



ISSUES IN SUGARCANE CULTIVATION IN INDIA - GS III MAINS

Q. The sugar industry holds vital prospects in uplifting the country's economy by providing employment and contributing to rural development. Examine the issues associated with the sugarcane cultivation in India. (15 marks, 250 words)

News: *Sugarcane no longer a sweet option for farmers*

What's in the news?

- In 2021-2022, India surpassed Brazil to become the largest sugar producer in the world, producing 359 lakh tonnes – an all-time high.
- But this isn't sweet news: with the resources that go into making all that sugar dwindling at an alarming rate, India's sugar market might slip into its biggest crisis ever in the coming decades.

Key takeaways:

- Normally, 100 kg of sugar is produced from one tonne of sugarcane, which consumes around 2 lakh litres of groundwater for irrigation alone.

Issues in Sugarcane Cultivation:

1. Loss of Groundwater:

- Since sugarcane is a water-intensive crop, over-cultivation can impact groundwater negatively. It leads to water scarcity in regions where water availability is already limited. E.g., Maharashtra.

2. Price Fluctuations:

- The revenue of both sugar manufacturers and farmers may be impacted by excessive sugar production's ability to cause price changes in the commodity.
- The market's ability to make money is harmed when there is an excess of sugar available, as prices tend to fall.

3. Soil Degradation:

- Continuous sugarcane monoculture reduces soil fertility and causes soil degradation in sugarcane fields.
- Without suitable crop rotation or soil management techniques, continuous sugarcane production has the potential to deplete soil nutrients, degrade soil fertility, and raise the danger of soil erosion.

4. Food Security:

- Excessive focus on sugarcane cultivation leads to diversion of resources from other crops like food crops, and cereals like millet.
- This can negatively impact crop diversity and food security.



5. Low Yield of Sugarcane:

- India's yield per hectare is very low when contrasted with a portion of the significant sugarcane-delivering nations of the world.
- For instance, India's yield is just 64.5 tons/hectare when contrasted with 90 tons in Java and 121 tons in Hawaii.

6. Short Smashing Season:

- Sugar creation is an occasional industry with a short smashing season-changing regularly from 4 to 7 months in a year.
- It causes monetary misfortune and occasional work for labourers and the absence of full use of sugar plants.

7. Infrastructure Issues:

- Sugarcane is a weight-loss crop which needs to be crushed at the earliest from time of harvest.
- The poor connectivity, lack of transportation facilities and distant sugar-mills cause huge losses to farmers due to decline in quality of sugarcanes.

8. Lack of Mechanization:

- The sugar industry relies heavily on manual labour, which contributes to higher production costs and labour-related challenges.
- A lack of modernization and mechanization hampers efficiency and competitiveness.

9. Subsidies and Export Challenges:

- Global subsidies provided to sugar-producing nations can distort international trade and affect the competitiveness of Indian sugar in the global market.
- Trade barriers and regulations in importing countries also impact India's sugar exports.

10. Seasonal Nature and Rural Distress:

- The seasonal nature of sugarcane cultivation and sugar production can lead to uneven income distribution for farmers and seasonal labourers, contributing to rural distress.

WAY FORWARD:

1. Correcting Incentives:

- Assess and modify existing subsidy schemes that favour sugarcane over other crops. Introduce fair and comprehensive subsidies for a variety of crops to encourage diversification, even distribution of cultivation, and equitable income for farmers.

2. Promoting Sustainable Practices:

- Encourage environmentally responsible sugarcane cultivation practices, such as drip irrigation.
- Drip irrigation reduces sugarcane water consumption by up to 70% compared to flood irrigation.

3. Investing in Water-saving Systems:

- Implement water-saving and management systems like rainwater harvesting, wastewater treatment, and canal irrigation networks to reduce stress on groundwater reserves and utilize alternative water sources for irrigation.

4. Enhancing Groundwater Research:

- Invest in groundwater research to better understand its availability, distribution, and sustainable management.



- Improved data and mapping can inform better decision-making and resource allocation.

5. Prioritizing Sustainability:

- As India advances in the agricultural sector, prioritize sustainability by integrating eco-friendly practices, promoting crop diversification, and minimizing the strain on natural resources.

6. Ethanol Demand and Blending:

- The increasing focus on cleaner fuels and reducing greenhouse gas emissions has led to a growing demand for ethanol.
- The Indian government's emphasis on ethanol blending with petrol creates a significant market for sugarcane-based ethanol.
- This diversification can reduce sugar surpluses and provide an additional revenue stream for sugar mills.

7. Value-Added Products:

- The industry's prospects can be improved by diversifying product offerings.
- The production of value-added products such as specialty sugars, organic jaggery, and khandsari can cater to niche markets and fetch higher prices.

8. Export Opportunities:

- Despite global trade challenges, India remains a significant sugar exporter.
- Strategic trade agreements and adherence to quality standards can open up new export markets, ensuring a stable demand for Indian sugar.

9. Research and Innovation:

- Investments in research and development can lead to improved sugarcane varieties, better production techniques, and increased yields.
- These innovations can enhance the industry's competitiveness and sustainability.

Thus, the sugar industry holds vital prospects in uplifting the country's economy by providing employment and contributing to rural development. Hence, embracing innovation, sustainable practices, and strategic market positioning can enable the industry to navigate challenges and leverage opportunities for long-term growth and sustainability.