



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Major Causes Of Crisis In Agriculture Sector In Haryana

Baleshwer Dutt¹, Desraj Sabharwal²

¹ Ph.D. Scholar, Department of Sociology, M.D. University, Rohtak

¹ Professor and HoD, Department of Sociology, M.D. University, Rohtak

Abstract: The agricultural sector in Haryana, a state known for its substantial contribution to India's food production, particularly wheat and rice, has been facing numerous challenges in recent years. These challenges have resulted in a crisis affecting farmers, rural communities, and the overall agricultural economy. This research article explores the major causes behind the crisis in Haryana's agriculture sector, ranging from environmental factors, economic distress, and other issues. Through a detailed examination, this paper seeks to identify key contributors to the crisis in the Haryana's agricultural landscape.

Keywords: Agriculture, Agrarian Crisis, Soil Degradation, Land Fragmentation, Haryana

Introduction:

Agriculture has long been the backbone of Haryana's economy, contributing significantly to the state's GDP, employment, and rural livelihoods. The state is a major producer of wheat, rice, sugarcane, and vegetables. However, over the past few decades, Haryana's agriculture sector has been grappling with multiple crises that threaten its long-term viability. These crises have manifested in declining farmer incomes, environmental degradation, increased indebtedness among farmers, and reduced agricultural productivity.

Haryana, with its rich agricultural base, has a long history of farmers' movements, reflecting the broader agrarian challenges in India. The farmers' movement in Haryana is a significant part of the broader agrarian struggles in India. Haryana has witnessed various farmer protests over the years, with issues ranging from demand for fair prices for crops, opposition to government policies, and struggles for land rights. Farmers movement in the state are the reflection of crises in agrarian sector because of one or the other reason. The Green Revolution in the 1960s and 1970s brought significant changes to agriculture in Haryana, leading to increased productivity but also new challenges such as dependency on high-yielding variety seeds, chemical fertilizers, and the mechanization of farming. These changes have led to many other issues in the agriculture sector.

Understanding the causes of this crisis is essential for formulating effective policy interventions. This paper will outline the major factors contributing to the agricultural crisis in Haryana, including environmental challenges, economic distress, and inadequate infrastructure

¹ Ph.D. Scholar, Department of Sociology, M.D. University, Rohtak

² Professor and HoD, Department of Sociology, M.D. University, Rohtak

1. Environmental Challenges:

The agriculture sector in Haryana faces significant environmental challenges, which have exacerbated the ongoing crisis. These challenges are primarily driven by water logging and salinity, soil degradation, and the impact of climate change.

1.1 Salinity and Water Logging

After the green revolution, majorly, wheat and rice are the two crops which are being grown in the state. Both are water intensive crops due to which irrigation is done at a large level. The issue of salinity in Haryana poses significant challenges for agriculture. Of the total 1.1 crore acres of geographical area in Haryana, approximately 9.8 lakh acres (8.89%) are affected by the twin problems of waterlogging and salinity. Within this area, 1.7 lakh acres are under critical condition, with a water table depth of 0-1.5 meters. 319 villages in Haryana face waterlogging issues, with water table depths ranging from 1.5 to 3 meters. Out of them, 85 villages are severely waterlogged, with water table depths less than 1.5 meters. The problem is most acute in districts such as Rohtak (61.47% affected), Jhajjar (40.77% affected), Sonapat (32.95% affected), Bhiwani (13.19% affected), and others. (Express News Service, 2023; Shankar, 2022)

Soil salinity in Haryana is a result of various factors that includes:

- Over-Irrigation
- Use of Saline Water
- Groundwater Exploitation
- Excessive Use of Chemical Fertilizers

Over-irrigation is a major contributor, leading to waterlogging, where excess water in the soil prevents proper aeration and creates anaerobic conditions. This promotes the upward movement of salts through capillary action, especially when the soil is saturated, and during dry periods, evaporation leaves salts on the surface. Inadequate drainage systems further exacerbate this, allowing salts to accumulate in the soil over time. The use of saline groundwater for irrigation is another issue in Haryana, as much of the groundwater is already saline, and continuous use leads to significant salt buildup, harming crops and deteriorating soil quality. Canal irrigation, while providing a more reliable water source than groundwater, also poses problems. Poorly maintained canal systems often cause waterlogging, and even though canal water contains fewer salts than groundwater, it still contributes to gradual salt accumulation.

Groundwater exploitation is another critical factor. Over-extraction of groundwater lowers the water table, leading to the intrusion of saline water into freshwater aquifers, worsening the salinity of irrigation water. The concentration of salts increases as the water table drops, further degrading water quality. This problem is exacerbated by natural salt deposits that mix with the extracted groundwater when aquifers are depleted. Excessive use of chemical fertilizers also plays a role in increasing soil salinity. Many fertilizers, such as urea and potassium chloride, contain salts, and their overuse disrupts the soil's nutrient balance, impairing plant growth and water uptake. The residual salts from these fertilizers accumulate over time, especially in areas with inadequate rainfall to flush them out. This accumulation alters the soil's chemistry and structure, trapping salts in the soil and making the land less productive. Together, these factors contribute to the widespread problem of soil salinity in Haryana, significantly reducing agricultural productivity and posing serious challenges to the farming community.

1.2 Soil Degradation

Soil health in Haryana has been deteriorating due to the extensive use of chemical fertilizers and pesticides. The over-reliance on synthetic inputs without adequate crop rotation or organic practices has led to the

depletion of essential soil nutrients. This has affected the fertility of the soil and, consequently, agricultural yields. Additionally, excessive cultivation of water-intensive crops like paddy in regions not suited for them has resulted in soil erosion and the degradation of soil quality.

1.3 Climate Change

Climate change has also exacerbated the challenges faced by Haryana's farmers. Irregular monsoons, heatwaves, and shifting weather patterns have led to crop failures, reduced yields, and increased vulnerability to pests and diseases. The changing climate has increased the uncertainty of agricultural planning and has resulted in significant losses for farmers.

2. Economic Distress:

The economic distress faced by farmers in Haryana is one of the central drivers of the agricultural crisis. This distress stems from several interconnected factors.

2.1 Low Farm Incomes

Despite Haryana's role as a major contributor to India's food supply, the average income of farmers in the state has remained relatively low. This is due to a combination of factors such as stagnant crop prices, high input costs, and low/stagnant productivity. The state's reliance on high-input crops like rice and wheat, which have low profitability compared to other crops, has contributed to this issue. Farmers are often caught in a cycle of debt and are unable to invest in modern farming techniques that could boost productivity and profitability.

2.2 High Input Costs

The cost of agricultural inputs, including seeds, fertilizers, pesticides, and irrigation, has risen substantially over the years. With little support in terms of subsidies or price stabilization, farmers are often left with no choice but to bear these costs. The sharp rise in input prices has outpaced the increase in crop prices, leading to a decline in the net income of farmers.

a. Fertilizers and Pesticides

The cost of fertilizers and pesticides has seen a steady rise over the past decade. The prices of commonly used fertilizers like urea, DAP (Di-ammonium Phosphate), and potash have increased due to global price fluctuations. (IndexMundi, n.d.) Although subsidized by Nutrient Based Subsidy (NBS) scheme w.e.f. 1.4.2010, (PIB, 2024) the increased cost of fertilizers has led to higher production costs, especially for staple crops like wheat and rice, which are heavily dependent on chemical inputs for high yields. (P and K fertilizers, n.d.)

b. Seeds

The adoption of high-yielding variety (HYV) seeds, hybrid seeds, and genetically modified seeds has led to an increase in seed costs. These seeds are more expensive than traditional varieties, adding to the overall cost of production. The cost of hybrid paddy seeds, for instance, cost around Rs. 200-400 per kg while normal seed cost below Rs. 100 per kg in 2023. Private companies sometimes raise the cost of HYV seeds as per demand making the condition worse. (Mohan, 2023) While these seeds promise higher yields, the increased cost often puts pressure on small and marginal farmers, who may not be able to afford the investment, leading to unequal access to technology.

c. Labor

The cost of agricultural labor has increased due to rising wage rates and a reduction in the availability of farm labor, as many rural workers migrate to urban areas for better opportunities. The average daily wage for agricultural labor in Haryana increased from ₹200 per day in 2010 (Directorate of Economics and Statistics, 2014) to ₹400 per day in 2022, reflecting a significant rise in labor costs. The rise in labor costs has particularly affected small farmers who rely heavily on manual labor, as they cannot afford mechanization.

d. Irrigation

Although Haryana has a well-established canal system, many farmers rely on tube wells for irrigation. The cost of electricity and diesel for operating these tube wells has increased, adding to the cost of irrigation. The cost of diesel, a key input for powering tube wells, rose from around ₹40 per liter in 2010 to around ₹90 per liter in 2023. (Modi, 2023) Similarly, electricity tariffs for agricultural use have also seen periodic increases. Higher irrigation costs reduce the net income of farmers, particularly in regions where canal water is insufficient, forcing them to rely on more expensive alternatives. (TNN, 2023)

e. Machinery

The cost of agricultural machinery such as tractors, harvesters, and pumps has also increased due to inflation and rising input costs for manufacturing. The price of a standard tractor increased from around ₹3.5 lakh in 2010 to ₹6.5 lakh by 2023,³ while the cost of harvesters has more than doubled in the same period. The high cost of machinery makes it difficult for small and marginal farmers to invest in modernization, leading to reliance on traditional and less efficient farming practices.

2.3 Indebtedness

High levels of farmer indebtedness are another significant aspect of Haryana's agricultural crisis. Many farmers take loans from informal sources like moneylenders or local traders to fund agricultural activities. The high-interest rates on these loans and poor crop yields make it difficult for farmers to repay their debts, leading to a vicious cycle of debt and poverty. Debts and compounding interest have made once-fertile lands a liability for many farmers. In a RTI, in 2018, it was revealed that farmers get price of wheat crop lower than the estimated cost of production. (Siwach, 2018; Singh, 2018)

4. Other Factors:

Some other factors have also contributed to the agricultural crisis. Several factors related to land ownership and labor dynamics have exacerbated the challenges.

4.1 Land Fragmentation

Land fragmentation is a major issue in Haryana. The growing population, coupled with inheritance laws, has led to the division of agricultural land into smaller plots. This fragmentation reduces the economies of scale for farmers and makes farming less profitable. Smaller landholdings are also less efficient and more vulnerable to market shocks and environmental stress.

Haryana, a leading agricultural state in India, has seen significant land fragmentation over the decades. The average size of operational land holdings in Haryana decreased from 2.25 hectares in 1970-71 to about 1.55

³ Data given by a respondent.

hectares in 2015-16. According to the latest data of Government of Haryana,⁴ 49.29 per cent farmers are marginal (having less than 1 hectare of land). This reduction in farm size has had several adverse effects on the state's agricultural output and farmer welfare.

In Haryana, the traditional joint family system is breaking down, leading to further subdivision of land. This fragmentation has led to a decline in the cultivation of high-value crops and a shift towards less labor-intensive crops like wheat and paddy, which offer lower returns.

Haryana

No. of holdings (Total) (in lakh)	16.28
a) Marginal farmers (in lakh) (Up to1 hect.)	8.02 (49.29%)
b) Small farmers (in lakh) (1-2 hect.)	3.14 (19.28%)
c) Others (in lakh) (Above 2 hect.)	5.12 (31.43%)

Source: agriharyana.gov.in Updated on 17-10-2022

4.2 Labor Shortages

There is an increasing shortage of labor in rural Haryana, as many young people migrate to urban areas in search of better employment opportunities. This has resulted in a labor shortage during critical periods such as sowing and harvesting, making it difficult for farmers to manage their crops efficiently. Additionally, the rise in labor costs has added to the financial burden on farmers.

5. Conclusion:

The agricultural crisis in Haryana is the result of a complex interplay of environmental, economic, policy, and socio-political factors. Water scarcity, soil degradation, and climate change have created significant environmental challenges. Economic distress, including low incomes, high input costs, and indebtedness, has put immense pressure on farmers. Policy failures, particularly in relation to crop diversification, water management, and agricultural extension services, have further exacerbated the crisis. Socio-political factors such as land fragmentation, labor shortages, and political instability have also played a role in the crisis.

To address these issues, it is essential for the government to focus on sustainable agricultural practices, implement effective water management strategies, and provide better access to agricultural markets and services. Additionally, reforms in agricultural policies, including a shift towards crop diversification and enhanced support for farmers, are needed to alleviate the crisis and ensure the long-term sustainability of Haryana's agricultural sector.

⁴Data updated on 17-10-2022.

References:

1. Directorate of Economics and Statistics, GoI. (2014). AGRICULTURAL WAGES IN INDIA 2010-11 (2014),. Retrieved from <https://eands.da.gov.in/PDF/AgriculturalWagesinIndia2010-11.pdf>
2. Express News Service. (2023, March 21). Over 8.89% of Haryana's geographical area affected with twin problem of water-logging, salinity: Govt. The Indian Express. <https://indianexpress.com/article/cities/chandigarh/haryanas-geographical-area-affected-water-logging-salinity-8510709/>
3. IndexMundi (n.d.) DAP fertilizer - monthly price (Indian Rupee per Metric Ton) - commodity prices - price charts, data, and news - IndexMundi. Indexmundi.com. Retrieved from <https://www.indexmundi.com/commodities/?commodity=dap-fertilizer&months=360¤cy=INR>
4. Modi, G. (2023). Historic Petrol and Diesel Fuel prices of 20 years in India. 2003 to 2023 record. MyCarHelpline. Retrieved from https://www.mycarhelpline.com/index.php?option=com_easyblog&view=entry&id=808&Itemid=91
5. Mohan, N. (2023, May 18). High-yielding hybrid paddy seed prices soar in Haryana. The Hindustan Times. <https://www.hindustantimes.com/cities/chandigarh-news/farmers-in-haryana-pay-high-prices-for-hybrid-seeds-as-traditional-varieties-suffer-from-dwarf-virus-causing-losses-101684358340072.html>
6. P and K fertilizers. (n.d.). Nic.In. Retrieved from <https://www.fert.nic.in/p-and-k-fertilizers>
7. PIB (2024) Government has provided special packages on DAP over and above the NBS subsidy rates on need basis to ensure smooth availability of DAP at affordable prices to farmers. Retrieved from <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2043545>
8. Shankar, P. (2022, April 27). Waterlogging pushes Haryana farmers to sell agricultural land, take up odd jobs. Mongabay-India. <https://india.mongabay.com/2022/04/waterlogging-pushes-haryana-farmers-to-sell-agricultural-land-take-up-odd-jobs/>
9. Singh, J. (2018, December 2). RTI reveals farmers getting less prices than estimated cost of crops. Times Of India. <https://timesofindia.indiatimes.com/city/chandigarh/rti-reveals-farmers-getting-less-prices-than-estimated-cost-of-crops/articleshow/66908410.cms>
10. Siwach, S. (2018, March 6). Input cost for a quintal of wheat Rs 594 higher than MSP, RTI plea reveals. The Indian Express. <https://indianexpress.com/article/india/wheat-crop-agriculture-farmers-msp-haryana-5087513/>
11. TNN. (2023, August 7). Fuel prices increased more during UPA than NDA: Govt. Times Of India. <https://timesofindia.indiatimes.com/business/india-business/fuel-prices-increased-more-during-upa-than-nda-govt/articleshow/102508951.cms>