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SUGAR PRODUCTION IN INDIA

SOURCE: [TH](#)

GS 3

WHY IN NEWS : How do sugarcane farmers suffer from the consequences of excessive sugar production? What steps can be implemented to safeguard India's agricultural sector from collapsing amid the surplus of sugar?

In the 2021-2022 season, India achieved a remarkable milestone by surpassing Brazil and claiming

the title of the world's largest sugar producer, setting a new record with a production of 359 lakh tonnes.

PRELIMS SPECIFIC

Temperature: Between 21-27°C with hot and humid climate.

Rainfall: Around 75-100 cm.

Soil Type: Deep rich loamy soil.

Top Sugarcane Producing States: Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Bihar. It can be grown on all varieties of soils ranging from sandy loam to clay loam given these soils should be well drained.

REASONS FOR EXCESS SUGAR PRODUCTION IN INDIA

Fair and Remunerative prices : The Central government provides the Fair and Remunerative Price (FRP) scheme, which enforces a minimum price that sugar mills must pay to sugarcane farmers, ensuring that farmers consistently receive equitable profits for their produce.

Subsidies: State governments also provide substantial subsidies to encourage and motivate sugarcane cultivation.

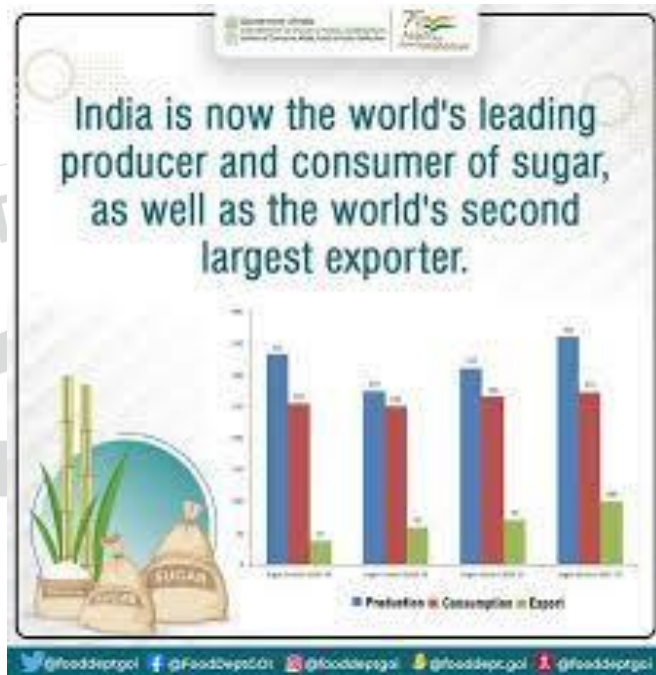
Location : The tropical climate in South India is conducive to higher sucrose content in sugarcane, resulting in increased yields per unit area compared to the northern regions of the country.

Improved Farming Practices: Adoption of modern agricultural techniques and technologies has resulted in higher productivity and output.

Long Harvesting Season: Sugarcane has a relatively long harvesting season, allowing for multiple crops and contributing to excess production.

Challenges faced by sugar industry in India

- **Cyclical nature and price fluctuations:** The sugar industry in India operates in a cyclical nature, with periods of surplus and deficit production. This leads to price fluctuations, impacting the profitability of sugar mills.
- **Sugarcane availability:** The availability of sufficient and good quality sugarcane is a significant challenge for the Indian sugar industry. Factors such as fluctuations in rainfall, inadequate irrigation facilities, and pest attacks can affect the yield and quality of sugarcane.
- **Lack of modernization and low productivity:** Many sugar mills in India are outdated and operate with old machinery and technology. This results in low productivity and efficiency.
- **Energy and environmental concerns:** Traditional sugar mills generate large amounts of bagasse (sugarcane waste) during the sugar production process. The industry faces challenges in effectively utilizing this biomass for energy generation and managing the waste.
- **Increasing competition:** The Indian sugar industry faces intense competition from other countries in the global market. Factors such as lower production costs, subsidies, and preferential trade agreements in other countries pose challenges for Indian sugar exporters.

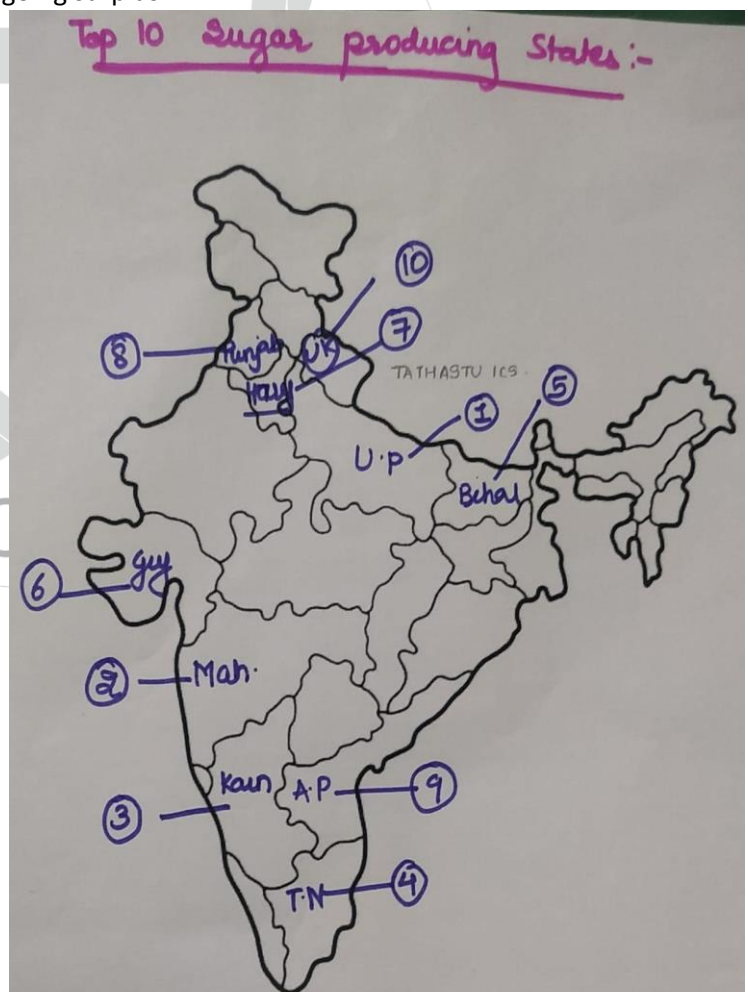


Impact of Excessive Sugarcane Cultivation on Groundwater

- **Depletion of Groundwater Levels:** Excessive irrigation for sugarcane leads to increased groundwater extraction, causing a decline in water levels.
- **Aquifer Overexploitation:** Intensive sugarcane farming can overexploit underground aquifers, reducing their recharge rate and long-term sustainability.
- **Increased Energy Consumption:** The need for pumping excessive groundwater requires higher energy consumption, leading to increased carbon emissions.
- **Deterioration of Water Quality:** Over-irrigation can result in waterlogging and salinization, degrading the quality of groundwater and making it unsuitable for other uses.
- **Impact on Ecosystems:** Depleting groundwater levels can harm local ecosystems and wetlands that depend on a balanced water table.
- **Competition for Water Resources:** Excessive sugarcane cultivation competes with other crops and water-dependent activities, leading to conflicts over water resources.

WAY AHEAD

1. A more viable and environmentally friendly approach involves evaluating and rectifying incentives that disproportionately favor sugarcane cultivation over other crops, which has been a significant contributor to the ongoing surplus.
2. Implementing equitable and all-encompassing subsidy programs for a diverse range of crops can encourage farmers to diversify their agricultural practices and promote more even distribution of cultivation.
3. Having a broader selection of lucrative and resource-efficient crops can reduce the burden on critical natural resources.
4. To address the issue effectively in the long term, it is imperative to combine this approach with environmentally conscious sugarcane cultivation practices that give precedence to groundwater, such as adopting methods like drip irrigation.
5. India should prioritize investments in comprehensive water-saving and management systems.
6. Collective endeavors to embrace eco-friendly practices like rainwater harvesting, wastewater treatment, and the establishment of canal irrigation networks can significantly



reduce pressure on groundwater reserves by making alternative water sources accessible for irrigation.

VALUE ADDITION

- Sugarcane necessitates 3,000 mm of rainfall, but in the leading sugarcane-producing states, the rainfall received is between 1,000-1,200 mm. As a result, these states heavily rely on groundwater sourced from confined aquifers, which is a finite and restricted resource.
- According to a 2022 CGWB report, the cultivation of 100 kg of sugar requires two lakh liters of groundwater for irrigation. This has become a cause of worry as the mentioned states are Already susceptible to droughts and experience a scarcity of groundwater resources.



PM launches revamp of 508 Amrit Bharat stations

GS 3 ECONOMY

SOURCE: [TH](#)

WHY IN NEWS: On Sunday, Prime Minister Narendra Modi inaugurated the virtual ceremony to commence the redevelopment of 508 railway stations throughout the country. The ambitious project is estimated to cost over ₹24,470 crore.

ADVANTAGES OF REVAMPED AMRIT BHARAT STATIONS

- **Elegant Station Building:** A new station building will redefine Station's architectural landscape, reflecting a modern and inviting design.
- **Focus on Swachh Bharat:** Keeping in step with the Swachh Bharat mission, the station will introduce a modular Sewage Treatment Plant, ensuring efficient sewage treatment and a cleaner environment.
- **Aesthetic Platforms:** Platforms will undergo a resurfacing and aesthetic uplift, with the introduction of captivating landscaping on platform walls.
- **Passenger Amenities:** Travelers will enjoy improved amenities, including better seating, drinking water facilities, and enhanced lighting and ventilation on platforms and within the station building.
- **Enhanced Connectivity:** A revamped foot over bridge, supplemented by additional lift and escalator facilities, will ease passenger movement and accessibility.
- **Guidance and Information:** Modernized train indication boards and passenger-friendly signages will facilitate seamless navigation within the station premises.
- **Functional Upgrades:** The existing booking office and other administrative buildings will undergo a thorough renovation, aligning them with the scheme's overarching vision.
- **Inclusivity:** All improvements will be designed to be divyangjan (specially-abled) friendly, ensuring equal access and convenience for all.

PRELIMS SPECIFIC :

BHARAT GAURAV SCHEME :

In 2021, the Ministry of Railways introduced the 'Bharat Gaurav Trains' policy, featuring theme-based tourism circuit trains to promote India's cultural heritage and historical sites. These trains now have a dedicated tourism segment, in addition to the passenger and cargo segments. The plan's distinctive feature is its reliance on a revenue-generating mechanism, eliminating the need for allocated funds.

PRASAD SCHEME:

The Ministry of Tourism initiated the 'National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive' (PRASAD) in the year 2014-15, aiming to achieve comprehensive development of selected pilgrimage destinations.

WHAT IS AMRIT BHARAT SCHEME

- **Overview:** The scheme has a forward-looking perspective, focusing on the ongoing and sustainable development of railway stations.
- **Objective:** The scheme's primary objective is to create Master Plans for railway stations and execute them in phases, aiming to improve the station facilities significantly.
- **Noteworthy Elements for Targeted Stations:** The proposed stations under this scheme will incorporate various modern features such as roof top plazas, extended platforms, ballastless tracks, and cutting-edge 5G connectivity.
- **Planned Additional Facilities under this Scheme:**

- **Enhanced Access:** Improved access will be ensured by widening roads, strategically placed signages, dedicated pedestrian pathways, and well-designed parking areas.
- **Elevated Platforms:** All categories of stations will have elevated platforms, ranging from 760 mm to 840 mm in height.
- **Cafeteria/Retail Services:** Provision for quality cafeterias and retail facilities will be made to enhance passenger amenities.
- **Executive Lounges and Meeting Spaces:** The scheme will create space for Executive Lounges and areas suitable for small business meetings.
- **Efficient Drainage:** Adequate measures will be taken to ensure proper drainage of platform areas.
- **Ceremonial Flags:** Appropriate spaces within the station will be designated for ceremonial flags.
- **Special Facilities for the Disabled:** Special amenities will be provided to cater to the needs of disabled passengers.
- **Sustainability and Environmental Considerations:** The scheme will gradually transition towards sustainable and eco-friendly solutions, depending on funding availability and the condition of existing assets.



NEED OF RAILWAY REFORMS

- **ECONOMIC GROWTH PERSPECTIVE:** To meet the needs of a growing \$5 trillion economy, crucial reforms in the Railways sector are necessary, encompassing administrative and engineering improvements to enhance service, efficiency, cost-effectiveness, and environmental impact, facilitating the nation's comprehensive development.
- **Essential administrative changes** : include significantly simplifying the management organization. Implementing the Debroy committee's suggestion to segregate core functions, such as rail operations, from non-core activities like medical services, schools, and protection force, is a logical and practical step forward.
- **Safety Concerns:** Rail accidents in India have witnessed a significant increase. As per the data provided by the **National Crime Record Bureau (NCRB)**, there was a **38 per cent rise in accidents in 2021**. The **Kakodkar committee recommended the allocation of Rs 1 lakh crore over five years** and the establishment of a statutory railway safety authority to address these issues.



CONCLUSION

In conclusion, the Amrit Bharat Station scheme aims to progressively develop railway stations with a forward-looking strategy. The scheme involves creating Master Plans and implementing them in stages to enhance station facilities, including improved access, waiting areas, toilets, lift/escalators, cleanliness, free Wi-Fi, local product kiosks through initiatives like 'One Station One Product,' enhanced passenger information systems, Executive Lounges, designated spaces for business meetings, landscaping, and other necessary amenities, tailored to the specific requirements of each station.

FARM REFORMS

GS 3

SOURCE: [IE](#)

WHY IN NEWS: The government, which initially aimed to liberalize agricultural trade through the farm laws, has now returned to imposing restrictions and regulations.

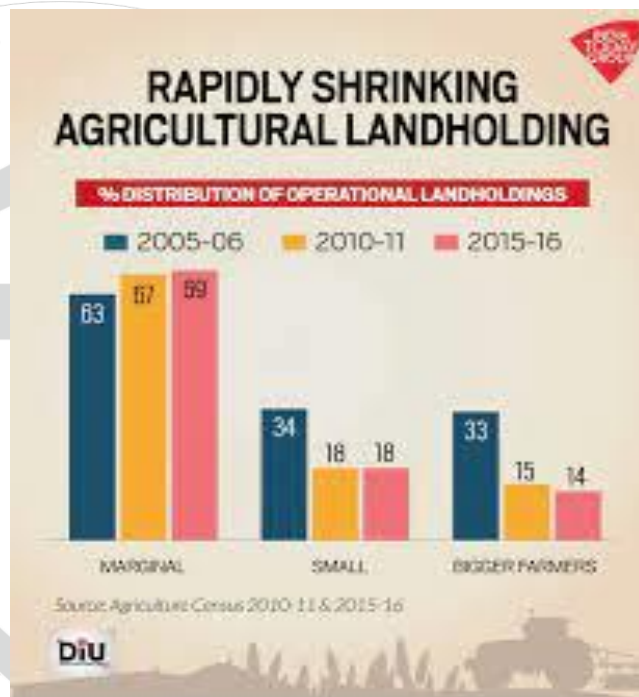
ISSUES FACED BY AGRICULTURE

LOW CROP YIELDS: India's crop yields have improved in recent years, with record food grain production of around 296.65 million tonnes in 2019-20. The country stands as the world's largest producer of pulses and the third-largest producer of cereals. Despite these achievements, the yield of food grains still falls behind that of other agrarian economies.

DEPENDENCE ON MONSOON: Relying on the monsoon for agricultural water supply poses a challenge to productivity. Moreover, variations in climate and unpredictable weather events like cyclones and droughts can significantly affect crop yields.

LOW SHARE IN GLOBAL MARKETS : While India has emerged as an agri-exporter nation with regards to crops such as rice, spices, tea, sugar etc., the share of India's agricultural exports in world trade remains low (2.15 percent in 2018), according to the ministry of agriculture's annual report 2019-20.

INDEBTNESS AND FARMER SUICIDES: As per the Agricultural Statistics report of 2019, which relied on the Assessment Survey of Agricultural Households conducted between January to December 2013, farmer suicides and indebtedness remain critical issues.



HISTORY OF FARM REFORM LAWS IN INDIA

Zamindari Abolition: After India gained independence in 1947, several states initiated land reforms to abolish the zamindari system, which was a feudal land tenure system. The goal was to provide land rights to tenants and improve the socio-economic conditions of farmers.

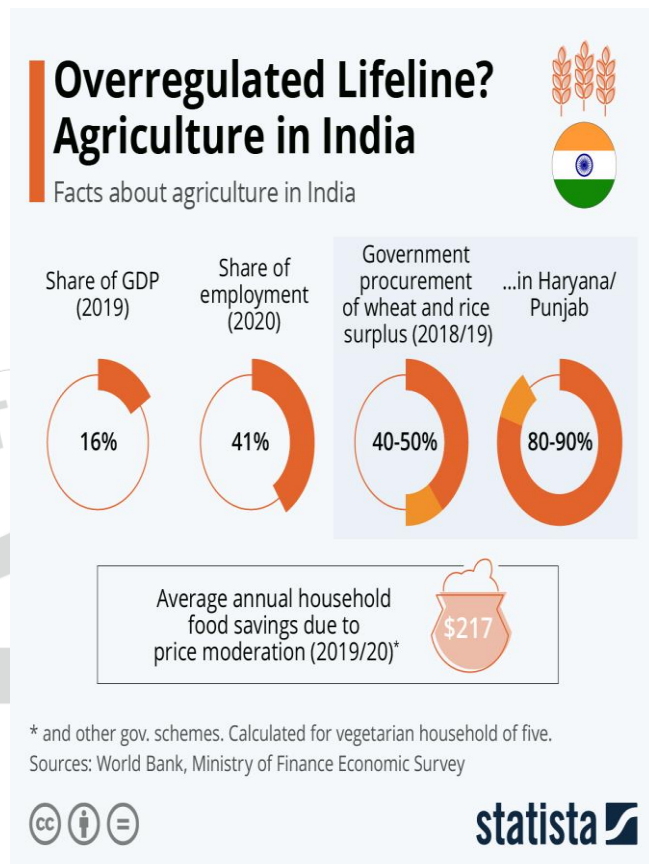
Green Revolution: In the 1960s and 1970s, the Green Revolution was introduced to increase agricultural productivity through the adoption of high-yielding crop varieties, improved irrigation, and increased use of fertilizers and pesticides.

Agricultural Price Support and Procurement: The government implemented Minimum Support Prices (MSP) to provide farmers with a guaranteed price for their crops, mainly wheat and rice. Additionally, the government established procurement agencies like Food Corporation of India (FCI) to purchase grains from farmers at MSP.

Agricultural Produce Market Committees (APMC) Acts: The APMC Acts were introduced in various states to regulate the functioning of agricultural markets, known as mandis. These acts aimed to protect farmers from exploitation by traders and intermediaries.

Economic Liberalization: In the 1990s, India embarked on economic liberalization policies, which gradually opened up the agricultural sector to private investment and reduced government intervention.

Recent Farm Reforms: In September 2020, the Indian government introduced three controversial farm bills aiming to liberalize agricultural trade, allow farmers to sell outside APMC mandis, enter contracts with agribusiness firms, and reduce government control on essential commodities.



VARIOUS COMMITTEE RECOMMENDATIONS

The National Commission on Farmers (NCF) : The NCF made a number of recommendations, including the need for increased investment in agriculture, the promotion of sustainable agriculture, and the improvement of market access for farmers.

The Shanta Kumar Committee: The Shanta Kumar Committee was set up in 2005 by the Government of India to look into the food sector reforms. The committee made a number of

recommendations, including the need to deregulate the food sector, the need to improve the efficiency of the public distribution system, and the need to promote exports of agricultural products.

The Ashok Dalwai Committee: The Ashok Dalwai Committee was set up in 2016 by the Government of India to look into the doubling of farmers' income. The committee made a number of recommendations, including the need to increase investment in agriculture, the need to promote agricultural exports, and the need to improve the efficiency of agricultural markets.

GOVERNMENT INITIATIVES IN THE SECTOR

National e-Governance Plan in Agriculture (NeGPA)

The program was initially introduced in 2010-11 in 7 pilot States as a Centrally Sponsored Scheme with the objective of achieving rapid development in India by leveraging Information & Communication Technology (ICT) to provide farmers with timely access to agriculture-related information.

National Agriculture Market (eNAM)

The eNAM is an all-encompassing electronic trading platform that connects the current APMC mandis across India, aiming to establish a cohesive national market for agricultural commodities.

The National Mission for Sustainable Agriculture (NMSA)

IT has been designed to improve agricultural productivity, particularly in rainfed regions, by emphasizing integrated farming, efficient water usage, soil health management, and the harmonization of resource conservation efforts.