs, and sustain stable livelihoods, thereby mitigating financial vulnerability in the Shakardara District. Correspondingly, the study shows that agricultural extension services and trainings contribute to reducing financial insecurity, with a t-value of 1.053. Farmers who receive regular knowledge and skill development support are better equipped to adopt improved farming techniques, manage pests and diseases effectively, and optimize the use of available resources. Such guidance enhances productivity and ensures higher-quality outputs, which in turn stabilizes household income. Moreover, extension services provide critical information on market trends, input utilization, and modern agribusiness practices, enabling farmers to make informed decisions and reduce financial risks. By empowering farmers with both technical expertise and practical strategies, agricultural trainings play a vital role in enhancing economic resilience and sustaining livelihoods in the Shakardara District.

In addition, the study reveals that market access has a modest effect on reducing financial insecurity, with a t-value of 0.723. Limited or poor market connectivity prevents farmers from selling their crops and livestock promptly, restricting their ability to reach reliable buyers or obtain fair prices. This lack of access can lead to post-harvest losses, lower income, and reduced bargaining power, all of which challenge household financial stability. Furthermore, inadequate market access limits farmers' opportunities to expand their agribusiness activities, invest in quality inputs, or diversify production. Improving infrastructure, transportation, and linkages to local and regional markets is therefore essential for enabling farmers to capitalize on their production, secure timely sales, and gradually strengthen their economic resilience.

Table 1: Results of the regression for hypothesis-1

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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	0.623 ^a	0.394	0.378	0.055	
ANOVA ^a					
Model	Sum of Squares	Df	Mean Square	F	Sig.

1	Regression	3059.969	6	509.995	19.053	.000 ^b
	Residual	.989	377	.003		
	Total	3060.958	383			

a. Dependent Variable: Financial Insecurity Reduction

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.675	.046		2.730	.004
	Participation in Agribusiness value chain	0.234	.002	.001	1.994	.002
	Market Access	.012	.001	.000	0.723	.001
	Access to Agricultural inputs	.021	.001	.001	1.153	.003
	Agricultural extension and trainings	.031	.001	.001	1.053	.005
	Access to market information / price	0.17	.001	0.015	2.844	.004
	Off - farm agribusiness employment	.351	.003	.001	1.280	.002

a. Dependent Variable: Financial Insecurity Reduction

Variations in on financial insecurity with Age category

The variations in the financial insecurity reduction between different age groups such as those who are less than 21 years, those who are between the age 21 years and 30 years, those who are between the age 31 years and 40 years, those who are between the age 41 years and 50 years and those who are above the age of 50 years among the farmers of shakardara district, taken up and its results are shown in the table 2, as an outcome of one-way ANOVA model conceptualized.

Table 2: Results of ANOVA for Age						
Dependent Variable	Age as Source of Grouping	Sum of Squares	Df	Mean Square	F	Sig.
Financial insecurity reduction	Between Groups	78.457	4	19.614	2.492	0.000
	Within Groups	2982.501	379	7.869		
	Total	3060.958	383			

From the results of the one-way ANOVA presented in Table 2, it can be observed that the F-value for financial insecurity reduction across different age groups is 2.492. This result is significant at the 5 percent level, indicating that there are statistically significant differences in financial insecurity reduction among the various age groups. In other words, the level of financial insecurity reduction differs depending on the age of the respondents, suggesting that age plays an important role in shaping how households experience changes in financial security.

Variations in on financial insecurity with Educational qualifications/ status category

The variations in financial insecurity reduction among farmers of Shakardara District were examined across different educational qualifications/Status, including No formal education, Primary school, Secondary school,

High school, and University or above. The results of this one-way ANOVA are presented in Table 3, indicating how financial insecurity reduction differs according to the respondents' educational qualifications.

Table 3: Results of ANOVA for Educational qualifications/ status						
Dependent Variable	Education Source Grouping	Sum Squares	Df	Mean Square	F	Sig.
Financial insecurity reduction	Between Groups	53.057	4	13.264	1.671	0.000
	Within Groups	3007.901	379	7.936		
	Total	3060.958	383			

From the results of the one-way ANOVA presented in Table 3, it can be observed that the F-value for financial insecurity reduction across different educational qualifications is 1.671. This indicates that there are differences in financial insecurity reduction among farmers with varying levels of education, although the effect is smaller compared to other factors. The results suggest that the level of education may influence how households experience changes in financial security, with different educational groups potentially adopting different strategies to reduce financial insecurity.

Variations in on farming / agribusiness experience category

The variations in financial insecurity reduction among farmers of Shakardara District were examined across different farming / agribusiness experience, including Less than one year, 1- 5 years, 6- 10 years, 11- 15 years, and More than 15 years. The results of this one-way ANOVA are presented in Table 4, indicating how financial insecurity reduction differs according to the respondents' educational qualifications.

Table 4: Results of ANOVA for farming / agribusiness experience						
Dependent Variable	Education Source Grouping	Sum Squares	Df	Mean Square	F	Sig.
Financial insecurity reduction	Between Groups	84.453	4	21.113	2.688	0.000
	Within Groups	2976.505	379	7.854		
	Total	3060.958	383			

From the results of the one-way ANOVA presented in Table 4, it can be observed that the F-value for financial insecurity reduction across different levels of farming/agribusiness experience is 2.688. This result is significant at the 5 percent level, indicating that there are statistically significant differences in financial insecurity reduction among farmers with varying experience in agribusiness. In other words, the level of farming or agribusiness experience plays an important role in shaping how households manage financial challenges, with more experienced farmers potentially adopting more effective strategies to reduce financial insecurity.

The variations in financial insecurity reduction across different demographic characteristics of farmers and residents in Shakardara District were examined using independent sample t-tests and one-way ANOVA models. The demographic variables considered for these analyses include age, educational qualification, farming/agribusiness experience, monthly household income, and land ownership/size. The outcomes of these statistical tests are presented in the following sections, corresponding to Hypotheses H₀₂ and H₂.

Based on the results obtained from the independent sample t-tests and one-way ANOVA models, it can be inferred that most of the F and t values associated with financial insecurity reduction across the selected demographic characteristics are significant at the 5 percent level. Therefore, Hypothesis H₀₂ is rejected and Hypothesis H₂ is accepted, confirming that financial insecurity reduction varies significantly across different demographic groups. These findings indicate that demographic characteristics play a meaningful role in shaping how households experience changes in financial security within the district.

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Conflict of Interest

The authors affirm that no conflicts of interest are linked with this publication. The research was conducted autonomously without financial or non-financial assistance from external entities.

Author Contribution Statement

ZS meticulously crafted the study, devised the methodology, executed the investigation and data analysis, composed the original manuscript, and undertook the review and editing of the document. ALR supervised and modify and approve the final manuscript.

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