



Transforming Indian Agriculture

This editorial is based on “[How Shivraj Singh Chouhan can transform Indian agriculture](#)” which was published in Indian Express on 24/06/2024. The article discusses the challenges in agriculture and rural development and suggests possible solutions for the newly formed government in India.

For Prelims: [Ministry of Agriculture and Farmers Welfare \(MoA&FW\)](#), [Public Distribution System \(PDS\)](#), [Small and marginal Farmers\(SMF\)](#), [Agriculture Census](#), [Pradhan Mantri Kisan Samman Nidhi \(PM-KISAN\)](#), [Pradhan Mantri Fasal Bima Yojana \(PMFBY\)](#), [Soil Health Card Scheme](#), [Pradhan Mantri Krishi Sinchai Yojana \(PMKSY\)](#), [e-National Agriculture Market \(e-NAM\)](#)

For Mains: Significance of Agriculture in India, Key Challenges Related to the Farm Sector in India, Key Initiatives Related to Agriculture, Steps Ahead to Reform Farm Sector in India.

Recently, Shivraj Singh Chouhan is appointed to head the [Ministry of Agriculture and Farmers Welfare \(MoA&FW\)](#) and the [Ministry of Rural Development](#) in the newly formed government.

His appointment is strategic due to his proven track record and deep understanding of agricultural and rural development. He has served as the Chief Minister of Madhya Pradesh for an extended period. Under his leadership, the state achieved a GDP growth of 7% per annum and an agri-GDP growth of 6.8% per annum from 2005-06 to 2023-24, surpassing the national averages.

The MoA&FW needs urgent attention to address the pressing issues and challenges confronting the Indian agriculture sector, which profoundly affect rural and overall economic development. Its foremost priority should be to achieve an annual agri-GDP growth of more than 5% and to promptly enhance farmers' incomes.

What is the Significance of Agriculture in India?

▪ Contribution to GDP:

- The contribution of agriculture to India's [GDP](#) has been declining over the past few decades, but it still remains a significant sector
- The share of agriculture in the total [Gross Value Added \(GVA\)](#) of economy has declined from 35% in 1990-91 to 15% in 2022-23. The decline is brought out not by the decline in agricultural GVA but a rapid expansion in industrial and service sector GVA.

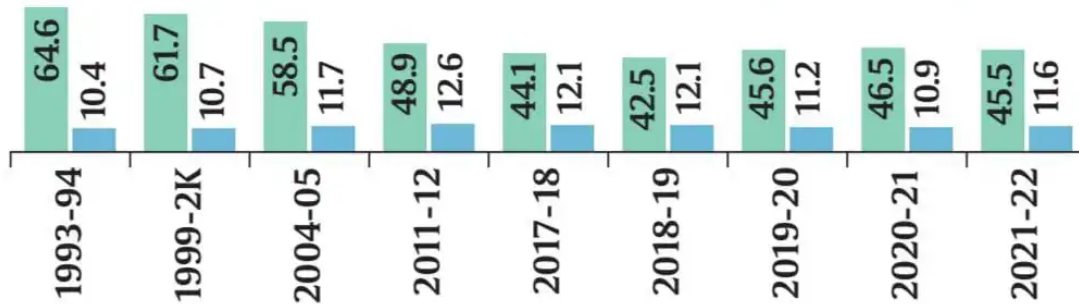
▪ Employment:

- Agriculture is the largest employer in the country.
- According to the [Periodic Labour Force Survey \(PLFS\)](#) conducted by the [National Sample Survey Office \(NSSO\)](#), Ministry of Statistics and Programme Implementation (MoSPI), about 45.76% of the total workforce is engaged in agriculture and allied sector during 2022-23

AGRICULTURE VERSUS MANUFACTURING

(% share of Workforce)

■ AGRICULTURE ■ MANUFACTURING



▪ Food Security:

- India is largely self-sufficient in staple food production, particularly rice and wheat. This ensures the nation can feed its large and growing population.
 - India is the **world's largest producer** of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton.
 - India is the **second largest producer** of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea.
- Government initiatives like the [Public Distribution System \(PDS\)](#) and food subsidy programs rely on agricultural production to ensure affordable food access to all citizens.
 - Under the PDS, presently the commodities namely wheat, rice, sugar and kerosene are being allocated to the States/UTs for distribution.
 - Some States/UTs also distribute additional items of mass consumption through the PDS outlets such as pulses, edible oils, iodized salt, spices, etc.

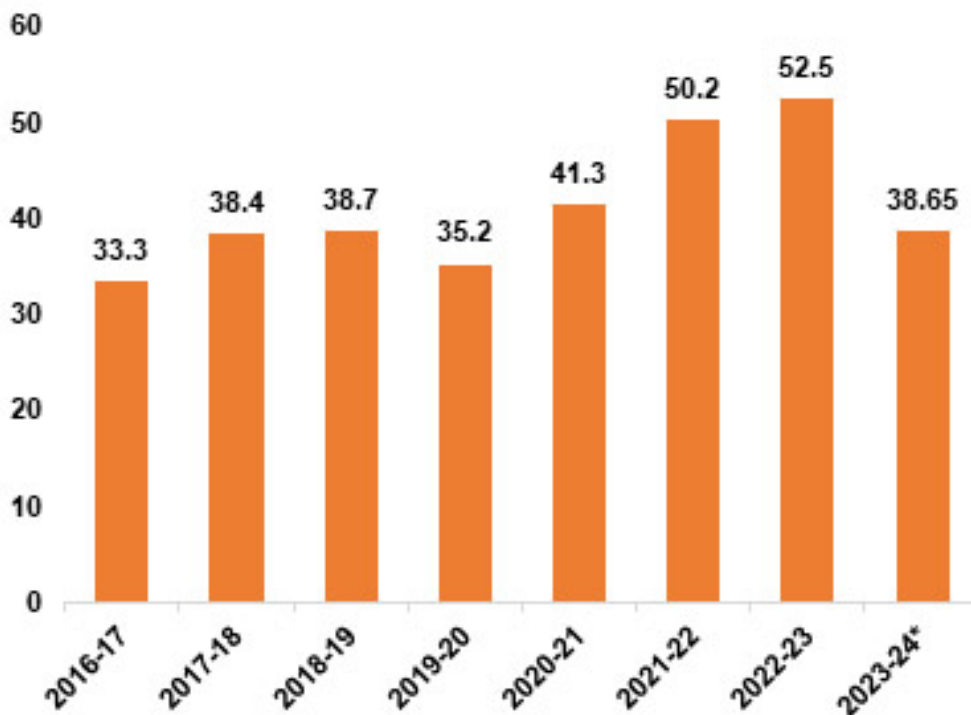
▪ Land Use:

- The agricultural land in India is little more than 50 % of the total geographical area in the country. This is the highest share of land in any country in the world
- The country has some 195 m ha under cultivation of which some 63 percent are rainfed (roughly 125m ha) while 37 percent are irrigated (70m ha).

▪ Foreign Exchange:

- Agricultural exports contribute significantly to India's foreign exchange earnings. Commodities like rice, spices, cotton, fruits, and vegetables are exported globally, generating revenue and balancing trade deficits.
- In April-January 2024, the overall value of export of agricultural products stood at USD 38.65 billion. In 2022-23, the agricultural exports from India stood at US\$ 52.50 billion.

India's agriculture exports trend (US\$ billion)



Note: *Until January 2024

Source: The Ministry of Commerce & Industry

▪ Socio -Cultural and Environmental Sustainability :

- Agriculture is deeply intertwined with India's cultural heritage and social fabric. It shapes rural traditions, festivals, and community life, playing a vital role in preserving cultural identity and rural cohesion.
- Sustainable agriculture practices are crucial for preserving natural resources such as soil fertility, water, and biodiversity. Traditional farming methods and modern techniques aim to minimize environmental impact and promote long-term sustainability.

What are the Key Challenges Related to the Farm Sector in India ?

▪ Small Land Holdings:

- A significant portion of arable land is divided into small holdings, which restricts farmers' ability to achieve economies of scale and earn a dignified livelihood.
- As per the latest information available from Agriculture Census, the average size of operational holdings has decreased from 2.28 hectares in 1970-71 to 1.84 hectares in 1980-81, to 1.41 hectares in 1995-96 and to 1.08 hectares in 2015-16.
- As per India's Agriculture Census 2015-16, 86.1 percent of Indian farmers are [small and marginal \(SME\)](#) i.e., have a landholding size smaller than 2 hectares.

▪ Economic Hardships:

- The average monthly income for a farmer in India remains relatively low, highlighting the economic challenges faced by those in the agricultural sector.
 - According to the National Statistical Office (NSO) report from 2019, the average monthly income of a farmer's household from all sources, including wages, crop production, and livestock, was approximately ₹10,218.
- Small and marginal farmers frequently encounter challenges in accessing credit and financial services. The limited availability of affordable credit restricts their ability to invest in modern farming equipment, quality seeds, and fertilizers, thereby hampering their

productivity.

- Based on the NSS survey conducted in 2019, over half of agricultural households were in debt across India.

▪ **Soil Degradation & Water Scarcity:**

- Over-extraction of water for agriculture is depleting aquifers, making irrigation increasingly unviable in key food-producing regions.
 - Around 90 percent of India's groundwater is used for agriculture
- Improper land use practices, excessive use of chemical fertilizers and pesticides, and inadequate soil conservation measures contribute to soil degradation and erosion.
 - These factors lead to reduced soil fertility, increased vulnerability to pests and diseases, and ultimately, a decline in agricultural productivity.

▪ **Inadequate agricultural infrastructure:**

- Insufficient storage and cold chain facilities, inadequate rural roads and limited access to markets contribute to post-harvest losses.
- These infrastructure gaps add to the cost of production and limit farmers' ability to fetch fair prices for their produce

▪ **Underinvestment in Agricultural Research:**

- Investments in agricultural research and extension services have not kept pace with inflation, leading to a decline in real funding.
- This underinvestment hampers the adoption of innovative and efficient farming practices.

▪ **Outdated Farming Practices:**

- A significant portion of Indian farmers still rely on traditional and outdated farming methods.
- Limited access to information, lack of awareness about modern techniques and resistance to change hinder the adoption of advanced farming practices.
- This underinvestment in agriculture research hampers the adoption of innovative and efficient farming practices.

▪ **Market Volatility & Price Fluctuations:**

- Farmers in India often face price volatility due to lack of effective market linkages, intermediaries and price information. This leaves them vulnerable to price exploitation and uncertain returns on their investments.
- Indian policymakers often struggle to navigate and mitigate the impacts of unfavorable WTO rulings.
- Global priorities to keep food prices low for consumers result in artificially depressed farm-gate prices, making farming economically unviable and environmentally unsustainable.

▪ **Skewed Policy Challenges :**

- Policy challenges emerge because the government provides cereals at very low prices through the public distribution system. This drives down the prices farmers get for their crops, making it hard for them to make enough money.
- Additionally, skewed fertiliser subsidies promote indiscriminate usage, adversely affecting both human health and environmental sustainability.

▪ **Climate Change & Natural Disasters:**

- Increasingly erratic weather patterns have affected agricultural productivity.
- Unpredictable weather patterns, climate change, and natural disasters such as floods, cyclones, and droughts pose significant challenges to India's agriculture industry. These events can result in crop losses, livestock mortality, and increased vulnerability for farmers.
 - According to climate change impact assessments, without the adoption of adaptation measures, rainfed rice yields in India are projected to decrease by 20% by 2050 and 47% by 2080.

What are the Key Initiatives Related to Agriculture?

- [Pradhan Mantri Kisan Samman Nidhi \(PM-KISAN\)](#)
- [Pradhan Mantri Fasal Bima Yojana \(PMFBY\)](#)
- [Soil Health Card Scheme](#)
- [Pradhan Mantri Krishi Sinchai Yojana \(PMKSY\):](#)
- [e-National Agriculture Market \(e-NAM\)](#)
- [National Mission on Sustainable Agriculture](#)
- [Paramparagat Krishi Vikas Yojana \(PKVY\)](#)

- [Digital Agriculture Mission](#)
- [Unified Farmer Service Platform \(UFSP\)](#)
- [National e-Governance Plan in Agriculture \(NeGP-A\)](#)
- [Mission Organic Value Chain Development for North Eastern Region \(MOVCDNER\)](#)

What Should be the Steps Ahead to Reform the Farm Sector in India?

- **Holistic Agricultural Approach:**
 - Take agriculture as a comprehensive food system encompassing production, marketing, and consumption.
 - Improve access to credit, inputs, and farmer-centric advisory through institutional reforms.
 - Promote [organic farming](#), integrated pest management, and soil health management.
 - Strengthen [farmer-producer organizations \(FPOs\)](#) and cooperatives for collective bargaining.
- **Value Chain Development:**
 - Build robust value chains for high-value crops, dairy products, fisheries, and poultry. Collaborate with the private sector, cooperatives, and farmer-producer companies to achieve this.
 - Implement [public-private partnerships](#) and schemes similar to the [Production Linked Incentive \(PLI\) scheme](#) in industry to enhance value chain development.
- **Access to Technologies and Markets:**
 - Ensure farmers have access to the best technologies and global markets to improve productivity and incomes.
 - Address policy biases that favor consumers over farmers by reducing export bans, stock limits on traders, and market price suppression tactics.
 - Increase expenditure on agricultural research and development (R&D) and extension services to at least 1% of agri-GDP, up from the current level of less than 0.5%
- **Reform Fertiliser Subsidy:**
 - Transfer the [fertiliser subsidy](#) to the Ministry of Agriculture and Farmers Welfare. Currently, the subsidy is managed by the Ministry of Chemicals and Fertilisers, which has limited direct interaction with farmers.
 - Rationalize fertiliser subsidy distribution to correct the imbalance in nitrogen, phosphorus, and potassium usage.
 - Transition to direct benefit transfers for fertiliser subsidies, allowing farmers to choose between chemical and bio-fertilisers or natural farming methods.
- **Inclusive Growth and Social Security**
 - Implement comprehensive [crop insurance schemes](#) and income support programs.
 - Assure procurement of crops at minimum support prices (MSP) to stabilize farm incomes.
- **Creating Climate Resilient Agriculture:**
 - There is an urgent need to increase investing resources to create [climate-resilient \(smart\) agriculture](#).
 - This would mean more investments in seeds that are heat and flood-resistant, and more investment in water resources not just in augmenting their supplies but also ensuring water is being used more wisely.
 - “More crop per drop” should not be just a slogan but a reality. Drips, sprinklers, and protected cultivation as part of precision agriculture will have to be adopted at a much larger scale than today.

Conclusion

Embracing policy reforms that create a favorable environment for agricultural growth will enable India to unlock the full potential of its agricultural sector, making it a cornerstone of national development. This transformation will secure sustainable livelihoods for millions of farmers, enhance food security, foster inclusive growth, and establish India as a global leader in agricultural innovation and sustainability.

Drishti Mains Question:

India's agriculture sector requires immediate policy reforms to ensure sustainable livelihoods, enhance food security and foster inclusive growth in the country.
Comment

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims:

Q. In the context of India's preparation for Climate -Smart Agriculture, consider the following statements: (2021)

1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CCAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Ans: (d)

Q. Consider the following pairs: (2014)

Programme/Project	Ministry
1. Drought-Prone Area Programme	Ministry of Agriculture
2. Desert Development Programme	Ministry of Environment and Forests
3. National Watershed Development Project for Rainfed Areas	Ministry of Rural Development

Which of the above pairs is/are correctly matched?

- (a) 1 and 2 only
(b) 3 only
(c) 1, 2 and 3
(d) None

Ans: (d)

Q. In India, which of the following can be considered as public investment in agriculture?

(2020)

1. Fixing Minimum Support Price for agricultural produce of all crops
2. Computerization of Primary Agricultural Credit Societies
3. Social Capital development
4. Free electricity supply to farmers
5. Waiver of agricultural loans by the banking system
6. Setting up of cold storage facilities by the governments
7. Select the correct answer using the code given below:

(a) 1, 2 and 5 only

(b) 1, 3, 4 and 5 only

(c) 2, 3 and 6 only

(d) 1, 2, 3, 4, 5 and 6

Ans: (c)

Mains:

Q. Given the vulnerability of Indian agriculture to vagaries of nature, discuss the need for crop insurance and bring out the salient features of the Pradhan Mantri Fasal Bima Yojana (PMFBY). **(2016)**

Q. Explain various types of revolutions, took place in Agriculture after Independence in India. How these revolutions have helped in poverty alleviation and food security in India? **(2017)**

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