



Sugarcane Production in India

For Prelims: [FRP](#), [SAP](#), [CACP](#), [Rangarajan Committee](#), [WTO](#), [Sugarcane Industry](#), [EBP Program](#).

For Mains: Sugarcane Production in India, its Potential and Challenges.

Why in News?

Recently, Madras High court in its judgment observed that [Fair and Remunerative Price \(FRP\)](#) of **Sugarcane** is not the fair market price and that Marginal farmers can survive only if the State governments paid them the much higher **State Advised Price (SAP)**.

How are the Prices of Sugarcane Determined?

- The Prices of Sugarcane are Determined by the **Central Government and the State Governments**.
- **Central Government:** Fair and Remunerative Price (FRP)
 - The Central Government announces FRP which are determined on the recommendation of the [Commission for Agricultural Costs and Prices \(CACP\)](#) and announced by the Cabinet Committee on Economic Affairs (CCEA).
 - CCEA is chaired by the Prime Minister of India.
 - The FRP is based on the [Rangarajan Committee](#) report on reorganising the [sugarcane industry](#).
- **State Government:** State Advised Prices (SAP)
 - The SAP is announced by the Governments of key sugarcane producing states.
 - SAP is generally higher than FRP.
 - The price is calculated by the experts, who calculate the **entire economics of the crop by taking input cost** and then suggest to the government, which may agree or not.

What are the Advantages of Increasing Sugar Production?

- Sugar production generates several by-products, such as molasses, bagasse, and press mud, which can be used for the production of **other products such as ethanol, paper, and [Bio-Fertilizers](#)**.
- Sugar mills can divert excess sugarcane to ethanol, which is blended with petrol, which not only serves as a **green fuel but also saves foreign exchange on account of crude oil import**.
 - The government of India has fixed a target of 10% blending of fuel grade ethanol with petrol by 2022 & 20% blending by 2025.
 - India achieved **its target of an average of 10% blending across the country** five months ahead of the targeted timelines of November 2022.
- Cultivating **sugarcane provides farmers with an opportunity to diversify** their agricultural activities and increase their income.
- Sugarcane cultivation can be integrated with other crops such as vegetables, fruits, and spices to promote crop diversification. This can lead to better **soil health, reduced pest and disease**

pressure, and improved crop yields.

What are the Challenges Associated with Growing Sugarcane?

- **Longer Duration to Harvest:**
 - Sugarcane takes a long time to grow and be ready for harvest (around 10 to 12 months). Growing sugarcane is not an easy task as it requires the **farmer to plant and harvest two more crops before they can finally harvest sugarcane.**
 - This means that growing sugarcane demands a lot of hard work over a period of about three years.
- **Higher Investment:**
 - Growing sugarcane requires farmers to invest **more money because they have to prepare the fields properly** before planting. This involves **tilling the soil to a greater depth**, followed by harrowing and leveling it to make it suitable for sugarcane.
 - Moreover, buying sugarcane **seedlings is expensive, and before planting, farmers need to add manure and fertilizers** to the soil, which also comes at a high cost.
- **High Labor Cost:**
 - The labour for cutting sugarcane costs huge and **if the cutting season is dry without rains**, it gravely affects the **total weight of the cane** and if it rains, there will be **slush on the path resulting in lorries/trucks** not being able to come near the field.
 - Farmers have to spend a lot to transport the sugarcane from their fields to the main road by employing labour.
- **Unviability Sugar Exports:**
 - India is finding it difficult to export sugar **as the cost of producing it is higher compared to the international market price**, mainly due to the high cost of sugarcane.
 - To help bridge this gap, the government has been providing export subsidies, but other countries **have raised objections with the [World Trade Organization \(WTO\)](#).**
 - Although India is currently allowed to continue with these subsidies until December 2023, there is **uncertainty about what will happen after that.**
- **Problem with India's Ethanol Programme:**
 - Blending ethanol with petrol to use as auto fuel was first announced in 2003, but this initiative **has not been very successful due to several challenges.** One of the key challenges is the **poor pricing of ethanol supplied for blending.**
 - Since the price of ethanol is often higher than the price of petrol, **blending ethanol with petrol becomes less economically viable.** This can discourage ethanol producers from supplying ethanol for blending.

What is the Status of India's Sugarcane Sector?

- **About:**
 - Sugar industry is an important agro-based industry that impacts the rural livelihood of about 50 million sugarcane farmers and around 5 lakh workers directly employed in sugar mills.
 - The sugar industry is the second largest agro-based industry in India after cotton.
- **Geographical Conditions for the Growth of Sugar:**
 - **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:** Maharashtra > Uttar Pradesh > Karnataka
- **Status of Sugarcane Sector:**
 - India is the world's top **Producer, User, and Second-largest Exporter** of sugar.
 - According to the **Indian Sugar Mills Association (ISMA)**, the sugar production of India rose by 3.69% to 12.07 million tonnes during the October-December quarter of 2022.
 - In the same period last year, it stood at 11.64 million tonnes.
 - Total sugar production, after diversion for ethanol manufacturing, has increased to **193.5 lakh tonnes till January 2023** from 187.1 lakh tonnes in the year-ago period.
- **Schemes:**
 - Scheme for Extending Financial Assistance to Sugar Undertakings (SEFASU)
 - [National Policy on Biofuels](#)

- [Ethanol Blending with Petrol \(EBP\) Programme](#)

Way Forward

- Sugar mills should not only be dependent on making and selling sugar but make other products too.
- To make sugar mills profitable which can pay remunerative price to the farmers, and earn profit to the mills, it is very important to **produce power by setting up cogeneration plants, ethanol, which is a renewal biofuel**, by setting up its plants in mills which have raw material available for it.
- The [Rangarajan Committee](#) has suggested a Revenue Sharing Formula to fix cane price factoring in the price of sugar and other by-products.
 - Further, in case the cane price, arrived at by the formula, drops below what the government considers as a reasonable payment, it can bridge the gap from a dedicated fund created for the purpose and a cess can be levied to build up the fund.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q.1 The Fair and Remunerative Price (FRP) of sugarcane is approved by the (2015)

- (a) Cabinet Committee on Economic Affairs
- (b) Commission for Agricultural Costs and Prices
- (c) Directorate of Marketing and Inspection, Ministry of Agriculture
- (d) Agricultural Produce Market Committee

Ans: (a)

Q.2 With reference to the current trends in the cultivation of sugarcane in India, consider the following statements: (2020)

1. A substantial saving in seed material is made when 'bud chip settlings' are raised in a nurse, and transplanted in the main field.
2. When direct planting of setts is done, the germination percentage is better with single budded setts as compared to setts with many buds.
3. If bad weather conditions prevail when setts are directly planted, single-budded setts have better survival as compared to large setts
4. Sugarcane can be cultivated using settlings prepared from tissue culture.

Which of the statements given above is/are correct?

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

Ans: (c)

Exp:

- **Tissue Culture Technology**
 - Tissue culture is a technique in which fragments of plants are cultured and grown in a laboratory.
 - It provides a new way to rapidly produce and supply disease-free seed cane of existing commercial varieties.
 - It uses meristem to clone the mother plant.
 - It also preserves genetic identity.

◦ The tissue culture technique, owing to its cumbersome outfit and physical limitation, is turning out to be uneconomical.

▪ **Bud Chip Technology**

◦ As a viable alternative of tissue culture, it reduces the mass and enables quick multiplication of seeds.

◦ This method has proved to be more economical and convenient than the traditional method of planting two to three bud setts.

◦ The returns are relatively better, with substantial savings on the seed material used for planting. Hence, statement 1 is correct.

▪ The researchers have found that the setts having two buds are giving germination about 65 to 70% with better yield. Hence, statement 2 is not correct.

▪ Large setts have better survival under bad weather but single budded setts also give 70% germination if protected with chemical treatment. Hence, statement 3 is not correct.

▪ Tissue culture can be used to germinate and grow sugarcane settlings which can be transplanted later in the field. Hence, statement 4 is correct. Therefore, option (c) is the correct answer.

[Source: TH](#)

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