ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.03 (2025)

ISSUES IN AGRICULTURAL PRODUCIVITY AND MARKETING: A CASE STUDY OF A SELECTED DISTRICT OF PUNJAB

Muhammad Saeed Hashmi
Ex-Director of Agriculture (Economics & Marketing), Punjab, Lahore, Pakistan

Abstract
This study has explored issues related to agricultural productivity and marketing in the district of Narowal, located in the Punjab province of Pakistan. Quantitative and qualitative data collected from farmers have been used for our analysis. Structured questionnaires were employed to gather quantitative data, while qualitative information was obtained through open-ended questions and discussions with farmers who were asked to provide feedback on issues related to agricultural marketing. Convenience sampling was used for data collection. Relevant data on variables such as wheat production, seed quantity, loan/credit facilities accessed, land holding size, farming experience, and education level of farmers were collected. Twelve farmers reported facing difficult and adverse situations caused by exploitative strategies of middlemen, who loaned money to them before wheat planting to procure agricultural inputs and machinery on rental basis, forcing them to sell their produce without bargaining after harvest to repay loans. Meanwhile, twenty-eight farmers did not utilize credit or loans from middlemen or any institution. The extent of seed usage among all forty respondents was uniformly based on seed quantity, quality, and varieties, following local advice and traditional practices, without consulting the Agriculture Department. Twelve farmers utilized loan or credit facilities from middlemen, as previously mentioned. The education level of farmers was directly proportional to the adoption of improved cultivation methods for wheat, and vice versa. Landholding sizes varied, with twenty-eight farmers owning less than five acres and twelve farmers owning between five and ten acres. Additionally, farming experience ranged from eleven to twenty years for seventeen farmers, while twenty-three farmers had more than twenty years of experience in wheat cultivation. Wheat production ranged from twenty-six to fifty-one maunds. The case study also suggests that developing an inclusive, sustainable, and market-driven agricultural economy will foster economic growth and rural prosperity.
Keywords: *agricultural productivity, marketing, Punjab*

INTRODUCTION

Agriculture is the backbone of Pakistan's economy and essential to the livelihood of many people (Pakistan Economic Survey, 2023-24). Punjab is the most productive and fertile region in Pakistan and is often called the "breadbasket" of the country (Government of Punjab, 2023). This province makes a large contribution to the country's GDP and leads in producing key crops like wheat, rice, maize, sugarcane, and cotton (Food and Agriculture Organization, 2022). However, the sector faces many challenges related to productivity and marketing (Hussain et al., 2021). Pakistan's wheat yield is 3.1 tonnes per hectare, compared to 3.3 in the US, 3.4 in India, 7.5 in France, 7.8 in Germany, 8.4 in the UK, 8.5 in the Netherlands, and 9.0 in Ireland (FAO, 2025). China's wheat yield is 5.8 tonnes per hectare (US Department of Agriculture, 2024).

Table 1: Production Index of Important Crops in Pakistan (2016-2024)

Fiscal Year	Wheat	Maize	Rice	Sugarcane	Cotton
2015-16	100	100	100	100	100
2016-17	104.1	116.4	100.7	115.3	107.6
2017-18	97.8	112.0	109.5	127.3	120.5
2018-19	95.0	129.5	105.9	102.6	99.4
2019-20	98.5	149.1	109.0	101.4	92.2
2020-21.	107.1	169.6	123.8	123.7	71.3
2021-22	102.2	180.7	137.1	135.4	84.0
2022-23	109.9	208.4	107.7	134.4	49.5
2023-24	122.6	186.8	145.1	133.8	103.1

Source: Pakistan Economic Survey (2023-2024)

Table 1 shows that wheat productivity for the years 2016-17, 2020-21, 2021-22, 2022-23, and 2023-24, based on the 2015-2016 base year, increased by 4.1%, 7.1%, 2.2%, 9.9%, and 22.6%, respectively. However, it decreased in 2017-18, 2018-19, and 2019-20 by 2.2%, 5%, and 1.5%, respectively, compared with the base year. Agricultural productivity is a key factor in the economic development of agricultural economies like Pakistan (Iqbal et al., 2003; Khan et al., 2019). It refers to output per unit of agricultural input, which directly influences farmers' income, food security, and overall economic growth (Ahmad & Afzal, 2020). In Punjab, improving agricultural productivity is essential for sustaining the livelihoods of millions of people who depend directly or indirectly on farming (GoP, 2021). Higher productivity can lead to better food availability, lower food prices, increased exports, and reduced rural poverty (Dorosh & Salam, 2008; Hussain et al., 2021). Nevertheless, the country's agricultural sector faces numerous challenges that limit its productivity. Some of these include poor farming practices, limited access to quality inputs, lack of funds, and inadequate infrastructure for selling agricultural produce (Khan & Ahmed, 2022). Understanding these determinants is crucial to developing strategies for increasing productivity and promoting sustainable agricultural growth. Seed quality is a crucial factor in crop production. In Pakistan, the use and availability of certified seed are largely absent, leading to reduced productivity.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.03 (2025)

Many farmers depend on traditional or non-certified seeds, which often have low germination rates and are more susceptible to diseases. The adoption of high-yielding varieties and genetically modified seeds can significantly boost crop productivity, but their use remains low due to limited awareness and availability (Wimalasekera, 2015; Audi, 2024). Using recommended seed types, especially those bred to suit local conditions, greatly contributes to achieving higher crop yields (Iqbal, 2002). However, the adoption of such resistant and high-yielding seed varieties remains minimal. Farmers mainly use traditional or unofficial seeds, which may be less resilient to local environments or more vulnerable to pests and diseases (Ahmad & Ghafoor, 2018). Soil fertility also plays an essential role in agricultural productivity. While Punjab soils are naturally fertile, their quality has been declining due to over-exploitation, poor crop rotation, and improper fertilizer use (Iqbal et al., 2003). The uncontrolled application of chemical fertilizers, often neglecting soil health, has resulted in nutrient loss and the buildup of harmful substances (Khan et al., 2019). Increasing soil salinity and waterlogging are further stressing and reducing arable land and crop yields (Ahmad & Afzal, 2020). Although fertilizer and pest management are necessary components of modern agriculture, inappropriate and unbalanced use has led to declining production in Punjab (Iqbal et al., 2003; Khan et al., 2019). While fertilizers are vital for restoring soil nutrients, overuse or misuse can damage the soil and diminish its long-term productivity (Ahmad & Ghafoor, 2018). Similarly, excessive pesticide use results in pest resistance, environmental pollution, and health risks for farmers and consumers (Khan & Ahmed, 2022).

Availability of credit is essential for farmers to invest in new agricultural inputs and technologies. Small and medium farmers often face difficulties obtaining credit due to insufficient collateral, high interest rates, and complicated banking processes (Iqbal et al., 2003; Ramli et al., 2012). Without adequate financing, farmers cannot afford quality seeds, fertilizers, and machinery, which reduces their productivity (Osorio et al., 2011; Marc et al., 2021; Audi, 2024). Financial constraints are the main barrier to adopting advanced agricultural technology (Asad et al., 2019). Small and medium-sized farmers in Punjab lack credit because they have no collateral, and banking procedures are cumbersome with high interest charges (Iqbal et al., 2003). Farmers cannot invest in improved seeds, fertilizers, and new technologies without immediate access to credit. Microfinance institutions and government credit programs attempt to fill this gap but remain inefficient in coverage and effectiveness (Iqbal, Ahmad, & Abbas, 2003). Biru and Korgitet (2019) note that farmers' education levels significantly influence their ability to adopt new farming methods and technologies. In Punjab, the education level among farmers varies widely, with most lacking adequate formal education or access to agricultural extension services. Educated farmers are more likely to adopt better farming practices, seek information on crop management, and make informed decisions about input use (Biru & Korgitet, 2019; Marc & Al Masri, 2024). Thus, enhancing farmers' education and training is crucial for increasing the region's agricultural productivity.

Social capital, comprising networks, norms, and relationships that facilitate collective action, contributes to agricultural productivity (Rivera et al., 2019; Marc et al., 2025). Punjab farmers with strong social connections and cooperative memberships are more likely to access information, resources, and markets. These networks help spread knowledge and practices that boost productivity. However, the dispersal of property and the independent nature of most farmers hinder the development of strong social capital in the region (Marc & Ali, 2024; Zugravu-Soilita et al., 2021). Farm marketing in Punjab also faces issues that impact profitability and sustainability. The market infrastructure, including storage facilities, transportation, and market access, remains weak (Ali et al., 2021). Farmers often receive prices unfavorable for their produce because of inadequate storage options, leading to post-harvest losses (Ahmed & Mustafa, 2020). The lack of organized markets and the dominance of middlemen also result in farmers earning a smaller share of the final market price (Rana et al., 2020). Additionally, price instability and the absence of support programs raise risks for farmers (Dorosh & Salam, 2008). While the government's role in ensuring market regulation and fair pricing is important, its implementation has been inconsistent (Khan et al., 2019). Supporting contract farming, agro-processing firms, and export-oriented agriculture can expand market opportunities and secure farmers' incomes (World Bank, 2020). Agricultural marketing plays a vital role in the economic health of rural areas, especially in countries like Punjab, Pakistan, where agriculture is the backbone of the economy (Ahmed & Mustafa, 2020). As a major driver of agricultural production, Punjab is crucial for maintaining economic stability and growth in its rural communities. Developing and adopting effective marketing strategies is essential for sustaining this growth. Agricultural marketing encompasses activities that transfer farm products from producers to consumers through storage, transportation, processing, and sales. In Punjab, these activities are critical as they help increase farmers' incomes, reduce post-harvest losses, and improve market responsiveness (Ali et al., 2021). According to Ahmed et al. (2016), it is vital that small farmers gain access to efficient output markets because this directly affects their income and livelihood. The research shows that improved market infrastructure and better access to market information enable Punjab farmers to earn higher incomes and elevate their living standards (Ahmed, Ying, Bashir, & Abid, 2016).

One of the region's biggest issues is the widespread use of traditional marketing arrangements, which are often characterized by their opacity and inefficiency. A key feature of these arrangements is the presence of intermediaries who can exploit information asymmetry at the expense of farmers. Asad et al. (2019) illustrate how choosing the right marketing channels is essential for making Punjab citrus farmers profitable and for creating more organized and transparent marketing systems. Research shows that farmers who use formal marketing channels can sell their produce at higher prices compared to those relying on traditional systems (Asad, Mehdi, Ashfaq, Hassan, & Abid, 2019). The government's role in supporting agricultural marketing is crucial; policy reforms and investments in infrastructure are needed to modernize these systems. Bhutta et al. (2019) emphasize the importance of regulatory reforms and capacity-building programs, including farm business schools, to equip farmers with the skills and knowledge needed to succeed in

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.03 (2025)

today's agricultural markets. These policies aim to close the information gap and strengthen farmers' bargaining power, promoting fair trade practices (Bhutta, Ilyas, & Usman, 2019).

Technological advancements have also played a significant role in transforming Punjab's agricultural marketing. The use of digital media and information systems has enabled farmers to access market information in real-time, which is crucial for making informed decisions on when and where to sell their crops. Yaseen and Ahmad (2020) discuss the importance of agricultural marketing information services in Punjab, noting that timely and accurate data collection can greatly enhance market efficiency. The study emphasizes expanding these services to include more commodities and regions, as such efforts could lead to a more equitable distribution of market benefits (Yaseen & Ahmad, 2020). Additionally, building modern agro-processing plants and storage facilities is vital for reducing post-harvest losses, a major concern in Punjab (Sharma & Kaur, 2022). Inadequate storage capacity forces farmers to sell their produce immediately after harvest, often at low prices due to market oversupply (Ahmed & Mustafa, 2020; Khan et al., 2019). Investing in processing facilities and cold storage can increase the value added to farm produce, ensuring farmers receive fair compensation for their efforts and investments (Salik et al., 2022; Marc & Yu, 2024). This research aims to explore key factors influencing farm productivity and issues in agricultural marketing. Specifically, it will examine important determinants such as seed quality, land fertility, fertilizer and pesticide use, access to credit, and farmers' social capital. The study will also identify limitations within agricultural marketing and analyze farmers' obstacles. By addressing these issues, the research seeks to provide evidence-based policy recommendations to enhance agricultural productivity and market efficiency.

THEORETICAL FRAMEWORK AND METHODOLOGY

THEORETICAL FRAMEWORK

The theoretical foundation for analyzing agricultural productivity and marketing issues can be based on recognized models and theories of agricultural development, market dynamics, and farmer behavior. The main theories include the Sustainable Livelihoods Framework (SLF) (Scoones, 1998) and the Agricultural Value Chain Analysis (AVCA) model (Kaplinsky & Morris, 2001). SLF, developed by the UK Department for International Development (DFID), is an integrated framework for analyzing farmers' livelihood strategies, emphasizing assets (natural, financial, social, human, and physical), vulnerabilities, and institutional arrangements to determine agricultural outcomes (Scoones, 1998). This framework is useful in understanding how limited access to resources and environmental factors influence productivity and marketing in rural Punjab.

The AVCA model focuses on the interconnected phases of production, processing, distribution, and marketing to help analyze inefficiencies in the supply chain. It emphasizes intermediary actions, infrastructure vulnerabilities, and regulation barriers that limit market competitiveness and farm profitability (Kaplinsky & Morris, 2001). Additionally, Williamson's (1979) Transaction Cost Economics theory explains farmers' transportation costs, information asymmetry, and contract risks. It shows why farmers rely on agents and how difficult it is for them to access distant markets. Overall, these models provide a broad framework to examine the complex issues of agricultural productivity and marketing in the selected district of Punjab, offering insights on systemic inefficiencies and potential intervention policies (Ali et al., 2021).

METHODOLOGY

RESEARCH DESIGN

The dataset was collected during a survey of 40 weed farmers in the district of Narowal, Punjab, Pakistan. Indicators such as prior education, farming experience, farm size, and access to credit were recorded as quantitative data on wheat productivity. Additionally, qualitative data included farmers' feedback on ways to increase wheat productivity and their marketing problems. To explore issues related to agricultural productivity, marketing, and pricing policy, we used both quantitative and qualitative primary data collected through convenience sampling.

STUDY AREA

Narowal District in Punjab, Pakistan, is a region chosen for our study. It features a unique combination of barani (rain-fed) and irrigated land. Narowal District is made up of three tehsils: Narowal, Zafarwal, and Shakargarh, along with 98 union councils and a total of 1,243 villages. Of these, only 19 union councils within Narowal tehsil are irrigated, highlighting the area's mixed agricultural potential. This dual nature of agricultural land—comprising both irrigated and rain-fed systems—presents opportunities and challenges for sustainable agricultural development (Market Committee, Norowal, 2024).

Narowal experiences a subtropical climate characterized by hot summers and mild winters. The region falls within the monsoon belt, receiving significant rainfall during the monsoon season from July to September. This precipitation, which averages 700–1,200 mm annually, supports rain-fed agriculture in non-irrigated areas. Winters, from November to February, bring temperatures ranging from 5°C to 20°C, while summers can exceed 40°C, especially in June and July. This climate influences the planting seasons and the crops grown in the district (Ahmad et al., 2021). Although Narowal has strong agricultural potential, it faces certain challenges. There is no formal market for farm produce, forcing farmers to sell their crops through middlemen (Market Committee, Narowal, 2024).

DATA COLLECTION

In the current research, primary data was gathered through personal interviews with 40 selected farmers from all three tehsils- Narowal, Zafarwal, and Shakkargarh- in Narowal District, using convenient sampling to gain in-depth knowledge about farming activities and issues related to agricultural productivity and marketing. A convenient sampling technique was used to collect questionnaire-based data from these farmers across the three tehsils. In Narowal Tehsil, 21 farmers were personally interviewed; among them, 17 farmers had farms smaller than 05 acres, and 4 farmers had farms between 5 and 10 acres. In Shakkargarh Tehsil, 11 farmers were interviewed face-to-face, with 09 farmers owning farms less than

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.03 (2025)

05 acres and 2 farmers having farms between 5 and 10 acres. In Zafarwal Tehsil, 08 farmers were interviewed, including 1 farmer with less than 05 acres and 7 farmers with farms between 05 and 10 acres. The information collected from these face-to-face interviews provides a valuable starting point for primary data collection through convenient sampling, helping to understand the agricultural dynamics of Narowal district.

SAMPLING TECHNIQUES

Farmer interviewees and data collected from them in Narowal district were based on convenience sampling for both quantitative and qualitative analyses.

DATA ANALYSIS

Data analysis was conducted to explore the relationship of five independent variables with a dependent variable (wheat production) and to investigate issues related to wheat marketing in Nawowal District. The following regression model has been specified to examine the impact of various independent variables on agricultural productivity.

$$Wheat\ Production = \beta_0 + \beta_1(land\ holding\ size) + \beta_2(farming\ experience) + \beta_3(education\ level) + \beta_4(use\ of\ seed) + \beta_5(loan/credit\ facility\ available) + \epsilon$$

Operational definition of variables

Variable	Operationalization	Use in Analysis	Conversion to Categorical?
Wheat Production	Wheat Production in Kg/acre	Dependent variable in regression model.	No (continuous).
Land Holding Size	Landholding categorized into 'Less than 5 acres' and '5-10 acres'.	Used in regression to see effect of farm size on wheat output.	Yes, categorized into two groups for descriptive stats.
Farming Experience	Number of years farming ('11-20 years', 'More than 20 years').	Used to measure impact of experience on wheat output.	Yes, grouped into categories.
Education Level	Education attainment levels: Illiterate, Primary, Middle, Matric, F.A, B.A, M.A.	Used to study relationship between education and wheat production.	Categorized, but treated as a continuous ordinal variable in regression (coded: 0=Illiterate, 1=Primary, 2=Middle, etc.).
Use of Seeds	Whether the farmer used seeds as per recommended amounts or not.	Used to see if deviation in seed usage impacts wheat production.	Converted into Dummy Variable: 1 = Deviated from recommendation, 0 = Followed recommendation.
Loan/Credit Facility Availed	Source of loan ('Middleman' or 'Other').	The impact of loan access on wheat production was analyzed.	Converted into Dummy Variable: 1 = Loan accessed through middleman, 0 = No loan or other source.

RESULTS AND DISCUSSION

Table 1 displays the characteristics of the respondents. The research investigates the dependent variable (wheat production) along with independent variables: landholding size (farm size), farming experience, farmer education (educational attainment), seed usage, and availability of loan resources. Most respondents (22) had completed secondary education, while 8 were illiterate, and 5 had primary education. Only a small number pursued higher education. Nevertheless, education level influenced awareness in the agricultural sector. Of the 40 farmers surveyed, 28 (70%) reported having small plots of land, less than 5 acres, indicating the dominance of small-scale farming. Conversely, 12 farmers (30%) owned 5 to 10 acres and relied on loans or credit from middlemen to obtain inputs and rent machinery before growing wheat. A total of 23 farmers (57.5%) had over 20 years of farming experience, while 17 (42.5%) had less than 20 years. Farmers applied varying amounts of seeds, which serve as the independent variable in their agricultural practices. The most common seed amounts (35 and 40 kg/acre) may be based on local recommendations or traditional methods, which might not align with official guidelines. Of the 40 farmers surveyed, most (70%) reported not obtaining loans from any financial institution. Instead, they preferred to finance their activities independently. The remaining 30% relied on middlemen to secure loans for acquiring inputs and renting machinery before the wheat growing season.

Age (2.273) A one-year increase in age is associated with an increase in wheat production of 2.273 units. The marginal significance of age ($p = 0.058$) suggests that older farmers may benefit from more experience, possibly leading to more efficient farming practices.

Land Holding Size (-0.452) Larger landholding size is associated with a decrease in wheat production of 0.452 units, but this relationship is not statistically significant ($p = 0.780$), suggesting that land size may not have a major influence on production when other factors are controlled for.

Farming Experience (-0.113) The negative coefficient for farming experience suggests that more years of farming experience are associated with a small reduction in wheat production. However, this effect is not statistically significant ($p = 0.945$).

Education Level (-0.471) A higher level of education is associated with a slight decrease in wheat production, though this relationship is not statistically significant ($p = 0.331$).

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
Vol.03 No.03 (2025)

Use of Seeds (0.175) The use of recommended seeds is positively associated with wheat production, but this relationship is not statistically significant (p = 0.721), indicating that simply following seed recommendations may not substantially impact production in this model.

Access to Loan / Credit Facility Availed (-6.603). Access to loans or credit is associated with a significant decrease in wheat production, with a coefficient of -6.603. This is statistically significant (p = 0.002), suggesting that issues related to credit facilities, such as high interest rates, unfavorable terms, or inefficiency in lending institutions, may adversely affect wheat production.

Table 1: Characteristics of the respondents

Variables		Frequency	Percentage
Education level	No education	8	20
	Primary	5	12.5
	Secondar	22	55
	Higher	5	12.5
Land holding size	Less than 5 acres	28	70
	At least 5 acres	12	12
Farmer experience	Less than 20 years	17	42.5
	At least 20 years	23	57.5
Use of seeds	Less than 40 Kg per acre	23	57.5
	At least 40 Kg per acre	17	42.5
Access to loan/Credit facility availed	Middleman	12	30
	Any other (Specify)	28	70

Table 2: Results of the regression

Variables	Unstandardized Coefficients (β)	Standard error	Standardized Coefficients (β)	t-stats	Sig.
Age of farmers	2.273	1.158	0.306	1.962	0.058
Land holding size	-0.452	1.603	-0.040	-0.282	0.780
Farming experience	-0.113	1.631	-0.011	-0.069	0.945
Education of farmers	-0.471	0.477	-0.135	-0.986	0.331
Use of seed	0.175	0.486	0.059	0.360	0.721
Access to loan	-6.603	1.911	-0.590	-3.455	0.002

CONCLUSION

Punjab makes significant contributions to diverse crop production, including wheat, rice, maize, sugarcane, and cotton. Despite this potential, Narowal district faces challenges in both agricultural productivity and marketing, which impact economic sustainability and rural development. Productivity trends in Punjab show both progress and setbacks. For example, wheat productivity increased in certain fiscal years (e.g., 2016-17, 2020-21 to 2023-24 compared to the 2015-16 base year), but declined from 2017-18 to 2019-20. The following five independent variables influence wheat production (dependent variable).

Farmers relied on using seed quantities based on local advice and traditional practices, following the recommended seed variety, quality, and quantity provided by the agriculture department. Of the forty respondents, twenty-eight farmers did not obtain loans or credit from any institution, while only twelve farmers availed this facility from middlemen. Regarding the education level of farmers, it was concluded that more educated farmers adopted improved methods of cultivation and had greater awareness in agricultural practices. Out of these, fourteen farmers were matriculate, eight were illiterate, eight had middle-level education, and very few had pursued higher education. This shows that the level of education impacted farmers' awareness in agriculture. Concerning land holding size, twenty-eight farmers owned less than five acres, while twelve farmers had land between five and ten acres. In terms of farming experience, twenty-three farmers had more than twenty years of experience, while seventeen had between eleven and twenty years. Additionally, farmers had access to good irrigation facilities, such as an ever-ready pump engine, especially during drought periods. Finally, wheat production among the farmers ranged from twenty-six to fifty-one acres per maund (40kg).

POLICY RECOMMENDATIONS

To address the diverse challenges related to agricultural productivity and market access in Narowal District, Punjab, Pakistan, it is crucial for the government and relevant stakeholders to implement a comprehensive strategy that includes policy improvements and technological advancements. The case study recommends enhancing access to agricultural markets and reforming policies to reduce reliance on middlemen and improve price transparency across the three tehsils: Narowal, Zafarwal, and Shakargar. Since Narowal District is primarily arid but benefits from irrigation, it requires government funding for research and development focused on climate-resilient crops, encouraging their adoption to boost long-term productivity and market efficiency. Training programs for farmers should be prioritized by all involved parties to increase awareness of better farming techniques, crop protection methods, and climate resilience practices. Extension services need to be strengthened to ensure effective and timely communication between researchers and farmers. All 40 surveyed farmers reported difficulties in accessing affordable agricultural inputs and urged the government to lower input costs for wheat production, which they believe would significantly increase yields in the Narowal District. Twenty-eight farmers supported a self-financing model, emphasizing the need for policies that provide loans or credit to farmers under

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.03 (2025)

manageable terms before the planting season. This approach would help farmers buy necessary inputs and rent farm equipment without relying on middlemen, who typically require repayment after harvest from crop sales. Cooperative farming can significantly enhance farmers' ability to withstand shocks and access crucial resources. Stakeholders should also focus on inclusivity by involving marginalized groups, women, and smallholder farmers in decision-making, enabling them to benefit more fairly from interventions. These steps can strengthen bargaining power, reduce transition costs, and promote collective investments in agriculture, infrastructure, and storage solutions. Developing peer learning and cooperation networks will foster innovation and resilience among farmers. Regulatory changes are crucial to address the exploitative actions of intermediaries (World Bank, 2021). The Agricultural Produce Markets Act ought to be amended to allow farmers greater autonomy in selling their products directly to consumers and processors. Establishing competitive and transparent bidding processes in regulated agricultural markets would enhance farmers' empowerment and facilitate better price discovery. Smallholder farmers need specific support to participate in market modernization through financial incentives and policy measures.

REFERENCES

Abbas, M., Khan, A., Hussain, F., & Raza, S. (2019). Market access and price information for smallholder farmers in Punjab, Pakistan. *Journal of Rural Studies, 65*, 93-101.

Ahmad, I., & Ghafoor, A. (2018). Soil health and sustainable agriculture: Challenges in Punjab, Pakistan. *Journal of Agriculture and Environment for International Development, 112(2)*, 129-139.

Ahmad, I., & Mustafa, M. (2021). Agricultural marketing reforms in Pakistan: Opportunities and challenges. *Journal of Agricultural Economics and Development, 15(2)*, 143-157.

Ahmad, K., Chaudhary, M. A., & Ilyas, M. (2018). Technological advancement and total factor productivity growth. *Pakistan Economic and Social Review, 56(2)*, 231-257.

Ahmad, N., & Afzal, M. (2020). Post-harvest losses in fruits and vegetables in Punjab, Pakistan. *Journal of Agricultural Research, 58(4)*, 123-130.

Ahmad, S., Rashid, M., & Khan, T. (2021). Climate variability and its impact on agriculture in Punjab. *Journal of Environmental Studies, 15(3)*, 78-92.

Ahmad, T., Tahir, A., Bhatti, M., & Hussain, A. (2022). Yield and profitability comparisons of modern agricultural production technologies adoption: Evidence from cotton-wheat Punjab (Pakistan). *Journal of Agricultural Economics, 12(3)*, 245-259.

Al Zubaidi, E. F. M. (2023). The impact of price policy on the production and marketing of wheat in Nineveh governorate (Mosul and Telkaif district) as a model for the 2019-2020 agricultural season. *International Journal of Agricultural Economics, 10(1)*, 78-95.

Ali, A., & Abdulai, A. (2024). Barriers to the adoption of multiple agricultural innovations. *International Journal of Agricultural Sustainability.*

Ali, M., & Raza, S. (2022). Modernizing agricultural marketing in Pakistan: Policy implications for Punjab. *Pakistan Development Review, 61(2)*, 145-162.

Ali, M., Bashir, Z., & Shafique, R. (2020). Crop diversification in barani regions of Pakistan: A case study of Punjab. *Journal of Agricultural Research, 58(2)*, 134-147.

Ali, R., Hussain, M., & Khan, A. (2021). Impact of climatic conditions on agricultural productivity in Punjab, Pakistan: A case study of Narowal. *Journal of Agricultural Research, 58(2)*, 123-134.

Ali, S. Z., Sidhu, R. S., & Vatta, K. (2012). Effectiveness of minimum support price policy for paddy in India with a case study of Punjab. *Agricultural Economics Research Review*, 25(2), 231-242.

Ali, S., et al. (2021). Digital innovations in agricultural marketing: Prospects and challenges in Pakistan. *Technology and Society*, *66*, 101703.

American Farm Bureau Federation. (2023). *The Crucial Role of Farmer Cooperatives and Why Active Participation Matters.*

Anderson, J. R., & Feder, G. (2007). *Agricultural extension: Good intentions and hard realities*. The World Bank Research Observer, 22(1), 21-39.

Asad, M., Mehdi, M., Ashfaq, M., Hassan, S., & Abid, M. (2019). Effect of marketing channel choice on the profitability of citrus farmers: Evidence from Punjab-Pakistan. *Pakistan Journal of Agricultural Sciences.* Retrieved from https://www.academia.edu/download/109497313/papers_5C3055.pdf

Asia Pathways. (2024, July). *Linking farmers to markets through agricultural cooperatives and e-commerce in Asia*.

Aslam, T., & Qureshi, Z. (2023). Socio-economic factors influencing agricultural marketing strategies in Punjab: Insights from Narowal. *International Journal of Agricultural Economics, 34(3)*, 255-270.

Audi, M. (2024). *The Impact of Exchange Rate Volatility on Long-term Economic Growth: Insights from Lebanon*. University Library of Munich, Germany.

Audi, M. (2024). The role of urbanization and trade in driving carbon emissions in Asia. *Journal of Energy and Environmental Policy Options*, *7*(3), 23-34.

Awan, A. G. (2014). Changing world economic scenario: Advanced versus aging economies. *LAP Publishing Academy, Germany.*

Awan, A. G., & Anum, V. (2014). Impact of infrastructure development on economic growth. *Journal of Development and Economic Sustainability, 2(5)*, 1-15

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.03 (2025)

Awan, A. G., & Khan, R. E. A. (2014). The enigma of US productivity slowdown: A theoretical analysis. *American Journal of Trade and Policy, 1(1)*, 7-15.

Awokuse, T. O., Chopra, A., & Bessler, D. A. (2009). Structural change and international stock market interdependence: Evidence from Asian emerging markets. *Economic Modelling*, *26*(3), 549-559.

Ayub Agricultural Research Institute (AARI), Faisalabad. (2024). Ayub Agricultural Research Institute Faisalabad.

Ayub Agricultural Research Institute. (2024). *Fertilizer Analysis*.

Bamberger, M., Rao, V., & Woolcock, M. (2010). Using mixed methods in monitoring and evaluation: Experiences from international development. *The World Bank Research Observer, 25(2)*, 217-246.

Barrett, C. B. (2008). *Smallholder market participation: Concepts and evidence from eastern and southern Africa*. Food Policy, 33(4), 299-317.

Basak, N., Mandal, B., Rai, A. K., & Basak, P. (2021). Soil quality and productivity improvement: Indian story. *Proceedings of the Indian National Science Academy, 87(1)*, 2-10.

Bhutta, E., Ilyas, M., & Usman, M. (2019). The need for transforming agriculture produce markets: Evidence from Punjab, Pakistan. *Pakistan Journal of Agricultural Sciences.* Retrieved from https://www.pakjas.com.pk/papers/3020.pdf

Biru, H. S. K. M. W., & Korgitet, H. S. (2019). The effect of farmers' education on farm productivity: Evidence from small-scale maize-producing farmers in North Bench District, Bench Maji Zone. *American International Journal of Design*, *1*, 94.

Bisht, I. S., Rana, J. C., & Pal Ahlawat, S. (2020). The future of smallholder farming in India: Some sustainability considerations. *Sustainability*, *12*(9), 3751.

Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.

Bunde, A. O., Kibet, K. B., Daphen, O. O., & Mugo, S. W. (2014). Impact of fertilizer input subsidy on maize production in Nandi North District, Kenya. *International Journal of Sciences: Basic and Applied Research*, 15(2), 91-101.

Butt, T. M., Hassan, Z. Y., Mehmood, K., & Muhammad, S. (2011). Role of capacity building and training for sustainable livelihood of farming community in Pakistan. *African Journal of Agricultural Research*, 6(4), 931-936.

California Center for Cooperative Development. (n.d.). *Agricultural co-ops.*

Cauendo, M., & Kala, N. (2021). Mechanizing Agriculture: Impacts on Labor and Productivity. *STEG Working Paper*.

Chand, R. (2020). The role of cooperatives in enhancing agricultural growth: Lessons from India. *Journal of Rural Studies, 36(3)*, 45-60.

Chaudhry, M. G. (1986). Mechanization and agriculture development in Pakistan. *The Pakistan Development Review, 25*(4), 432–449.

Chen, C., Gan, C., Li, J., Lu, Y., & Rahut, D. (2023). Linking Farmers to Markets: Does Cooperative Membership Facilitate E-Commerce Adoption and Income Growth in Rural China? *Economic Analysis and Policy*, 80, 1155–1170.

Cox, T. L., & Wohlgenant, M. K. (1986). Prices and quality effects in cross-sectional demand analysis. *American journal of agricultural economics*, *68*(4), 908-919.

Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.s

de Peyster, E. (2016). *Drought-Resistant Crops and Varieties*. University of California Agriculture and Natural Resources.

Degefu, S. (2020). Review on the determinants of agricultural productivity and rural household income in Ethiopia. *Journal of Economics and Sustainable Development, 11*(18), 1–11.

Department of Agriculture Punjab. (n.d.). *Soil And Water*.

Department of Agriculture, Co-operation & Farmers Welfare. (2017). *The Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act, 2017*. Ministry of Agriculture & Farmers' Welfare, Government of India.

Deshpande, R. S. (2003). Impact of minimum support prices on agricultural economy. *Agricultural Development and Rural Transformation Unit*, Institute for Social and Economic Change.

Dorosh, P., & Salam, A. (2008). Wheat markets and price stabilisation in Pakistan: An analysis of policy options. *The Pakistan Development Review*, 71-87.

Gómara, I., Bellocchi, G., Martin, R., Rodríguez-Fonseca, B., & Ruiz-Ramos, M. (2024). *Influence of climate variability on the potential forage production of a mown permanent grassland in the French Massif Central*. arXiv preprint arXiv:2401.14053.

Government of Pakistan. (2018). *National Food Security Policy*. Ministry of National Food Security and Research.

Government of Pakistan. (2021). *Agriculture*. In *Pakistan Economic Survey 2020-21* (pp. 17-41). Ministry of Finance.

Government of Punjab. (2021). *Punjab agriculture policy 2021-2025.* Government Press.

Government of Punjab. (2023). *Agricultural productivity statistics of Punjab, 2019–2024 (Report No. PAS-2023/24).* Punjab Agriculture Department.

Government of Punjab. (2023). *Overview | Agriculture Department | Government of the Punjab.* https://agripunjab.punjab.gov.pk/agricommoverview

Hamilton, S. F. (2022). Farm labor productivity and the impact of mechanization. *American Journal of Agricultural Economics*. https://doi.org/10.1111/ajae.12273

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.03 (2025)

Hesse-Biber, S. N. (2017). *The practice of qualitative research: Engaging students in the research process* (3rd ed.). SAGE Publications.

Hussain, F., et al. (2021). Market regulation and agricultural growth in Punjab: Challenges and opportunities. *Pakistan Economic Journal, 10*(2), 89-104.

Kaplinsky, R., & Morris, M. (2001). *A handbook for value chain research.* IDRC.

Kassie, M., Shiferaw, B., & Muricho, G. (2024). A systematic review identifying the drivers and barriers to the adoption of climate-smart agriculture by smallholder farmers in Africa. *Frontiers in Environmental Economics*, 3, Article 1356335.

Kaur, R., & Sharma, M. (2012). Agricultural subsidies in India: Case study of electricity subsidy in Punjab state: An analysis. *International Journal of Scientific and Research Publications, 2*(10).

Khan, A. A., et al. (2018). Transportation and storage infrastructure: Challenges in agricultural marketing in rural Punjab. *Asian Journal of Agriculture and Development, 15*(1), 43-55.

Khan, A. H., Qasim, M. A., & Ahmad, E. (1996). Inflation in Pakistan revisited [with comments]. *The Pakistan Development Review*, *35*(4), 747-759.

Khan, A., Qureshi, M. E., & Shah, S. A. (2019). Soil fertility management in rain-fed agriculture: Lessons from Punjab, Pakistan. *International Journal of Agricultural Science, 10*(4), 221-230.

Khan, A., Siddiqui, Z., & Ahmed, S. (2020). Challenges and opportunities in agricultural marketing in Pakistan. *Journal of Rural Development, 39*(3), 123-140.

Khan, M. A., et al. (2019). Post-harvest losses in the agricultural supply chain of Punjab: Khan, M. K., Teng, J. Z., Khan, M. I., & Khan, M. O. (2019). Impact of globalization, economic factors and energy consumption on CO2 emissions in Pakistan. *Science of the total environment*, *688*, 424-436.

Khan, M. K., Teng, J. Z., Khan, M. I., & Khan, M. O. (2019). Impact of globalization, economic factors and energy consumption on CO2 emissions in Pakistan. *Science of the total environment*, *688*, 424-436.

Khan, N., Ma, J., Zhang, H., & Zhang, S. (2023). Rural farmers' perceptions for the impacts of climate change and adaptation policies on wheat productivity: Insights from a recent study in Balochistan, Pakistan. *Climate Change and Agriculture, 15*(2), 112-130.

Khan, S. A. R., Zhang, Y., Anees, M., Golpîra, H., Lahmar, A., & Qianli, D. (2018). Green supply chain management, economic growth and environment: A GMM based evidence. *Journal of Cleaner Production*, *185*, 588-599.

Khandker, S. R., & Samad, H. A. (2018). Microfinance and its effects on agricultural productivity: Evidence from Bangladesh. *Agricultural Economics, 49*(5), 597-611.

Kuper, M., & Kijne, J. W. (1992). *Irrigation management in the Fordwah Branch command area south east Punjab, Pakistan*. International Water Management Institute.

Lal, R. (2020). Regenerative agriculture for food and climate. *Journal of Soil and Water Conservation, 75*(5), 123A-124A.

Lutz, E., & Saadat, Y. (1988). Issues relating to agricultural pricing policies and their analysis in developing countries. *Agricultural Economics, 2*(1), 19-37.

Marc, A., & Al Masri, R. (2024). Examining the Impacts of Regulatory Framework on Risk in Commercial Banks in Emerging Economies. *Journal of Business and Economic Options*, *7*(2), 10-19.

Marc, A., & Ali, A. (2018). *Gender Gap and Trade Liberalization: An Analysis of some selected SAARC countries* (No. 90191). University Library of Munich, Germany.

Marc, A., & Yu, H. (2024). Strategic value creation through corporate social responsibility adoption for sustainable financial performance. *Journal of Policy Options*, *7*(4), 14-21.

Marc, A., Poulin, M., Ahmad, K., & Ali, A. (2025). Modeling disaggregate globalization to carbon emissions in BRICS: A panel quantile regression analysis. *Sustainability*, *17*(6), 2638.

Marc, A., Sadiq, A., & Ali, A. (2021). Performance Evaluation of Islamic and Non-Islamic Equity and Bonds Indices. Evidence from Selected Emerging and Developed Countries. *Journal of Applied Economic Sciences*, *16*(3).

Market Committee, Narowal. (2024). *Report on irrigation and agricultural practices in Narowal district*. Narowal, Pakistan.

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation* (4th ed.). Wiley.

Phillip, D., Nkozya, E., Pender, J., & Oni, O. A. (2009). Constraints to increasing agriculture productivity in Nigeria: A review. *International Food Policy Research Institute, Background Paper No. 6*.

Prakash, K. (2023). *Fertiliser overuse: Wheat yield, soil fertility decrease in Punjab*. The Tribune.

Pretty, J. N. (2001). The rapid emergence of genetically modified crops in world agriculture. *Environmental Conservation, 28*(3), 248–262.

Priyadarsini, B. T., & Nayak, C. (2017). Determinants of agricultural productivity in India: An econometric analysis. *MANTHAN: Journal of Commerce and Management, 4*(2), 41-53.

Punjab Agriculture Department. (2022). *Agricultural practices and productivity in Narowal*. Government Press.

Quizon, J. (1985). Withdrawal of fertilizer subsidies: An economic appraisal. *Economic and Political Weekly*, A117-A123.

Qureshi, A. S. (2011). Water management in the Indus Basin in Pakistan: Challenges and opportunities. *Mountain Research and Development*, *31*(3), 252-260.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
Vol.03 No.03 (2025)

Ramli, N. N., Shamsudin, M. N., Mohamed, Z., & Radam, A. (2012). The impact of fertilizer subsidy on Malaysia paddy/rice industry using a system dynamics approach. *International Journal of Social Science and Humanity, 2*(3), 213.

Rehman, A., Farooq, M., Lee, D. J., & Siddique, K. H. (2022). Sustainable agricultural practices for food security and ecosystem services. *Environmental Science and Pollution Research, 29*(56), 84076-84095.

Rivera, M., Knickel, K., María Díaz-Puente, J., & Afonso, A. (2019). The role of social capital in agricultural and rural development: Lessons learnt from case studies in seven countries. *Sociologia Ruralis, 59*(1), 66-91.

S M Sehgal Foundation. (n.d.). Capacity building for farmers, a path to agricultural success.

Saeed, F., & Salik, K. M. (2022). The Effect of Global Climate Change on Pakistan. *Global Pakistan: Pakistan's Role in the International System*, 65.

Scoones, I. (1998). *Sustainable rural livelihoods: A framework for analysis* (IDS Working Paper 72). Institute of Development Studies.

Shah, T., Giordano, M., & Mukherji, A. (2020). *Political economy of the energy-groundwater nexus in South Asia: Exploring issues and assessing policy options*. International Water Management Institute.

Shahbaz, B., Ali, T., Khan, I. A., & Ahmad, M. (2010). An analysis of the problems faced by the farmers in the mountains of Northwest Pakistan: Challenges for agri-extension, Pakistan. *Journal of Agriculture Sciences, 47*(4), 417-420.

Sharma, R., & Kaur, P. (2022). *Advances in agro-processing and storage solutions: Addressing post-harvest losses in Punjab*. Agricultural Development Journal, 45(3), 112-130.

Sharma, V. P. (2012). *Food subsidy in India: Trends, causes, and policy reform options* (Vol. 8). Indian Institute of Management, Ahmedabad.

Shivashankar, S. C., & Uma, T. G. (2014). Agricultural subsidies in India: Quantum of subsidies to SC/ST farmers in Karnataka. *International Research Journal of Marketing and Economics, 1*(8).

Silverman, D. (2020). *Doing qualitative research* (5th ed.). SAGE Publications.

Smith, J., & Johnson, L. (2020). *Agricultural markets and economic resilience: Challenges and policy solutions*. Cambridge University Press.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). SAGE Publications.

Zhang, Y., Wang, L., & Li, X. (2023). Digital technology adoption in the agriculture sector: Challenges and opportunities. *Journal of Agricultural Informatics*.

Zugravu-Soilita, N., Kafrouni, R., Bouard, S., & Apithy, L. (2021). Do cultural capital and social capital matter for economic performance? An empirical investigation of tribal agriculture in New Caledonia. *Ecological Economics, 182*, 106933.

Zulfiqar, F., & Thapa, G. B. (2017). Agricultural sustainability assessment at the provincial level in Pakistan. *Land Use Policy, 69*, 499-511.