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## INDUSTRY OUTLOOK

### SUGAR INDUSTRY OF INDIA: LOOKING FOR OPPORTUNITIES BEYOND STABILITY

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#### 1. Introduction

Sugar industry is the second largest agro-based industry in India after cotton and it impacts the livelihood of more than 5 crore farmers and their dependents. Also, India is the largest consumer and the second largest producer of sugar in the world next to Brazil (see Table 1). The Food and Agriculture Organization (FAO) of the United Nations states that 124 countries produce sugar<sup>1</sup>. However, if alternative sweeteners, such as, Khandsari (sort of raw sugar) and Gur (jaggery) are included in the fold, India would be the most significant overall sugar producer.

India produces about 35.5 crore tonnes of sugarcane annually in average terms out of which 3 crore tonnes of sugar as the final product. The *Economic Survey 2021-22* reported that the domestic consumption of sugar in 2020-21 is estimated to be around 2.6 crore tonnes.<sup>2</sup>



Over the years, the sugar productivity in India has significantly increased and the large improvement can be seen in sub-tropical regions due to adoption of improved high yielding varieties and better agronomic practices.

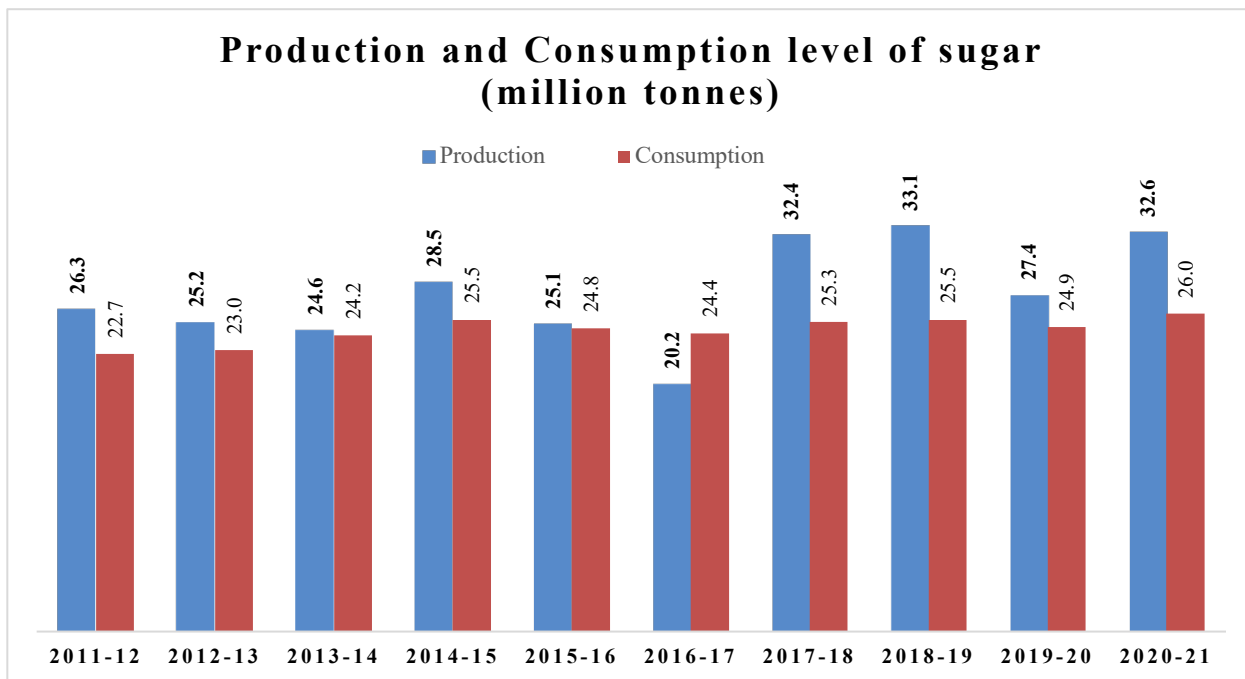
**Table 1: Top Five Sugar Producer in the World**

Producers	Million Tonnes	Share (%)
<b>Brazil</b>	32.8	18.2
<b>India</b>	32.5	18.1
<b>European Union</b>	18.6	10.4
<b>Thailand</b>	12.5	7
<b>China</b>	10.5	5.8
<b>Total Production</b>	179.7	100

Source: Price Policy for Sugarcane, CACP, Department of Agriculture, Cooperation and Farmer Welfare, Ministry of Agriculture and Farmers Welfare, Government of India

In the last one decade, the production of sugar has increased to 32.6 million tonnes (mt) in 2020-21 from 26.3 mt in 2011-12. With the growing population, the consumption of sugar also increased to 26 mt in 2020-21 from 22.7 mt in 2011-12 (See Chart 1).

**Chart 1: Production and Consumption level of sugar (million tonnes)**



Source: Economic Survey 2021-22, p241

India has become sugar surplus nation in the last one decade, except 2016-17 when the production of sugar outstripped the consumption level. The sufficient availability of

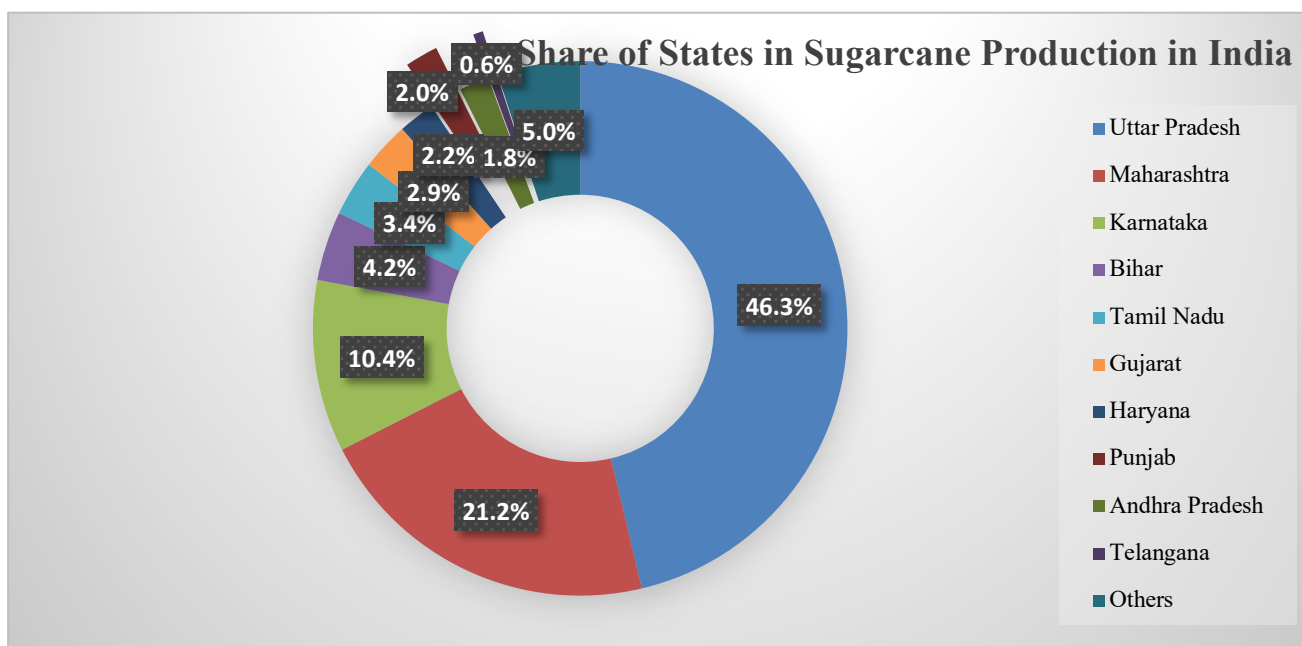
sugar for domestic requirement facilitates the stability of sugar price in the market at reasonable levels.

As per the revised estimates, the production of sugar in the current sugar season 2021-22 is estimated to be about 385 Lakh Metric Tonne (LMT), which is 13 per cent higher than the previous sugar season and there was a carryover stock of 85 LMT at the beginning of same sugar season. Out of the total production, the domestic consumption of sugar for the same sugar season was 278 LMT and 35 LMT of sugar was diverted to ethanol. Even after likely export of about 95 LMT, the closing stock for the current sugar season at the end of September 2022 is likely to be 62 LMT.

### 1.1 States' Share in Total Production of Sugar

Uttar Pradesh, Maharashtra, and Karnataka account for nearly 80 per cent of the total sugar production in the country<sup>3</sup>. Uttar Pradesh is the largest sugarcane producing state sharing 46.3 per cent to the total production followed by Maharashtra and Karnataka sharing respectively 21.2 per cent and 10.4 per cent in TE2020-21 (see Chart 2). Uttar Pradesh has witnessed an increase in share in national production of about 8.3 percentage point in TE2020-21 since it was 38 per cent in TE2001-02 while Maharashtra increased 4.6 percentage points in its share in national production.

**Chart 2: Share of Major States in total Sugar Production in India**



Source: CACP

Also, Uttar Pradesh surpassed Maharashtra in 2016-17 to become largest producer of sugar in the country. In 2019-20, Uttar Pradesh accounted for 39.6 per cent of the total national production of sugar and the rise in the national share by Uttar Pradesh is driven by significant improvement in sugar recovery in the state. In the last two decades, Tamil Nadu’s share in national production of sugar has witnessed a sharp fall.

## 1.2 Number of Sugar Factories in India

The Annual Report 2021-22 of the Department of Food & Public Distribution, Government of India says that India has 506 operational sugar factories including private sector units as well as co-operative sector units as on February 4, 2022, with sufficient crushing capacity to produce around 350 lakh MT (Million Tonne) of sugar (see Table 2)<sup>4</sup>. The sugar mills in India have a crushing capacity of 2,500 tonnes crushed per day (TCD) to 5,000 TCD. Apart from the mills, India has established three refineries, located at coastal belt of Gujarat, West Bengal, and Andhra Pradesh, producing refined sugar from imported raw sugar and some indigenously produced raw sugar.

**Table 2: Breakup of Sugar Mills in India**

S. No.	Sector	Number of Factories
1	Co-operative	204
2	Private	292
	Total	506*

*\*Including three refineries, 1 each in Gujarat, West Bengal, and Andhra Pradesh*

Source: Annual Report 2021-22, Department of Food and Public Distribution

## 2. Export and Import of Sugar

As per the monitoring dashboard of Ministry of Commerce and Industry, Government of India, the sugar industry exports for FY 2021-22 (April – March) stand at US\$ 4603 million with 64.99 per cent Year-on-Year (YoY) growth and the imports at US\$ 169 million with -73.38 per cent YoY growth registering a positive trade balance of US\$ 4434 million<sup>5</sup> (See Table 3 & 4).

**Table 3: Growth in Sugar Exports during FY 2021-22**

(in US\$ million)

Month	Cumulative Growth YoY	Monthly Growth YOY	Previous Year Export	Current Year Export
April	95.92%	95.92%	250	489
May	55.51%	20.00%	284	341
June	52.16%	43.52%	207	297
July	43.16%	8.60%	193	210
August	40.93%	29.19%	177	228
September	33.50%	0.87%	253	255
October	34.14%	40.03%	149	208
November	39.97%	121.29%	108	240
December	61.35%	399.31%	103	512
January	85.34%	289.29%	203	789
February	80.81%	57.10%	368	579
March	64.99%	-8.35%	495	454

Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>**Table 4: Growth in Sugar Imports during FY 2021-22**

(in US\$ million)

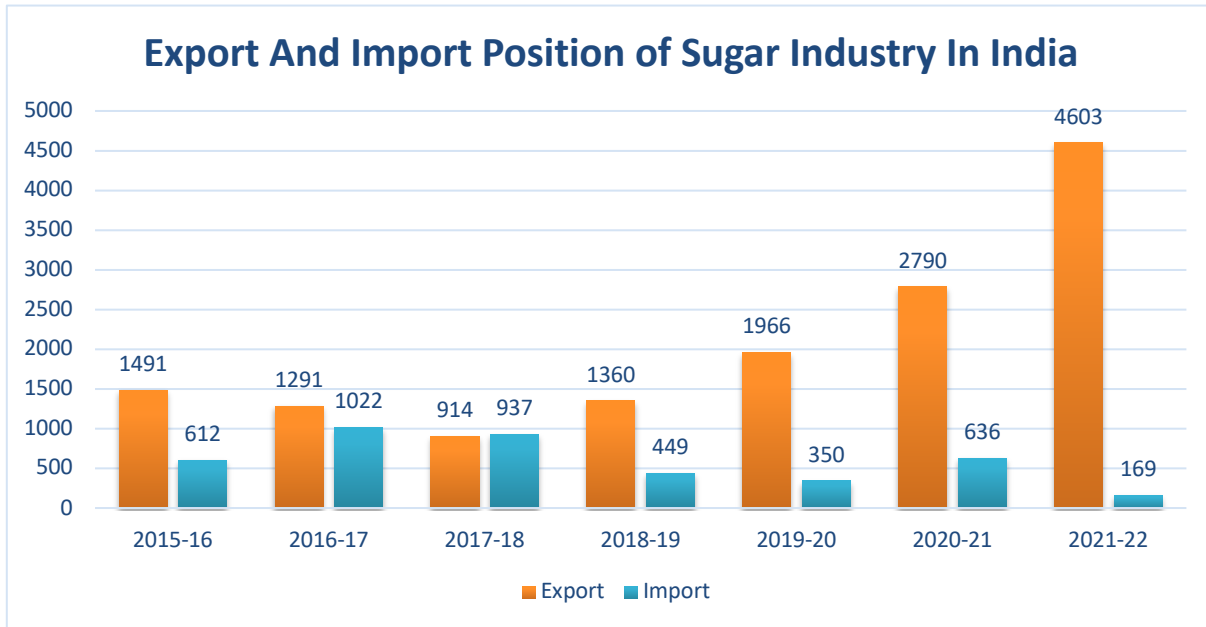
Month/Year	Current Year: Value	Previous Year: Value	Monthly YoY Growth	Current Year: Cumulative Value	Previous Year: Cumulative Value	Cumulative YoY Growth
April, 2021	85	49	73.79%	85	49	73.79%
May, 2021	11	17	-32.23%	96	65	46.74%
June, 2021	2	65	-97.60%	98	131	-25.31%
July, 2021	1	44	-97.13%	99	174	-43.29%
August, 2021	2	43	-95.57%	101	217	-53.57%
September, 2021	23	85	-72.65%	124	301	-58.92%
October, 2021	3	71	-96.44%	126	372	-66.05%
November, 2021	2	101	-97.54%	129	474	-72.80%
December, 2021	2	106	-97.78%	131	580	-77.37%
January, 2022	1	43	-98.12%	132	623	-78.80%
February, 2022	1	1	-5.02%	133	624	-78.68%
March, 2022	36	12	204.64%	169	636	-73.38%

Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>

The Ministry of Commerce and Industry reported that India’s sugar export witnessed an overwhelming growth of 291 per cent from US\$ 1,177 million in FY 2013-14 to US\$ 4600 million in FY 2021-22<sup>67</sup> (See Chart 3). In the last five years, the sugar exports increased by 12 times in 2021-22 as against 6.2 LMT in 2017-18<sup>8</sup> (See Chart 3).

**Chart 3: Export and Import Position of Sugar Industry in India**

(in US\$ million)



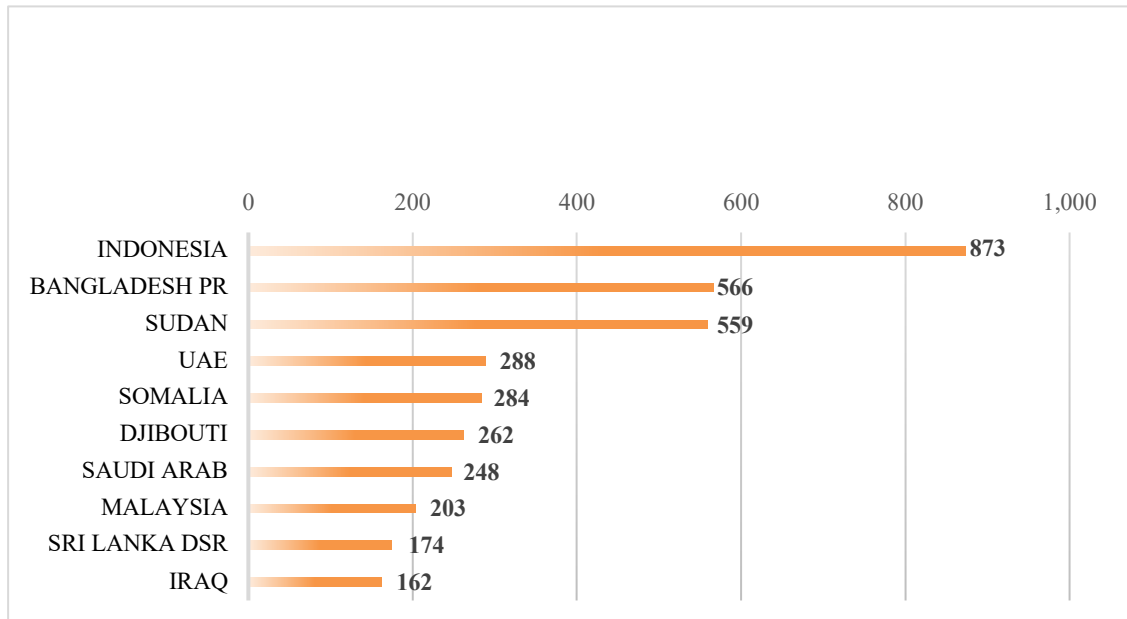
Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>

Sugar export jumped 65 per cent in 2021-22 corresponding to previous year. The growth was achieved despite logistical challenges posed by COVID19 pandemic in the form of high freight rates, container shortages, etc.

The largest sugar export destination for India is Indonesia a worth of US\$ 873 million of sugar exported in the last financial year till March end 2022 followed by Bangladesh, Sudan, and UAE sugar worth of US\$ 566 million, US\$ 559 million, and US\$ 288 million exported respectively (see Chart 4).

### Chart 4: India's Sugar Export to top 10 countries

(in US\$ million)

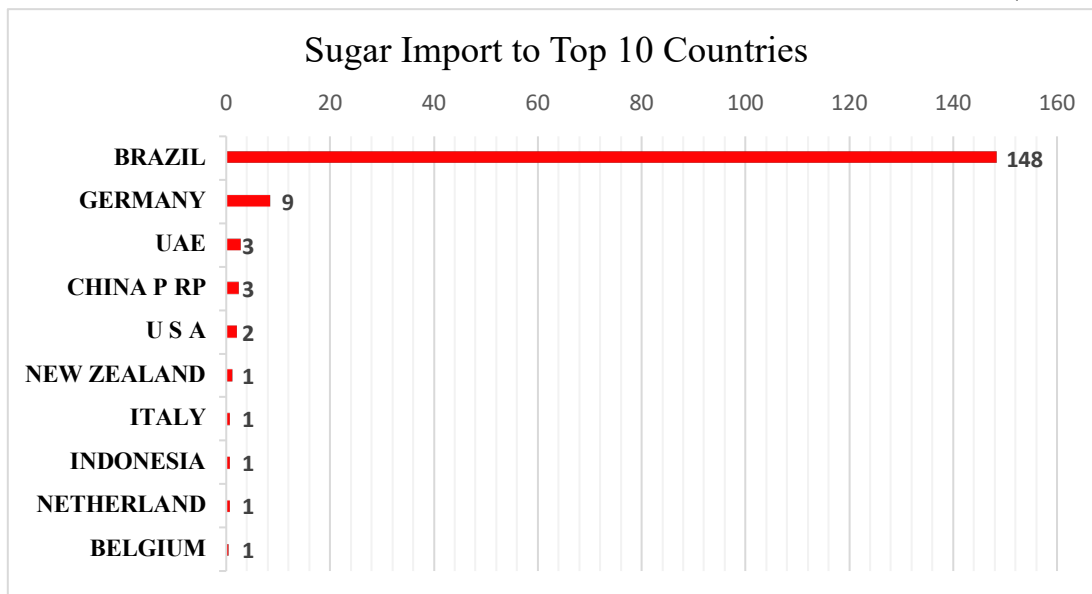


Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>

In terms of imports, India is importing sugar largely from Brazil. During the FY 2021-22 sugar worth of US\$ 148 million was imported from Brazil followed by a worth of US\$ 9 million and US\$ 3 million respectively from Germany, and UAE and China (see Chart 5).

### Chart 5: Sugar Import to Top 10 Countries

(in US\$ million)



Source: <https://dashboard.commerce.gov.in/commercedashboard.aspx>

However, the Director General of Foreign Trade (DGFT) notified the ban on export of sugar effective from June 1, 2022, in an attempt to control food inflation and to ensure availability of sugar in the domestic market. The government has capped sugar exports at 10 million tonnes for the current marketing year of sugarcane crop (till the end of the sugar season on 31 October 2022). This decision was taken on an assessment of the probable threat of food crisis caused by supply-chain disruptions. The other dimension of the ban is said to be that *first*, government is aiming to encourage ethanol blending to meet in advance the target of 20 per cent in petrol to Ethanol Supply Year (ESY) 2025-26 from 2030. *Second*, the intension of the government to send sugar supplies to countries facing economic distress.

### 3. Industry Risks

Cane dues of farmers – e-platforms are helping the manufacturers to widen up its buyers' range with less time and allowed prompt sales of sugar. Sales through digital mode, the manufacturers get payment immediately and hence helping them to clear the dues of farmers with no time.

#### ***Role of technology in Sugar industry***

The issues related to restriction/ban on interstate movement of molasses, reservation/quota/levy on molasses, price controls on molasses, permission for use of cane juices/molasses for ethanol production and license/other fee on inter and intra-state movement in some States, etc. need to be addressed to increase ethanol production in the country.

To improve long-term viability of cogeneration and achieve the potential of bagasse-based cogeneration, technical, financial, and regulatory challenges, including the issue viable and competitive tariff and timely payments need to be addressed.

The domestic prices of sugar in India are substantially higher than world sugar prices this makes India an uncompetitive in the global market for sugar without subsidies. It is important to note here that India has been a net exporter of sugar in the last 10 years except 2017-18 when the production fell short of the required consumption level. In view of the expectation of higher world sugar trade in future, the government should provide adequate support to boost sugar exports, but the industry should strive to become globally competitive in terms price through cost reduction, diversification, and value addition.



Only a few countries are dominating the world production and trade of sugar. About two-third of the global demand for sugar is met by local/regional production of sugar and the remaining demand of about 55-60 million tonnes of sugar is met and supplied by global exports.

According to the OECD-FAO agriculture Outlook 2020-2029, the global consumption of sugar is projected to grow at about 1.4 per cent per year in the next ten years and the increase in global consumption is expected to come exclusively from the developing countries. The divergence in sugar consumption can be seen among the consumers in high-income/developed countries. The large and additional demand is expected to come from Asia and Africa, with 68 per cent and 30 per cent share in incremental demand, respectively.

The subdued domestic price of sugar due to surplus production of sugar in the last three sugar seasons has adversely affected the liquidity and profitability of sugar mills and resulted in huge cane price arrears (see Table 5).

**Table 5: Cane Arrears, 2015-16 to 2020-21**

(₹ crore)

Sugar Season	Position as on	Total Price Payable	Total Price Paid	Arrears	Arrears as % of Price Payable
2015-16	30-09-2016	60,282.40	56,992.90	3,289.50	5.46%
2016-17	30-09-2017	57,205.80	55,204.70	2,001.10	3.50%
2017-18	30-09-2018	85,195.80	73,498.60	11,697.20	13.73%
2018-19	30-09-2019	86,533.00	78,736.80	7,796.20	9.01%
2019-20	30-09-2020	75,928.70	65,586.60	10,342.10	13.62%
2020-21	30-09-2021				

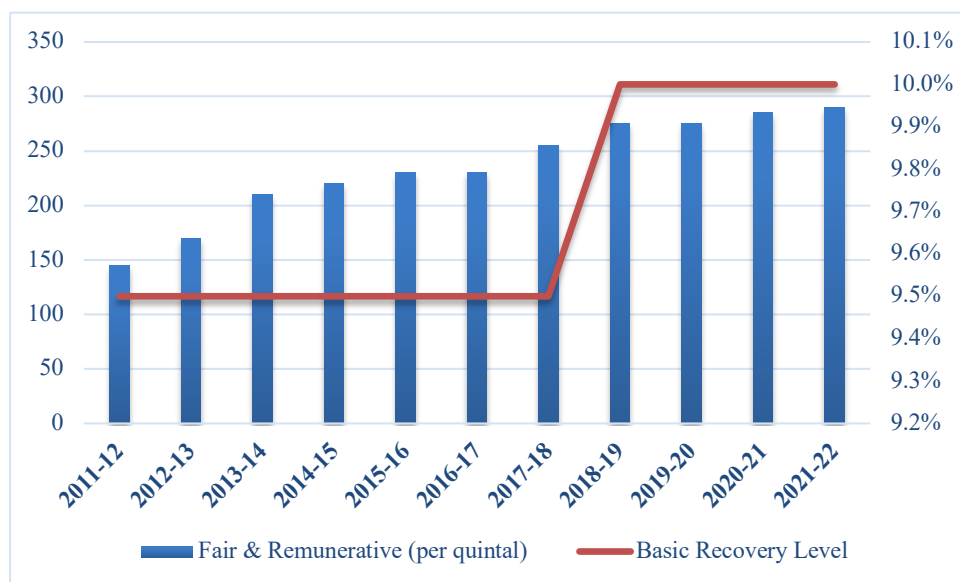
Source: CACP, Report on Price Policy for Sugarcane for Marketing Season 2021-22

Sugarcane is a highly water-intensive crop and there is an adverse impact on the hydrology of the area where it is grown. The average ratio of water withdrawal to water availability in areas where sugarcane is grown ranges between 50 to 70 per cent, posing a serious threat to water availability and sugarcane production in the future. About 65 per cent of the sugarcane area under cultivation traditional method of irrigation i.e., flood-irrigation is leading to non-judicious use of scarce water resource.<sup>9</sup>

## 4. Government Initiatives

The various government measures have helped significantly in raising the level of sugar production in the country and becoming a self-reliant nation in sugar production. Also, the government is continuously trying to protect the interests of farmers through Fair and Remunerative Price (FRP) which is the minimum price at which sugarcane is to be purchased by sugar mills from the farmers. The FRP has been doubled in last ten years since 2011-12 (see Chart 6).

**Chart 6: Fair & Remunerative Price per quintal**



Source: CACP, Annual Report 2022, Department of Food and Public Distribution

Under the FRP system, the farmers are not required to wait till the end of the season or for any announcement of the profits by sugar mills or the Government. The new system also assures margins on account of profit and risk to farmers, irrespective of the fact whether sugar mills generate profit or not.

The FRP for 2021-22 sugar season has been fixed at ₹290 per quintal linked to a basic recovery of 10 per cent subject to a premium of ₹2.90 per quintal for each 0.1 per cent increase of recovery over and above 10 per cent and reduction in FRP at the same rate for each 0.1 per cent decrease in the recovery rate till 9.5 per cent. With a view to protecting the interest of the farmers, the Government has decided that there shall not be any deduction in case where recovery is below 9.5 per cent; such farmers will get ₹275.50 per quintal for sugarcane in the current season.

The cost of production of sugarcane for the sugar season 2021-22 is Rs. 155 per quintal. The FRP of ₹290 per quintal of sugarcane for sugar season 2021-22 (October - September) is higher by 87.1 per cent over production cost, thereby giving the farmers a return of much more than 50 per cent over their cost<sup>10</sup>.

The Central Government has been reimbursing a fixed subsidy of ₹18.50 per kg at the rate of 1 kg per month per family under Antyodaya Anna Yojana (AAY) to participating States/UTs. The States/UTs are also allowed either to absorb the additional cost on account of handling, transportation, and dealer's commission or pass it on to the consumer by adding it to the Retail Issue Price (RIP) of ₹13.50 per kg under the Public Distribution System (PDS). At present, there are only 24 states are participating in the scheme and about 1.87 crore AAY families are getting benefit under this scheme for which about 2.25 lakh tons sugar is being distributed.

As per the National Policy on Biofuels (NPB) - 2018, the proposed indicative target of the government is to blend 20 per cent ethanol in petrol and blending of 5 per cent biodiesel in diesel by 2030. However, the government has taken several initiatives to promote ethanol production including administrative price mechanism, allowing use of various raw materials including sugarcane juice/sugar/sugar syrup for ethanol production, reduction in Good & Services Tax (GST), Interest Subvention Scheme for enhancement and augmentation of the ethanol production capacity, assured procurement of ethanol by Oil Marketing Companies (OMCs), long-term procurement contracts between OMCs and ethanol suppliers, etc.

In Maharashtra, a massive amount of sugarcane remains uncrushed and unharvested that led to create distress. Instances of suicide by farmers made a political sensation in the state. The cooperative sugar industry in Maharashtra has been a critical part of the rural economy providing livelihood to a larger population in the state. In the wake of this issue, the State Government of Maharashtra has announced a grant of ₹200 per tonne to cooperative sugar mills to facilitate the crushing of the remaining 1.95 lakh tonnes of sugarcane. The Sugar factories in Maharashtra have recorded an estimated production of 13.8 million metric tonnes of sugar this year which has been highest in the state. The state government has also directed state sugar crushing factories to extend their crushing season began on October 15, 2021, till the end of May 2022. The additional grant of ₹5 per tonne per kilometre for transportation of cane from the fields to the mills also be provided to the mills<sup>11</sup>.

To ensure seamless quality certification of products to be exported, Agricultural and Processed Food Products Export Development Authority (APEDA) has recognized 220 labs across India to provide services of testing to a wide range of products and exporters. APEDA organizes participation of exporters in the International Trade Fairs, which provides a platform to the exporters to market their food products in the global marketplace. APEDA also organizes national events like AAHAR, Organic World Congress, BioFach India etc. to promote agri-exports. In 2019, APEDA led a delegation of exporters to Indonesia and organised road shows and had meetings with relevant authorities. Thereafter, export to Indonesia picked up and today they are the highest importer of sugar from India.

With a view to facilitate export of surplus sugar thereby improving liquidity of sugar mills and enabling them to clear cane price dues of farmers, Government has been extending assistance to sugar mills. Further, to facilitate export of surplus sugar from country, custom duty on export of sugar has been withdrawn by the Central Government w.e.f. 20.03.2018. As a consequence of measures initiated by the government, Sugar exports recorded a whopping increase of nearly 12 times since 2017-18.

About 99 per cent of cane price dues of the farmers upto sugar seasons 2019-20 have been cleared and for the sugar season 2020-21, out of total payable cane dues of ₹92938 crore, about ₹92549 crore have been paid. Only an amount of ₹389 crore pending as on April 17, 2022; thus 99.50 per cent cane dues have been cleared for the FY 2020-21. While for the current sugar season 2021-22, out of total cane dues payable of ₹1,06,849 crore, about ₹89,553 crore have been paid and only an amount of ₹17,296 crore pending as on April 17, 2022; thus 84 per cent of cane dues for FY 2021-22 have been paid<sup>12</sup>.

#### **4.1 Minimum Support Price (MSP)**

The FRP-based MSP of sugarcane, which was initiated in June 2018, under Sugar Price (Control) Order – 2018. Currently, the MSP of white/refined sugar was fixed at ₹29 per kg for sale by sugar mills at the factory gate for domestic consumption, which was increased to ₹31 per kg from February 14, 2019<sup>13</sup>.

### **5. The way forward**

The Department of Food & Public Distribution is responsible for the formulation of policies concerning the sugar sector, such as, fixing of Fair and Remunerative Price (FRP) of sugarcane payable by sugar factories, development and regulation of sugar industry (including training in sugar technology) and regulation of supply of free sale

sugar. The Department also formulates policies regarding export and import of food grains, sugar and edible oils.

India is one of the largest sugar producers in the world. It has, however, only 506 sugar factories largely concentrated in only a few states like Uttar Pradesh and Maharashtra, followed by Karnataka, Tamil Nadu, and Gujarat. Other states in the country also have favourable agro-climatic conditions for the cultivation of sugarcane crop, but the lack of required support, and processing units/mills for sugarcane produce induce farmers to cultivate sugarcane.

The industry should look beyond the production of sugar as the only produce. It should also explore other potentials of providing viable solutions to the problem of scarcity of crude oil sources, and sustainable energy segment. Since the sugar industry, which is characterized by surplus production, significantly contributes to the Indian economy, it needs to be diversified in other strategic areas, such as, blending of ethanol, generation of power and the production of green hydrogen etc.

The government should look into the cost-effective production practices so that the cost of production can be minimised. At present, the cost of sugar ranges between ₹32 and ₹35 per kg., which is higher than the cost of sugar in global market and the domestic prices of sugar can match the prices of sugar at the global level.

Sugar is India's second largest agro-based commodity and is worth about ₹2 lakh crore every year. The domestic consumption is 275 lakh tonnes. During this sugar season, which runs from November to April, India produced a record 350 lakh tonnes.

The ban on sugar export for the current sugar season until October 30, 2022, is welcome if the excess sugar production is diverted to ethanol blending. The annual target of the ethanol-blended petrol needs to be revised because every year sugar industry closes with surplus stock of sugar. The annual target of 10 per cent ethanol-blending for the FY 2021-22 has also been achieved five months prior to the schedule. This will also help to reduce oil import dependency including addressing the externalities caused by use of petroleum fuels. The closing stock of 73 lakh million (LMT) tonnes was estimated for the FY 22 after discounting sugar for ethanol blending while it was 85 LMT and 110 LMT respectively in FY 21 and FY 20. Hence, it is fair to say that the annual target for ethanol-blended petrol quota should be revised and this also help the mills to get timely payment and hence the issue of price dues of farmers could be solved in no time lag.

In the last five years, it was seen that the private players in the sugar industry are exploring possible interventions in the industry using technologies for selling sugar at different e-commerce platforms. Since sugar is an essential commodity to consume it and it became that the people get proper supply of sugar even during the pandemic which has another window of opportunity for the industry. As the Economic Times reported that the ₹2 lakh crore sugar sector is going digital and this helped the industry to extricate itself out of delayed payment practices for the millers as well as for the farmers. During the pandemic, a number of digital platforms and applications have emerged and these platforms are positively impacting the sector by facilitating interaction of buyers and sellers without defaulting.

## Endnotes

<sup>1</sup> Sugar Producing Countries 2022 - worldpopulationreview.com

<sup>2</sup> Economic Survey 2021-22, [https://www.indiabudget.gov.in/economicsurvey/ebook\\_es2022/index.html#p=267\\_p241](https://www.indiabudget.gov.in/economicsurvey/ebook_es2022/index.html#p=267_p241)

<sup>3</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1817808>

<sup>4</sup> <https://dfpd.gov.in/E->

Book/examples/pdf/AnnualReport.html?PTH=/1sGbO2W68mUlunCgKmpnLF5WHm/pdf/FOOD\_Annual%20Report\_2021-2022%20Final\_New.pdf#book/77

<sup>5</sup> <https://dashboard.commerce.gov.in/commercedashboard.aspx>

<sup>6</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1817808>

<sup>7</sup> <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/apr/doc20224738301.pdf>

<sup>8</sup> <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/apr/doc20224738301.pdf>

<sup>9</sup> [https://www.wwfindia.org/about\\_wwf/making\\_businesses\\_sustainable/sugar/#:~:text=Sugarcane%20is%20a%20highly%20water,cent%20of%20the%20agriculture%20land.](https://www.wwfindia.org/about_wwf/making_businesses_sustainable/sugar/#:~:text=Sugarcane%20is%20a%20highly%20water,cent%20of%20the%20agriculture%20land.)

<sup>10</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1748833>

<sup>11</sup> <https://www.hindustantimes.com/cities/mumbai-news/state-announces-grant-for-cooperative-sugar-mills-101652809189912.html>

<sup>12</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1826708>

<sup>13</sup> [https://dfpd.gov.in/gen\\_policy.htm](https://dfpd.gov.in/gen_policy.htm)