



# Agricultural Capital Decline: Unveiling Causes and Cures

This editorial is based on "[Agri capex, a black box](#)" which was published in The Hindu Business Line on 21/12/2023. The article discusses the issue of declining Gross capital formation in agriculture.

**For Prelims:** [Micro irrigation](#), [Rashtriya Krishi Vikas Yojana \(RKVY\)](#), [Kisan Credit Card](#), [Interest Subvention Scheme](#), [Warehousing Development and Regulatory Authority](#), [Pradhan Mantri Kisan Sampada Yojana](#), [Agri-Market Infrastructure Fund](#), [Paramparagat Krishi Vikas Yojana](#), [Mission Organic Value Chain Development](#), [Agri Udaan](#), [Green Climate Fund \(GCF\)](#)

**For Mains:** Reduction in Gross Capital Formation in Agriculture, Impact of this Reduction in GCAF, Government Initiatives to Boost GCAF and Way Forward

The state of capital formation in agriculture has been a subject of debate. **Gross capital formation in agriculture (GCFA) has been decelerating** since 2013-14. The GCFA, as a percentage of GDP of agriculture and allied sectors, has come down from 17.5% in the three years ending 2013-14, to 15.7% in the three years ending 2020-21.

## Why is there a Reduction in Gross Capital Formation in Agriculture?

- There is an overall trend of deceleration in capital formation in the economy as a whole, but the rate of deceleration in agriculture is steeper.
  - The **compound annual growth rate (CAGR)** of both GCF and GCFA was 9% during the period 2004-05 to 2013-14.
  - But the **CAGR of the GCFA has dropped sharply to 3% in the period from 2013-14 to 2020-21** while that of GCF has recorded a slightly higher rate of 5%.
- The GCFA has crucial implications for future growth of agriculture and, therefore, it is imperative to understand the possible reasons for this deceleration.

## What are the Reasons behind this Deceleration?

- **Compositional Shift in Public Investment:** There is a suggestion that the deceleration in public investment could be **due to a shift away from major and medium irrigation projects to micro irrigation**.
  - Over 90% of public investment in agriculture is related to irrigation, and a change in focus may have led to a slowdown in overall capital formation.
- **Changes in the RKVY Program:** The [Rashtriya Krishi Vikas Yojana \(RKVY\)](#) played a crucial role in spurring state investments in agriculture.
  - Since 2014, as the **States were meeting 40% of the expenditure of RKVY, this requirement has been relaxed**. This has diluted the incentive structure for States to keep investing in agriculture year after year.

- **Exclusions from Agriculture Sector:** Important expenditures on rural electrification, power supply, rural roads, storage, agricultural research, fertilizer and pesticide industries **are not categorized under agriculture or allied sectors.**
  - This exclusion might **lead to a gap in recognizing the overall contributions** of these sectors to agricultural growth.
- **Reduction in Private Investment:** More than 80% of the investment in agriculture is by the private sector. Terms of trade in agriculture (vis-à-vis non-agriculture, ToT) is an important determinant of private investment in agriculture.
  - ToT reflect the prices received by farmers and the ToT has decelerated substantially in the recent period.
  - This deceleration in ToT may have also dampened the private investment in agriculture.
- Private sector investments, which contribute significantly to agriculture, are influenced by terms of trade (ToT).
  - The deceleration in ToT, reflecting prices received by farmers, may have adversely affected private investment in agriculture.
- **Shift in Agricultural Practices:** A shift in agricultural practices towards more modern and efficient methods, such as micro irrigation, might have influenced the type and scale of capital investments.
- **Economic and Policy Factors:** Broader economic factors, including changes in government policies and agricultural practices, could contribute to the deceleration.
  - For instance, changes in policies related to subsidies, credit availability, or market access could impact investment decisions.
- **Global and Climate Factors:** Global economic conditions, climate change, and other external factors can also impact agriculture and capital formation. For instance, changing weather patterns may affect the viability of certain agricultural investments because climate change impacts agriculture with reduced profitability and higher crop failure risks due to temperature changes, pests, and diseases..

## What could be the Impact of this Reduction in GCAF?

- **Slower Agricultural Growth:** When capital formation declines, the agricultural sector may grow slower. This is because **less capital means less investment in infrastructure**, technology, and modern farming practices, which are important for improving productivity.
  - For example, a study in India found that a 10% increase in public capital formation in agriculture led to a 1.6% increase in agricultural output.
- **Income Inequality:** According to the [World Bank](#), the average income of the poorest 40% of the population in low-income countries was \$1.25 per day in 2018, while the average income of the richest 10% was \$9.61 per day. A slow-growing agricultural sector may exacerbate this inequality.
- **Job Creation Challenges:** Agriculture is a major employer. If the sector grows slower, it may create fewer jobs in farming and related industries. This may increase the unemployment or underemployment rate in rural areas.
- **Impact on Food Security:** According to the FAO, **the world will need to produce 50% more food by 2050 to feed 9.7 billion people.** A slow-growing agricultural sector may hinder this goal and increase the risk of hunger and malnutrition.
- **Reduced Competitiveness:** India's agricultural sector may become less competitive globally if it lacks capital investment.
  - Other countries that invest more in their agriculture may have an edge in terms of efficiency, technology adoption, and export capabilities.
- **Environmental Consequences:** A study by the World Resources Institute (WRI) estimated that **agriculture was responsible for 24% of the global [greenhouse gas emissions in 2010](#)**, and that this share could increase to 30% by 2050 if current trends continue.
  - One of the ways to reduce the environmental footprint of agriculture is to invest in low-carbon and climate-smart technologies and practices in agriculture.
- **Dependence on Monsoons:** A study by the Indian Council for Research on International Economic Relations (ICRIER) found that a **1% deviation from normal rainfall reduced agricultural growth by 0.7% in India.**
  - To reduce the dependence on monsoons, capital investment is needed for developing irrigation systems, weather forecasting, and crop insurance.

## Significance of Agriculture in India

- It provides **employment opportunities to about 54.6%** of the total population.
- It contributes about **17% to the total GDP**.
- It supplies food for the large and growing population of India.
- It provides raw materials for various agro-based and food processing industries.
- It influences the internal and external trade and commerce of the country.
- It helps in capital formation and government revenue generation.

## What are the Government Initiatives to Boost GCAF?

- Enhanced institutional credit to farmers through schemes like [Kisan Credit Card](#), [Interest Subvention Scheme](#), etc.
- Promotion of scientific warehousing infrastructure for increasing shelf life of agricultural produce through schemes like [Gramin Bhandaran Yojana](#), [Warehousing Development and Regulatory Authority](#), etc.
- Setting up of Agri-tech Infrastructure Fund for making farming competitive and profitable through schemes like [Pradhan Mantri Kisan Sampada Yojana](#), [Agri-Market Infrastructure Fund](#), etc.
- Developing commercial organic farming through schemes like [Paramparagat Krishi Vikas Yojana](#), [Mission Organic Value Chain Development](#), etc.
- Creating a start-up ecosystem in agriculture and allied sectors through schemes like [Rashtriya Krishi Vikas Yojana](#), [Agri Udaan](#), etc.

## What More Should be Done to Increase GCF in Agriculture?

- **Increasing public expenditure** on irrigation, research and development, extension services, market infrastructure, etc.
  - These can help improve the productivity and profitability of agriculture and create a conducive environment for private investment.
- **Promoting private sector participation** in agriculture through policy reforms, such as the **Model Agriculture Produce and Livestock Marketing Act**, the **Model Agriculture Produce and Livestock Contract Farming Act**, the **exemption of Farmer Producer Companies from income tax**, etc.
  - These can help create alternative marketing channels, facilitate contract farming, and encourage collective action by farmers.
- **Leveraging the potential of [climate finance](#)** to support the transformation towards climate resilient and low emission agriculture. This can be achieved through three interlinked pathways: **promoting resilient agriculture, facilitating climate informed advisory and risk management services, and reconfiguring food systems**.
  - The [Green Climate Fund \(GCF\)](#) is one of the sources of climate finance that can support developing countries in achieving these goals.

## Conclusion

India faces challenges in agricultural sustainability **due to the slowdown in Gross Capital Formation in Agriculture (GCFA)**. Shifts in public investment and changes in agricultural practices complicate the issue, affecting income distribution, job creation, and global competitiveness. **Collaborative and strategic measures are necessary** for a resilient, competitive, and sustainable future for India's crucial agricultural sector.

### **Drishti Mains Question:**

Discuss the factors contributing to the deceleration in Gross Capital Formation in Agriculture (GCFA) in India and government initiatives aimed at addressing this issue and propose strategic measures to enhance capital formation in the agricultural sector.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### **Prelims:**

**Q1. With reference to the circumstances in Indian agriculture, the concept of “Conservation Agriculture” assumes significance. Which of the following fall under the Conservation Agriculture? (2018)**

1. Avoiding the monoculture practices
2. Adopting minimum tillage.
3. Avoiding the cultivation of plantation crops
4. Using crop residues to cover soil surface
5. Adopting spatial and temporal crop sequencing/crop rotations

**Select the correct answer using the code given below:**

- (a) 1, 3 and 4  
(b) 2, 3, 4 and 5  
(c) 2, 4 and 5  
(d) 1, 2, 3 and 5

**Ans: (c)**

**Q3. 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)**

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### **Mains:**

**Q1. Discuss the various economic and socio-cultural forces that are driving increasing feminization of agriculture in India. (2014)**

**Q2. What are the present challenges before crop diversification? How do emerging technologies provide an opportunity for crop diversification? (2021)**

