

Need a balanced approach

Sugar sector's success has environmental risks

The sugar season 2021-22 (October-September) and the subsequent period till now have proved to be a watershed for the Indian sugar sector. From being a perpetual seeker of government support and bailout packages for its survival, this key agro-based industry has transformed into a vibrant, self-sustaining sector, achieving performance records on all fronts without any subsidy. However, the underlying factor responsible for this metamorphosis — converting surplus sugarcane and its products, including sugar and cane juice, into biofuel — has unwarranted ecological ramifications, which are cause for concern, though both the sugar industry and cane growers have gained from it. While the output of sugarcane touched a new peak of 500 million tonnes in 2021-22, that of sugar swelled to a new high of 39.4 million tonnes, of which 3.6 million tonnes was diverted to ethanol production.

Sugar exports also surged to a record 11 million tonnes, aided partly by favourable international prices in the aftermath of the Russia-Ukraine conflict and lower supplies from Brazil, the world's largest sugar exporter. The additional revenue generated from these shipments (around ₹40,000 crore) and sugarcane-based biofuel (about ₹20,000 crore) has helped improve the industry's financial health, enabling it to make timely payments to cane growers and invest in expanding ethanol-manufacturing capacity. Significantly, the outstanding cane price arrears payable to farmers have shrunk to the lowest ever level of less than 2 per cent.

This economic upswing in this sector, which commenced after the acute financial distress of 2018-19, has largely been the result of the small, but well-judged, policy initiatives that did away with some of the forbidding constraints and opened up income-generation avenues. The most noteworthy among these was the permission granted to sugar mills to make ethanol from their surplus produce, which would otherwise have created a glut and depressed domestic prices to their detriment. The resultant increase in the availability of biofuel has enabled oil-marketing companies to raise the level of ethanol-doping of petrol to 10 per cent and look forward to increasing it further to 20 per cent by 2025, much ahead of the target year of 2030.

However, while the ethanol-driven windfall has rid the sugar industry of the need for government sops, it has caused concern about the adverse effects of sugarcane cultivation on groundwater resources. Much of the expansion in cane acreage has occurred in states like Uttar Pradesh, Maharashtra, and Karnataka, where sub-surface water is already being depleted at an alarming pace. In any case, a land- and water-stressed country like India can ill-afford the luxury of producing first-generation (1G) ethanol from feedstock like sugarcane, including sugar, sugar syrup, cane juice, B-heavy molasses and C-heavy molasses, or cereals like rice, wheat, barley and corn, which are also now being used for biofuel production. This policy would need to be revisited. The best option for India would be to utilise the huge amount of residual biomass that its farm sector generates to produce biofuel through second-generation (G2) ethanol-production technology, rather than using water-guzzlers like sugarcane or cereals. A fine balance would need to be maintained between food and water security and fuel and energy security. Sugarcane, sugar, and their derivatives have only a limited role to play in this game plan.