

Importance of Sugarcane Cost Analysis and Effect of Fair and Remunerative Price on Farmers

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Abstract: -

Sugarcane is one of the most important commercial crops in India and provides livelihood support to millions of farm households directly and indirectly. The sugarcane sector is, however, characterized by substantial government intervention through price regulation, cane reservation, regulated sugar release and other policy mechanisms. Among these, the Fair and Remunerative Price (FRP) fixed by the Government of India serves as a benchmark price for sugarcane, while major producing states such as Uttar Pradesh also announce a State Advised Price (SAP). This article reviews the economic significance of sugarcane, the cost and production-related concerns faced by growers, and the role of administered prices in shaping farmer returns and the performance of the sugar industry. The discussion also highlights stagnant productivity, variations in sugar recovery, cane-price arrears, cyclical production, and the wider economic importance of sugarcane by-products such as bagasse and molasses. The available evidence indicates that improvements in productivity, cost efficiency, timely payments and better utilization of by-products are important for strengthening the economic sustainability of the sugarcane sector.

Introduction:

Sugarcane is one of the leading commercial crops of India and occupies an important position in the agricultural and rural economy. The crop supports millions of

farmers and farm workers and provides raw material to the sugar industry and several related industries. Over the last few decades, the area and production of sugarcane have expanded in both traditional and non-

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traditional sugarcane-growing regions. However, productivity has not increased at the same pace, making improvement in yield and production efficiency an important concern.

Price assurance has a major influence on farmers' decisions regarding the area allocated to sugarcane. In India, the Central Government fixes the Fair and Remunerative Price (FRP) of sugarcane on the recommendations of the Commission for Agricultural Costs and Prices (CACP), after consultation with State Governments and other stakeholders. The FRP acts as a benchmark below which sugar mills are not permitted to purchase sugarcane from growers. In addition, states such as Uttar Pradesh, Uttarakhand, Haryana, Punjab and Tamil Nadu announce State Advised Prices (SAP), which are generally higher than the centrally announced FRP.

For the 2020–21 sugar season, the FRP was recommended at Rs. 285 per quintal at a basic sugar recovery rate of 10 per cent. The price was linked with sugar recovery, with an increase of Rs. 2.85 per quintal for every 0.1 percentage-point increase in recovery and a corresponding reduction for a decline in recovery below the basic level. Such pricing arrangements are intended to provide growers with a remunerative return while maintaining the viability of the sugar industry.

Sugarcane production has expanded considerably in India. Production reached about 400.2 million tonnes in 2018–19, an increase of 20.3 million tonnes, or 5.3 per cent, over the previous year. During the same period, the country had 746 sugar mills, of which 529 were in operation. Domestic sugar consumption also increased substantially, rising from 16.7 million tonnes in 2001–02 to around 26 million tonnes in 2018–19. At the same time, periods of excess sugar production have created pressure on domestic sugar prices and have affected the financial position of sugar mills.

The sugar sector is also closely connected with international trade. Reductions in trade barriers have increased the importance of comparative advantage and productivity in determining the competitiveness of sugar and sugar-based products. Nevertheless, sugar remains a highly regulated commodity in many countries, including India, because governments seek to balance the interests of producers, consumers and the processing industry (Dye, 1994; Mahadevan, 2009; Sukhtankar, 2012).

Economic Importance of Sugarcane and the Sugar Industry

Sugarcane has a long history of cultivation in India and has developed into one of the country's major agro-industrial crops.

India is among the world's leading sugarcane-producing countries. The crop is cultivated across several states, with Uttar Pradesh and Maharashtra occupying prominent positions in national production. Its importance extends beyond sugar production because the industry generates employment, supports rural markets and supplies raw material for ethanol, jaggery, alcohol, electricity generation and other industrial activities.

The sugar industry generates economic value through both primary and secondary products. Sugar, ethanol and jaggery are the major products, while bagasse and molasses are important by-products. Bagasse can be used for cogeneration of electricity and as a raw material in the paper industry, whereas molasses provides raw material for alcohol production. The utilisation of these by-products increases the scope for value addition and improves the overall economic efficiency of the sugar industry (Chakraborty & Priya, 2020; Greeshma et al., 2017).

Sugarcane also has considerable importance for rural employment and farm incomes. A substantial share of the value generated by the sugar industry is transferred to growers through cane payments. Therefore, changes in cane prices, production costs, sugar recovery and the financial performance of

sugar mills directly influence the economic position of sugarcane farmers.

Cost of Sugarcane Production and Farmer Returns

The economic performance of sugarcane cultivation depends on the relationship between production costs, physical yield and the price received by growers. Sugarcane is a relatively input-intensive crop and farmers incur expenditure on seed material, land preparation, labour, fertilisers, irrigation, plant protection and harvesting. Because the crop remains in the field for a relatively long period, the opportunity cost of land and capital also influences its overall cost structure.

An increase in input prices without a corresponding increase in productivity or cane prices can reduce farmers' margins. Similarly, low sugar recovery, delays in harvesting and transportation, and delayed cane payments can affect the realised economic return from sugarcane cultivation. The existing literature has also highlighted the importance of cost efficiency and productivity improvement for maintaining the competitiveness of the sugar sector (Upreti & Singh, 2017).

Assured prices can reduce some elements of price uncertainty for growers. However, the economic benefit of an administered price also depends on timely

procurement and payment, production costs, recovery levels and the financial health of sugar mills. Thus, the analysis of sugarcane profitability should consider not only the announced FRP or SAP but also the actual cost of cultivation and the timing of payments received by farmers.

Fair and Remunerative Price and State Advised Price

The Fair and Remunerative Price (FRP) was introduced as the central price mechanism for sugarcane and replaced the earlier Statutory Minimum Price (SMP). The FRP is determined by the Central Government on the basis of recommendations from the CACP and takes into consideration factors such as production costs, returns from alternative crops, general price trends and the interests of farmers and the sugar industry.

In addition to FRP, several sugarcane-producing states announce a State Advised Price (SAP). Uttar Pradesh is particularly important in this context because of its large sugarcane area and the importance of sugarcane to the rural economy. The coexistence of FRP and SAP reflects the dual nature of sugarcane pricing in India, where central and state-level policy interventions operate simultaneously.

The administered pricing system has supported a degree of price assurance for farmers, but it has also been associated with

challenges for sugar mills when cane prices remain high relative to sugar realizations. A mismatch between sugarcane prices and sugar prices can contribute to financial stress in mills and may subsequently be associated with delays in cane payments. **Upreti et al. (2018)** emphasized the importance of market integration and price behavior in understanding the functioning of the sugar market.

Regulatory Environment and its Economic Implications

The Indian sugar industry has historically operated under a substantial regulatory framework. Major regulatory instruments have included cane reservation areas, regulated release of sugar, levy obligations, dual pricing arrangements and administered cane prices. Although several reforms have reduced the intensity of regulation over time, the sector continues to be influenced strongly by government policy.

The purpose of regulation has been to protect the interests of sugarcane growers, ensure adequate supply of sugar and maintain reasonable returns for different participants in the value chain. However, policy interventions can also create unintended economic effects. When sugar production is high and domestic prices weaken, sugar mills may face reduced margins while their cane-payment obligations remain substantial. This can contribute to the

accumulation of cane-price arrears. Conversely, shortages of cane can reduce mill capacity utilisation and increase processing costs.

The sugar market also exhibits cyclical behaviour. Periods of high production can result in surplus sugar and downward pressure on prices, while lower production can lead to shortages and higher prices. Such cycles influence planting decisions and can contribute to fluctuations in cane availability and mill capacity utilisation (Government of India, 2019).

Conclusion

Sugarcane occupies a strategic position in the Indian agricultural economy because of its contribution to farm income, rural employment, agro-processing and the production of sugar and other industrial products. The FRP and state-level SAP mechanisms provide an important element of price assurance to growers, but their economic impact cannot be assessed independently of production costs, productivity, sugar recovery, mill profitability and payment timeliness. The major challenge for the sector is therefore not simply to increase the administered price, but to improve the overall efficiency of the sugarcane value chain. Productivity-enhancing technologies, efficient input use, better water and soil management, timely payment of cane dues, and greater utilisation of by-products can

improve the economic sustainability of the sector. Future studies should combine farm-level cost and return analysis with state-wise price, productivity and payment data to assess the actual effect of FRP and SAP on farmers' net returns.

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