



# Sustainability Concerns in India's Agricultural Export Growth

**For Prelims:** [Tea](#), [Sugar](#), [Cropping patterns](#), [National Mission on Sustainable Agriculture](#), [Paramparagat Krishi Vikas Yojana \(PKVY\)](#), [Sub-mission on AgroForestry \(SMAF\)](#), [Rashtriya Krishi Vikas Yojana](#).

**For Mains:** **Challenges Related to Sustainable Agriculture in India**, Government initiatives related to sustainable agriculture.

[Source: TH](#)

## Why in News?

India's surge in agricultural exports, particularly [tea and sugar](#), has significantly contributed to its **economic growth**. However, this rapid increase **raises critical [sustainability concerns](#)** regarding **environmental impact**, resource management, and labour conditions.

## Note:

India is **one of the world's largest agricultural product exporters**, with exports valued at USD 53.1 billion in 2022-2023, up from **USD 8.7 billion in 2004-2005**, a six-fold increase in less than two decades.

- Exports play a significant role in strengthening India's economy, but the rapid surge poses challenges to the sustainability of the production, processing, and distribution systems.

## What does Sustainability in Agriculture Mean?

- **Economic Sustainability:** While exports are economically beneficial, sustainability goes beyond profitability. It involves maintaining **long-term productivity without depleting resources**.
- **Ecological Sustainability:** Protecting **natural ecosystems**, **minimising chemical use**, and **managing water resources** effectively are crucial to ensuring that agricultural systems do not harm the environment.
- **Social Sustainability:** Addressing issues such as [labour rights](#), [fair wages](#), and safe working conditions is essential for creating equitable and sustainable agricultural systems.
- **The Lifecycle Approach:** Sustainability must be considered throughout the entire lifecycle of a commodity, from pre-sowing to [post-harvest stages](#), not just during production.

## How do the Tea and Sugar Industries Impact Sustainability?

## ▪ Tea:

- **Export Growth:** India is the **world's fourth-largest tea exporter**, with exports valued at **USD 793.78 million** in 2022-2023, primarily to destinations like the United Arab Emirates, Russia, Iran, United States, and United Kingdom.
- **Sustainability Concerns in Tea Production:**
  - **Human-Wildlife Conflicts:** **70% of tea plantations are near forests**, resulting in frequent **conflicts with wildlife**, such as **elephants**, causing damage to crops and plantations.
  - **Chemical Use:** The widespread use of synthetic pesticides in tea cultivation, including harmful chemicals like **Dichlorodiphenyltrichloroethane (DDT)** and **Endosulfan**, poses **health risks and increases chemical residue** in the final product.
  - **Labour Issues:** With women constituting over half of tea plantation workers, **low wages, hazardous working conditions**, and inadequate enforcement of labour laws remain significant challenges.
    - The **Plantations Labour Act, 1951**, mandates worker safety, but its provisions are rarely fully enforced.

## ▪ Sugar:

- **Export Growth:** India, the **world's second-largest sugar producer**, accounts for about **20% of global production**.
- Sugar exports grew from USD 1,177 million in FY 2013-14 to USD 4,600 million in FY 2021-22, marking a **64.90% increase. It exports to 121 countries.**
- **Economic Impact:** Employs about **50 million farmers and an additional 500,000 workers in sugar factories**. The industry has an annual turnover of approximately Rs 1 lakh crore, according to **NITI Aayog (National Institution for Transforming India)**.
- **Sustainability Concerns in Sugar Industry:**
  - **Water Management:** Sugarcane, requiring 1,500 to 2,000 litres of water per kg of sugar, **strains India's water resources**. Despite covering 25% of the cropped area, sugarcane and **paddy** consume 60% of irrigation water, limiting availability for other crops.
  - **Impact on Biodiversity:** Expansive sugarcane cultivation in Karnataka and Maharashtra has **replaced grasslands and savannahs, causing biodiversity loss** and disrupting wildlife habitats.
  - **Labour and Working Conditions:** Sugar industry workers, often trapped in **debt cycles**, face long working hours in harsh conditions. Rising temperatures further exacerbate their physical and mental well-being.

## What Needs to Be Done to Address Sustainability Challenges?

- **Sustainability in Tea Industry:** Use **climate-resilient tea varieties** and implement agroforestry practices to mitigate climate risks.
  - Ensure farmers receive a **fair share of profits through direct market access and premiums** for certified products.
  - Improved practices **to manage human-wildlife interactions** around plantations. And stricter monitoring of maximum residue limits for safer tea production is needed.
  - Integrate sustainable farming techniques such as precision agriculture, **agroforestry**, and **integrated pest management (IPM)** to improve yield and minimise environmental harm.
- **Sustainability in Sugar Industry:** Transitioning to sustainable irrigation methods like **drip irrigation to conserve water**.
  - Adopting drip irrigation can **reduce water usage by 40-50%, making cultivation more resource-efficient**.
  - Using **sugarcane by-products like bagasse (for bioenergy), vinasse (as fertilizer), and cane trash (for biomass or animal feed)** reduces waste and improves resource efficiency, thereby promoting a **circular economy**.
  - Sugar mills can transition to **biorefineries**, where waste products are used for **energy generation**, making the industry more self-sufficient and reducing reliance on **non-renewable energy sources**.
  - Ensuring better working conditions, fair wages, access to healthcare, education, and social

safety nets for farm labourers and mill workers.

## What can be Done to Achieve Sustainable Agricultural Economic Growth?

- **Encourage Sustainable Crop Selection:** Promote resilient crops like [millets](#), a sustainable choice for boosting domestic use and exports, thriving in harsh conditions, enhancing soil health, and ensuring nutritional security with minimal inputs.
  - India's millet exports grew from **USD 26.97 million in 2020-21 to USD 75.45 million in 2022-23**, underscoring their value as an eco-friendly crop that supports economic growth.
- **Dual Demand Base Management:** India's agricultural sector supports a large domestic market and a growing export market, driving economic growth. Balance exports with domestic **needs to avoid stressing natural resources or over-reliance on specific commodities.**
- **Strengthen Supply Chain Dependencies:** Address supply chain dependencies impacting sustainability. Foster collaboration and transparency to integrate sustainability goals across the chain.
- **Environmental Safeguards:** Emphasise environmental conservation to maintain sustainable production levels without exhausting natural resources.
  - Implement eco-friendly practices such as **reduced water usage**, [organic farming methods](#), and **soil health preservation.**

### **Drishti Mains Question:**

How can India achieve sustainable economic growth in agriculture, considering both the need for export-driven growth and the necessity to conserve natural resources?

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### **Prelims:**

**Q. In the context of India, which of the following is/are considered to be practice(s) of eco-friendly agriculture? (2020)**

1. Crop diversification
2. Legume intensification
3. Tensiometer use
4. Vertical farming

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

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

**Ans: (a)**

### **Mains:**

**Q. India is well endowed with fresh water resources. Critically examine why it still suffers from water scarcity. (2015)**

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