

# Social and Economic Impacts of Declining Agriculture on Rural Communities in Pakistan

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**Abstract**— Punjab Province in Pakistan, renowned as the "breadbasket" of the nation, has long relied on agriculture as a key contributor to its economy. However, the agricultural sector in Punjab has experienced a decline in recent years due to challenges such as rapid urbanization, climate change impacts, fragmented landholdings, and limited access to modern agricultural practices. This paper examines the social and economic impacts of the declining agricultural sector in Punjab Province through quantitative analysis of crop yields, employment patterns, and agricultural sector GDP over the past five years. Secondary data from various sources were collected, and statistical techniques were applied to identify trends and patterns. The findings reveal a mixed trend in crop yields, a decline in employment in agriculture, and fluctuations in agricultural sector GDP and economic growth rate. The implications of these trends are discussed in terms of reduced employment opportunities, income inequality, rural poverty, food security concerns, migration, and environmental degradation. The study emphasizes the need for comprehensive strategies to address these challenges, including promoting sustainable farming practices, diversifying rural economies, providing skill development and training, strengthening market linkages, and supporting rural communities. The research aims to provide valuable insights to inform policymakers and stakeholders about sustainable agricultural development and rural prosperity in Punjab Province.

**Index Terms**— Pakistan; Punjab; Agriculture; Rural distress; Migration

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## I. INTRODUCTION

Punjab Province in Pakistan, often referred to as the "breadbasket" of the country, has been a key contributor to the agricultural sector. With its fertile soil, favourable climate, and extensive irrigation network, Punjab has traditionally relied on agriculture as the backbone of its economy. The sector employs a significant portion of the population, providing livelihoods for approximately 40 million people in rural communities [1]. Not only does Punjab cater to the domestic market with its production of crops such as wheat, rice, maize, sugarcane, cotton, and fruits, but it also contributes to Pakistan's exports, generating foreign exchange earnings [3]. The government of Punjab has implemented policies and invested in infrastructure development to promote agricultural growth, improve productivity, and enhance market linkages for farmers [4].

Throughout history, agriculture has played a crucial role in rural communities worldwide, and Punjab is no exception. It has been a primary source of food production, employment, and economic stability. The agrarian lifestyle in rural areas fostered self-sufficiency, interdependence among community members, and social cohesion. Agriculture provided employment opportunities for families, strengthening relationship bonds, and passing down agricultural knowledge through generations [6] [7].

However, in recent years, the agricultural sector in Punjab has faced challenges that have led to its decline in prominence. Rapid urbanization has resulted in the conversion of agricultural land for residential, commercial, and industrial purposes, reducing the available area for farming [8]. Climate change impacts, including unpredictable weather patterns,

droughts, floods, and rising temperatures, have affected crop growth and livestock health [9]. Fragmented landholdings and limited access to modern agricultural practices have hindered the sector's growth and productivity [9] [10]. These challenges have had significant social and economic consequences for rural areas.

The decline of agriculture in Punjab has far-reaching impacts on communities, affecting various aspects of social, economic, and environmental well-being. Economically, reduced employment opportunities, income inequality, and rural poverty have become prominent issues, leading to economic hardships for the population dependent on agriculture. Food security is also affected, with malnutrition and limited access to nutritious food among vulnerable populations becoming prevalent. The decline in agriculture has contributed to rural-urban migration, overburdened urban infrastructures, and increased unemployment. Moreover, the loss of traditional farming practices, cultural heritage, and community cohesion has eroded the social fabric of rural communities. Environmental consequences, including soil degradation, water pollution, and loss of biodiversity, have further exacerbated the challenges faced by these communities [11] [13].

This paper aims to analyze the social and economic impacts of the declining agricultural sector in Punjab Province. By utilizing quantitative methods and analyzing existing statistical data, the study explores trends in crop yields, employment patterns, and agricultural sector GDP over the past five years. The findings will shed light on the challenges faced by the agricultural sector and their implications for rural communities and overall economic development. The research methodology involves the

collection of secondary data from government agencies, agricultural departments, research institutions, and relevant organizations. Ethical considerations have been followed throughout the study, and the research aims to provide valuable insights to inform policymakers and stakeholders.

The subsequent sections of the paper present the findings and discussions derived from the data analysis. It examines the trends in crop yields, employment patterns, and agricultural sector GDP in Punjab Province, highlighting the interconnected challenges faced by the sector. The conclusion summarizes the key findings and emphasizes the need for a comprehensive approach to address these challenges. The paper also suggests further research directions to delve deeper into the factors contributing to the decline of agriculture and to develop targeted strategies for sustainable agricultural development and rural prosperity in Punjab Province.

**II. LITERATURE REVIEW**

Punjab Province in Pakistan is known as the "breadbasket" of the country due to its considerable contribution to the agricultural sector. Agriculture has traditionally been the backbone of Punjab's economy, employing a large portion of the population and providing a major source of livelihood for rural communities of about 40 million people [1]. Approximately 64% of the total population of Pakistan resides in rural areas and is dependent directly or indirectly on agriculture for their employment [2]. The province benefits from fertile soil, an extensive irrigation network, and favorable climatic conditions, which support the cultivation of a wide range of crops [1].

Punjab also specializes in the production of crops such as wheat, rice, maize, sugarcane, cotton, and fruits. It is also home to livestock farming, with cattle, buffalo, and poultry being prominent [3]. The agricultural sector in Punjab not only caters to the domestic market but also contributes to Pakistan's exports, generating foreign exchange earnings [3]. To support agricultural activities, the government of Punjab has invested in infrastructure development, including irrigation canals, dams, and research institutions. The government has implemented policies and programs to promote agricultural growth, improve productivity, provide access to credit, and enhance market linkages for farmers [4].

In rural communities worldwide, agriculture has played a crucial role throughout history. It has been a primary source of food production, employment, and economic stability. In many regions, including Punjab Province, the connection between rural communities and agriculture is deeply intertwined, shaping their culture, traditions, and way of life. For centuries, rural communities relied on agriculture for sustenance and survival. People cultivated crops and raised livestock to meet their own needs and traded surpluses within [5]. their communities. The agrarian lifestyle fostered a sense of self-sufficiency and interdependence among community members, contributing to social cohesion. Moreover, agriculture provided employment opportunities for rural

populations, offering labour-intensive work during planting, and harvesting seasons. It allowed families to work together on farms, strengthening relationship bonds and passing down agricultural knowledge through generations. In this context, agriculture served as a social and economic foundation, shaping rural communities' identity and sense of belonging [6] [7].

Despite its historical significance, the agricultural sector in Punjab Province has faced challenges in recent years, leading to a decline in its prominence. Several factors have contributed to this decline, for example, Peerzado et al have found that Rapid urbanization has resulted in the conversion of agricultural land for residential, commercial, and industrial purposes in Hyderabad, Pakistan. As cities expand and demand for infrastructure grows, fertile agricultural land is lost, reducing the available area for farming. Similarly, Punjab heavily relies on irrigation for agriculture, but water scarcity and inefficient irrigation practices have emerged as major challenges. Dwindling water resources, outdated irrigation systems, and improper water management have impacted crop yields and sustainability [8].

Ahmad et al argue that Punjab Province has been experiencing the effects of climate change, including unpredictable weather patterns, increased frequency of droughts and floods, and rising temperatures [9]. These changes pose significant risks to agricultural productivity, affecting crop growth and livestock health. Also, these authors claim that Fragmented landholdings are also causing discontent among farmers, the subdivision of land due to inheritance practices has led to smaller landholdings, making it economically unviable for farmers to invest in modern agricultural practices. Fragmentation also hinders mechanization and impedes economies of scale [9].

**Table 1.** Community impact analysis of declining agricultural practices

Impact type	Specific impacts	Community consequences
<b>Economic impact</b>	Reduced employment opportunities, income inequality, and rural poverty	Struggle to generate sufficient income, leading to economic hardships
<b>Food security</b>	Malnutrition, health issues, and limited access to nutritious food among vulnerable populations	Negative impact on regions heavily dependent on agriculture
<b>Migration and urbanization</b>	Rural-urban migration, overburdened urban infrastructures, increased	Search for alternative livelihoods, social challenges

<b>Social fabric and cultural erosion</b>	unemployment	Disruption of rural communities, loss of identity and erosion
	Loss of traditional farming practices, cultural heritage, and community cohesion	
<b>Environmental impact</b>	Soil degradation, water pollution, loss of biodiversity	Unsustainable farming practices harm ecosystems and resources

Source: [9] [11] [13]

And lastly, it is claimed that the lack of modernization and technology adoption is also one of the reasons for farmers moving away from agriculture and causing the decline in agriculture [6]. This can apply to Pakistan's case as the farmers have limited access to modern agricultural practices, technologies, and machinery, which has hindered the sector's growth. Farmers often lack awareness, training, and financial resources to adopt advanced techniques, resulting in lower productivity and inefficiencies [10]. As suggested by various activities, the decline of farming and agricultural activities causes significant social and economic hardships in rural areas.

The decline of agriculture has far-fetched impacts affecting communities, the effects touch social, economic, and environmental aspects of rural areas (see Table 1.). Socially, the decline of agriculture can lead to a loss of community cohesion and traditional rural identities as people may migrate to urban areas in search of alternative livelihoods [14]. Economically, the decrease in agricultural activities can result in job losses, reduced income levels, and increased poverty rates, affecting farmers and other sectors dependent on agriculture. Moreover, the environmental consequences of declining agriculture include land degradation, biodiversity loss, and decreased access to natural resources, further exacerbating the challenges faced by rural communities.

However, the limited scope of this paper looks at the social and economic impact of declining agriculture in the next section.

### III. RESEARCH METHODOLOGY

The research methodology utilized quantitative methods to analyze existing statistical data and reports on the decline of agriculture in Punjab Province. Secondary data from various government agencies, agricultural departments, research institutions, and relevant organizations were collected, focusing on agricultural production, employment rates, poverty levels, migration patterns, and economic indicators. The data analysis involved statistical techniques to identify trends and patterns and calculate averages, percentages, and growth rates. It is acknowledged that primary data on migration and the impact on poverty were not available, highlighting the need for further field survey research. Ethical considerations were followed, and the research implications aimed to inform policymakers and relevant stakeholders.

### IV. FINDINGS AND DISCUSSIONS

The analysis of agricultural trends in Punjab Province reveals important insights into the challenges and dynamics of the agricultural sector.

**Table 2.** Crop yields of important crops in Punjab province over the last 5 years

Crop	Year	Yield per Hectare Average yields 40 Kg. Per Acre
Wheat	2017	31.09
	2018	29.58
	2019	28.62
	2020	30.13
	2021	31.13
Rice	2017	20.25
	2018	21.42
	2019	21.14
	2020	20.66
	2021	22.40
Cotton	2017	6.61
	2018	6.77
	2019	6.22
	2020	5.77
	2021	5.6

Source: [15]

Examining data on crop yields, employment in agriculture, and agricultural sector GDP provides a comprehensive overview of the current state of agriculture in the region. By understanding these trends and their interconnections, policymakers and stakeholders can make informed decisions to address the challenges faced by the agricultural sector and work towards sustainable development. In this study, the author analyzes the crop yields, employment patterns, and economic indicators in Punjab Province over the last five years to identify key trends and discuss their implications.

The analysis of crop yields in Punjab Province over the last five years reveals a mixed trend. The average yield per hectare for wheat showed a slight decline from 31.09 kg/ha in 2017 to 28.62 kg/ha in 2019. However, there was a recovery in 2020 and 2021, with yields of 30.13 kg/ha and 31.13 kg/ha, respectively. Rice yields remained relatively stable, with a peak of 22.40 kg/ha in 2021 compared to 20.25 kg/ha in 2017. On the other hand, cotton yields experienced a consistent decline, dropping from 6.61 kg/ha in 2017 to 5.6 kg/ha in 2021.

**Table 3.** Percentage of Total Employment in Agriculture from 2017 to 2021

Year	Percentage of total Employment in Agriculture
2017	42.27
2018	39.86
2019	37.42
2020	36.92
2021	35.89

Source: [16]



The percentage of total employment in agriculture (see Table 3) showed a consistent decline from 42.27% in 2017 to 35.89% in 2021. This indicates a significant shift away from agriculture as a source of employment in Punjab Province.

**Table 4.** Agricultural Sector GDP and Economic Growth Rate in Punjab Province

Year	Agricultural Sector GDP (in percentage)	Economic Growth Rate (%)
2017	21.96	4.43
2018	21.65	6.15
2019	20.68	2.5
2020	21.85	1.27 (Negative)
2021	20.67	6.49

Source: [17] [18]

The agricultural sector's GDP experienced fluctuations over the years, with a decline from 21.96% in 2017 to 20.68% in 2019. There was a slight recovery in 2021 at 20.67%. The economic growth rate also exhibited variability, reaching a peak of 6.49% in 2021, but it experienced a negative growth rate of -1.27% in 2020.

The analysis of the data on crop yields, employment in agriculture, and agricultural sector GDP in Punjab Province reveals several interconnected trends and challenges. Firstly, the decline in crop yields, particularly for cotton, raises concerns about the productivity and sustainability of the agricultural sector. Factors such as changing weather patterns, inadequate agricultural practices, and pest infestations may contribute to the decrease in yields. Addressing these challenges requires implementing effective strategies for crop management, promoting sustainable farming practices, and providing farmers with access to improved technologies and resources.

Secondly, the decrease in the percentage of total employment in agriculture indicates a significant shift away from agriculture as a source of livelihood. This shift may result from various factors such as rural-urban migration, mechanization of farming processes, and the diversification of the economy. It is essential to understand the implications of this shift on rural communities, employment opportunities, and socio-economic development. Efforts should be made to create alternative income-generating opportunities in rural areas, provide skill development and training programs, and promote entrepreneurship to support rural livelihoods.

Furthermore, the fluctuations in agricultural sector GDP and economic growth rate reflect the vulnerability of the agricultural sector to external factors such as market conditions, global commodity prices, and policy interventions. It highlights the need for policy measures that enhance the resilience of the agricultural sector, promote value addition and market linkages, and provide support during periods of economic instability.

**V. CONCLUSIONS AND FURTHER RESEARCH**

The data analysis indicates a decline in agriculture in Punjab Province, characterized by decreasing crop yields, declining employment in the agricultural sector, and fluctuations in agricultural sector GDP and economic growth rate. These findings highlight the challenges faced by the agricultural sector and their potential impact on rural communities and overall economic development. To address these challenges, a comprehensive approach is required. This approach should include measures to improve crop productivity, promote sustainable agricultural practices, diversify rural economies, and create alternative employment opportunities. It is crucial to invest in agricultural research and development, provide farmers with access to modern technologies and resources, and strengthen market linkages to enhance the competitiveness of the agricultural sector. Moreover, policy interventions should focus on supporting rural communities, facilitating skill development, and promoting entrepreneurship. By addressing these issues, Punjab Province can revive and sustain its agricultural sector, promote inclusive and sustainable growth, and enhance the well-being of its rural population.

Further research is warranted to delve deeper into the factors contributing to the decline of agriculture in Punjab Province. One important area for future studies is investigating the specific causes of declining crop yields, particularly for wheat and cotton. Research can explore the impact of climate change, pests and diseases, soil degradation, and the use of agricultural inputs. Understanding these factors in greater detail can provide valuable insights for developing targeted strategies to improve crop productivity and resilience. Additionally, further research should focus on the implications of shifting employment patterns away from agriculture. Exploring the reasons behind this shift, such as mechanization, rural-urban migration, and changes in labour demand, can help understand the socio-economic consequences for rural communities. It is important to investigate the potential impact on livelihoods, income disparities, and the overall well-being of rural populations. Such research can inform policy decisions aimed at supporting alternative livelihood opportunities and promoting inclusive rural development.

Moreover, conducting an in-depth analysis of the agricultural sector GDP and economic growth dynamics is crucial. Research should examine factors such as market dynamics, government policies, investment patterns, and global trade to better understand the underlying causes of the fluctuations observed in the data. This research can provide insights into the interplay between the agricultural sector and the broader economy, shedding light on the sector's contribution to overall economic growth and development. The findings can guide the formulation of effective policies and strategies that promote sustainable agricultural development and economic diversification.

In conclusion, further research in these areas will

contribute to a comprehensive understanding of the challenges facing the agricultural sector in Punjab Province. By investigating the causes of declining crop yields, the impact of shifting employment patterns, and the dynamics of agricultural sector GDP and economic growth, policymakers and stakeholders can make informed decisions to address these challenges and foster sustainable agricultural development and rural prosperity.

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