



## India's Ethanol Gamble: Can Sugarcane Feed Both the Nation and Its Fuel Tanks?

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### ABSTRACT

India's Ethanol Blended Petrol (EBP) programme has been a policy success with blending rates going from the single digit a decade back to 19.24% in ESY24-25. Similarly, production capacity has also increased by nine times since 2013. In addition, over ₹1.36 lakh crore has been transferred to farmers since 2014-15. Nevertheless, sugar supply is getting tighter now. Sugar production for the ongoing sugar season has been downgraded from 343 lakh tonnes to 306 lakh tonnes on account of red rot, top borer infestation and waterlogging due to heavy rainfall. This has reduced the usual surplus cushion between sugar production (320-340 lakh tonnes) and domestic demand (280-290 lakh tonnes). The government has expanded the use of maize as ethanol feedstock. The diversion of sugarcane for ethanol was reduced by the Government from around 12 per cent in 2022-23 to around 9 per cent this year. However, this merely shifts the food-vs-fuel problem to another crop and another stakeholder. The debate on sugarcane farmers is absent from the current policy discussion. The sugarcane farmers are dependant on the diversion of their produce to ethanol for the solvency of the mill. Moreover, they demand timely payment (97% of cane dues to be cleared by August 20, 2026). Consequently, rigid restrictions on feedstock diversion can be ruinously costly. This is applicable whether the restrictions are imposed in a down or up direction.

**Keywords:** *Ethanol Blended Petrol (EBP) Programme; Sugarcane; Food-Fuel Trade-Off; Sugar Supply; Maize-Based Ethanol; Feedstock Diversification*

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### 1. INTRODUCTION

Sugar prices have been on the increase and India's ethanol programme is now in the spotlight. The answer that the policy makers are quietly debating is simple yet tricky: How much can the nation pull out of food production for its fuel and still experience a negative impact? India has had a long journey of success with ethanol over the last decade and more that has been a true policy success. The Ethanol Blended Petrol (EBP) programme has been created to reduce the import bill of petrol, ensure energy security, and

provide an additional and more stable source of income for farmers. It has met all three requirements. The blending rate has risen from a few percent 10 years ago to almost 19.24% in ESY24-25, and the 20% mark has been advanced to the current ethanol year. Since 2013, the production capacity has increased by about nine times and the government data reveals that over ₹1.36 lakh crore has been directly transferred to the farmers since 2014-15 through the programme. There is a downside to success. This year, it's a shadow of sugar.

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## 2. A SHRINKING CUSHION

India normally produces 320-340 lakh tonnes of sugar, while the demand is for 280-290 lakh tonnes, leaving a surplus that has always been used to meet export and ethanol demand without leaving anyone short. But this season, that cushion has become rather slight. The total production of the crop has been revised to around 306 lakh tonnes from 343 lakh tonnes initially estimated because of the impact of red rot, top borer infestation and the excess rainfall which led to waterlogging. Despite this, about 3 million tonnes of sugar has already been diverted to ethanol this year. The government is now considering restrictions on ethanol made from cane next season to relieve supply pressures and cool prices, Reuters said. The essence of the ethanol dilemma in India is every tonne that is put into a fermentation tank is a tonne that is not used in a sugar mill's production- a fact that may not be a problem in a surplus year but quickly becomes a political and economic issue once supply is tight.

## 3. IT IS NOT AS EASY AS IT MAY SEEM

To its credit, the government has defied the easy narrative that ethanol are the sole reasons behind the rise in sugar prices. It highlights that the allocation of sugar to ethanol has actually declined from about 12% in 2022-23 to about nine per cent this year and that almost three-quarters of ethanol production is now from grain (primarily maize) instead of cane. The price hike is attributed to the weather damage, subdued production and high demand during the festive season and a constricted global market. That's the real diversification and that's what counts. It has its own proviso, however: maize is not an unlimited fund, either. It is used for livestock feed, poultry feed and is a food and industrial crop. While maize production has increased from approximately 337 lakh tonnes in 2021-22 to 443 lakh tonnes in 2024-25, ethanol production on maize does not address food versus fuel issues – it merely moves the problem to a different crop and a different group of stakeholders.

## 4. THE MAN WHO NO ONE CAN'T FORGET IS THE FARMER

But the sugarcane farmer is the party most affected by the "food versus fuel" dichotomy who is missing from the discussion. Earlier, the mills were less healthy when they tumbled back on balance sheets with no other income stream than selling lumber, but they're less miserable when they keep having a source of income from ethanol. 97% of cane dues for this season had been paid by August 20, 2026, compared to the due delays that have been long prevalent in the sector. Ethanol diversion can't happen at the expense of protecting sugar supply, or mill finances – and farmer payments might suffer. Be too strict in

protecting ethanol diversion in a shortfall year and the consumers and exporters pay the price. There is no such thing as a trade-off without impacting farmers.



## 5. TOWARDS A FLEXIBLE RATHER THAN A FIXED SYSTEM

The better solution is not to choose a final victor between sugar and fuel: the better solution is to refrain from assuming that feedstock allocation is fixed at all. India must have a truly dynamic system: more cane diverted to ethanol when surplus, and more sugar, grains and second generation biofuels from crop residue and bagasse when demand is high. That also translates to investing in technologies and practices that actually grow the pie – not simply slicing it in different ways – such as drip irrigation and precision agriculture to reduce the water use of sugarcane, disease-resistant and climate-proof varieties to reduce losses like red rot, multi-feedstock distilleries to switch between crops and improved yield forecasting, based on remote sensing and crop modelling, so that policy is aligned with actual conditions and not just last year's figures.

## 6. CONCLUSION

The ethanol initiative is but a rare positive development for both energy security and farmers' incomes in India. Sugarcane cannot be expected to keep supplying food, fuel, and export earner and industrial raw material in perpetuity, particularly in a nation where groundwater stress is a very real issue in cane fields. This price episode is not a crisis, but a warning shot. If the feedstock strategy is flexible, diversified and agile, according to the actual monsoon and harvest, India can continue to grow green energy without being unknowingly cannibalizing its own food security, and without short-changing the farmer being asked to produce both.

## REFERENCES

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