vartamana marga
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ENLIGHTENING MINDS, LIGHTENING JOURNEYS

DATE: 4 JUNE 2026

1 Ethanol Blending (Source: The Hindu)

Ethanol Blending involves mixing of ethanol with petrol to create a cleaner, more sustainable fuel. Initially, the target was 5% blending, which has now been increased to 20% blending.

- The present target is E100 (pure ethanol) E100 needs flex-fuel vehicles that can run on varying ethanol blends.

Benefits

- Reduces the hydrocarbon emissions, making the atmosphere cleaner(GHG emissions in case of use of sugarcane and maize-based ethanol are less by 65% and 50%, respectively, than those of petrol)
- Saves precious foreign exchange by reducing the demand for imports.
- Ensures an alternate source of income for farmers.

Challenge

- It can lead to a food security crisis due to food crop diversion and water usage for sugarcane cultivation.

Ethanol Blended Petrol (EBP) Programme

- Aimed at mixing ethanol with standard motor petrol. Operating under the ambit of the National Biofuel Policy (NBP) 2018, the program is driven by the Ministry of Petroleum and Natural Gas.
- Its primary goals are to reduce India's heavy reliance on imported crude oil, cut greenhouse gas emissions, and boost farmers' incomes by creating a lucrative alternate market for agricultural produce.

Generation of Ethanol

- **1st Generation Ethanol**: It is made from food crops such as cereals (rice, wheat, barley, corn, and sorghum), sugarcane, sugar beet, etc.
- **2nd Generation Ethanol**: It is made from ligno-cellulosic or woody biomass, or agricultural residues/waste such as wheat straw, corn stover, wood, etc.
- **3rd Generation Ethanol**: It includes those derived from aquatic biomass such as algae.
- **4th Generation Ethanol**: It is derived from engineered plants and microorganisms.

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2 Biofuel (Source: The Hindu)

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3 Depreciation and Appreciation of Currency and Impact upon Economy (Source: The Indian Express)