**GS Paper II – Polity** **Date: 14.07.26**

# Citizenship decisions must be 'fair, reasoned', says SC

Top court sets aside 27 judgments of Gauhati HC on 'foreigners', asks tribunals to adjudicate afresh; Citizenship declarations can't be sustainable if 'procedure adopted is mechanical', says the court

**Aaratrika Bhaumik**
NEW DELHI

The Supreme Court on Monday held that the determination of citizenship and foreigner status must be undertaken through a "fair, lawful, and reasoned" process, as it set aside a batch of 27 Gauhati High Court judgments declaring the appellants to be foreigners, and remanded the cases to the Foreigners' Tribunals concerned for fresh adjudication.

A Bench of Justices Vikram Nath and Sandeep Mehta observed that while the state has a legitimate interest in ensuring that persons who are legally ineligible for an Indian citizenship do not obtain such a status through "false claims", the "grave consequence" of being declared a foreigner must follow a procedure that adheres to constitutional guarantees.

> A state action which is arbitrary cannot claim the protection of law merely because it is clothed in statutory form. A proceeding which may result in a person being declared a foreigner cannot be sustained if the procedure adopted is mechanical, one-sided, or devoid of application of mind
> SUPREME COURT JUDGMENT

**Fair opportunity**

"A state action which is arbitrary cannot claim the protection of law merely because it is clothed in statutory form. A proceeding which may result in a person being declared a foreigner cannot be sustained if the procedure adopted is mechanical, one-sided, or devoid of application of mind," the judgment, authored by Justice Nath, said. The Tribunal must examine whether the person had a "fair opportunity, whether the main grounds were disclosed, whether the evidence before it was capable of supporting the reference, and whether the conclusion follows from the material on record," it added.

The HC had dismissed the appeals against the orders of the Foreigners' Tribunals declaring the appellants to be foreigners after noting that none of them had appeared before the tribunals despite having been served notices. It had observed that, in the absence of any written statement, documents, or evidence from the appellants, the tribunals had "no option" but to affirm the references.

The top court, however, clarified that the remand should not be construed as an affirmation of the appellants' claim to Indian citizenship.

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## GS Paper II – Governance

# Why DISCOM privatisation is not needed in T.N.

**T. Ramakrishnan**
CHENNAI

A recent assertion by Tamil Nadu Minister for Energy Resources R. Nirmalkumar that electricity distribution would not be privatised in the State is not only a policy statement but also a reiteration of the finding of a study commissioned by the 16th Finance Commission on the financial performance of electricity distribution companies (DISCOM).

Carried out by Prayas, a Pune-based non-governmental and non-profit body, the study states that "privatisation can improve operational efficiency and may be relevant in DISCOMs with unmanageably high AT&C [Aggregate Technical and Commercial] losses. However, it may not lead to major benefits" in States such as Tamil Nadu, where "AT&C losses are low and supply and service quality is relatively good," the study observes.

As per the 14th edition of the Power Finance Corporation (PFC)'s Integrated Rating and Ranking of Power Distribution Utilities across the country, Tamil Nadu's AT &C losses were 10.92% for 2022-23; 11.39% for 2023-24 and 10.96% for 2024-25 against the all-India average figures of 15.22%, 15.97% and 15.04% respectively. According to the Consumer Service Ratings of the DISCOMS prepared by the REC [formerly Rural Electrification Corporation], the Tamil Nadu Power Distribution Corporation's score with regard to distribution transformer (DT) failure rate, an indicator of supply and service quality, was 2.65% for 2024-25 against the national average of 5.02%. There are about 4.48 lakh DTs in the State. The reports of the PFC and the REC were released early this year.

Besides the two performance parameters, the issue of privatisation, even if it is considered independent of the government's stand against such a course of action, raises the question whether private players would be keen on taking the load of about 24 lakh agricultural connections, a substantial portion of which is in the Cauvery delta, or serving hilly areas such as the Jawadhu Hills. Invariably, the answer would be an emphatic "no" as the private firms would like to bag the plum segment of consumers. This would leave the government to wonder why it should embark on privatisation as the move would only financially weaken the power DISCOM.

Despite the REC's push over 15 years ago, Tamil Nadu did not agree to let franchisees run rural power supply. Till about the late 1990s, a few electricity cooperative societies were functioning in areas such as Thirumayam and Kumbakonam and they were later merged with the now-abolished Tamil Nadu Electricity Board (TNEB). Successive governments have not been receptive even to creating regional power distribution companies.

But, the key problem with the TNPDCL or its predecessors has been the gap between the Average Cost of Supply and the Average Revenue Realised. Of late, the gap has gone down substantially, turning positive (₹+0.04/unit) on a provisional basis during 2025-26. "However, the gap's narrowing is not owing to the operational efficiency or full recovery of the cost of supply from consumers," the State government's White Paper says, attributing the reduction to huge loss funding support given by the State government pursuant to the conditions imposed by the Union government. The prescription suggested in the document is a "comprehensive resolution framework" – covering tariff path, subsidy rationalisation, debt restructuring, and operational reform.

As hinted in the study commissioned by the Finance Commission, the problems such as cost-reflective pricing, regulatory certainty and performance accountability should be addressed effectively instead of merely going in for privatisation in Tamil Nadu which has relatively low AT&C losses and good supply quality. Else, financial stress within the system will get only redistributed.

## Power scenario

A brief overview of Tamil Nadu's electricity sector

Consumers strength
**3.52 crore**
- Domestic - 2.5 crore
- Agricultural - approximately 25 lakh

- Peak demand met 21,307 MW
- Revenue Receipt* (RE): ₹1,23,072 crore
- Revenue Expenditure*: ₹1,24,004 crore
- Surplus: ₹933 crore
- Outstanding debt of 4 power utilities: ₹2,47,130 crore
- Outstanding debt of TNPDCL: ₹1,07,365 crore

* 2025-26, RE - Revised estimate
TNPDCL - Tamil Nadu Power Distribution Corporation Limited

## GS Paper II – Social Issue

# Is the undocumented migrant counted?

Evidence using official Census data suggest that there is no surge of undocumented migrants from Bangladesh, at least between 1991 and 2011

DATA POINT

Abhishek Shaw

Can India's official statistics detect large-scale undocumented migration? Undocumented migrants may evade law, but can they evade the Census? If millions of them are living in India, they must appear somewhere in the country's official statistics. Union Minister of Parliamentary Affairs Kiren Rijiju told Parliament that "As per available inputs, there are around 20 million illegal Bangladeshi migrants staying in India". Then, they must come across enumerators during the Census. What might an undocumented migrant do in such an encounter?

They can respond in three ways: avoid or duck the Census altogether, contributing to coverage error; be counted but report India rather than Bangladesh as the place of birth, creating measurement error; or report the place of birth truthfully.

Each of these choices leaves a different mark in the data, which can be checked. Together, this provides a simple framework for asking whether India's official data are consistent with the claimed scale of undocumented migration. But a framework based on birthplace has a built-in limit: the Census records where a person was born, not whether they entered legally. The same "born in Bangladesh" category contains citizens, visa-holders, and the undocumented alike, with nothing to tell them apart. What the data can speak to, then, is scale: whether a population of the claimed size exists at all.

### Ducking

Ducking is hiding from the enumerator altogether. But hiding is not the only way to duck. A subtler version, for example, is to tell the enumerator "I don't actually live here; I will be counted at my usual residence elsewhere" and then not to be counted at that other place either. The outcome is the same, an omission, which is exactly what the Census is built to detect via the Post Enumeration Survey (PES). This has been conducted after every Census to estimate coverage error and reasons for measurement errors.

The 2011 PES finds a net omission of 23 persons per 1,000 nationally, or 2.3%, unchanged from 2001 (up from 1.8% in 1991). The Eastern zone, with States bordering Bangladesh and where "infiltration" claim is concentrated, is best covered **(Table 1)**. What can be said confidently is that the population missed by enumeration is small, stable across the decades, and smallest at the border. This leaves little room for the unenumerated population of the scale the political claim requires.

### Misreporting

The second option–being enumerated but recording one's birthplace as India rather than abroad–is the one that costs the least and can be neither verified nor refuted at the point of enumeration. But it has an implication: a person who misreports is still a person the Census has counted. This is what would be termed measurement error. They remain in the total population, in the count by religion, and in the age and sex tables, but the birthplace entry is false.

If, for example, large numbers of undocumented Muslim migrants were doing this, the effect would not be a hidden population but an inflated one–a Muslim population, and with a rate of population growth, larger than natural increase and differential fertility can account for–and concentrated in the border districts. That inflation has been examined in an earlier article in *The India Forum*, which found no such signature. If misreporting were hiding a large migrant inflow, it would surface as border-concentrated Muslim growth beyond what fertility explains. The counts showed growth that is moderate, fertility-consistent, and geographically dispersed instead.

### Truthful Responses

The third option is to report their place of birth truthfully with the belief that the Census enumeration is anonymous and does not put them at risk. Migrant stock is a widely used measure to keep track of levels of migration. A person enumerated in India, but born in another country is considered a migrant in this measure.

The composition of the migrant stock in India has seen substantial declines of those born in Bangladesh and Pakistan, with large increases in that of Nepal **(Chart 1)**. However, despite decline in overall migrant stock, about half of India's has consistently been Bangladesh-born persons.

In the last three Censuses, roughly 94% of all India's Bangladesh-born residents lived in the five border States (West Bengal, Assam, Tripura, Meghalaya, and Mizoram); a share that barely moved even as the national Bangladesh-born population itself fell by nearly one-third from about 4.0 million to 2.7 million.

**Table 2** shows data from districts in the Eastern States bordering Bangladesh. Both by share and by absolute numbers across these districts, migrants who are overwhelmingly from Bangladesh are ageing and likely dying out. The younger age-groups show meagre numbers. Much of this population arrived during Partition in 1947 or the Bangladesh War in 1971. That generation is now elderly, and its numbers are falling chiefly because its members are dying.

Thus, the evidence using official data, in all its forms, suggest that there is no surge of undocumented migrants from Bangladesh, at least between 1991 and 2011.

The Census cannot tell us there are no undocumented migrants from Bangladesh. What it does tell, as checked in three different ways above, is that there are not 20 million of them.

## Exaggerated claim

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**TABLE 1:** This shows the net omission rates in each of the six zones (as defined by Census) in 2011

| Zone | Net Omission Rate (%) | Undercount in 2011 (millions) | Percentage of Undercount |
|---|---|---|---|
| Central | 4.17 | 12.78 | 46.6% |
| Northern | 3.8 | 6.07 | 22.1% |
| Southern | 1.5 | 3.8 | 13.8% |
| Eastern | 0.84 | 2.2 | 8% |
| Western | 1.17 | 2.02 | 7.4% |
| Northeast | 1.24 | 0.57 | 2.1% |
| India | 2.3 | 27.67 | 100% |

**CHART 1:** This shows the share of people, whose place of birth was not India, counted in the last three Census

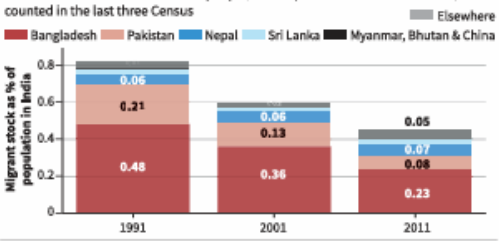



**TABLE 2:** This shows the number of people in different age groups and their share in total migrant stock in the districts in Eastern States bordering Bangladesh

| Age group | 2001 | | 2011 | |
|---|---|---|---|---|
| | No of people | % share in total migrant stock | No of people | % share in total migrant stock |
| 0-4 years | 2,699 | 0.2 | 1,982 | 0.18 |
| 5-9 years | 7,348 | 0.55 | 3,467 | 0.31 |
| 10-14 years | 22,991 | 1.71 | 7,030 | 0.63 |
| 15-24 years | 72,081 | 5.35 | 38,340 | 3.41 |
| 25-34 years | 1,42,446 | 10.58 | 81,108 | 7.21 |
| 35-59 years | 6,48,416 | 48.14 | 5,01,655 | 44.62 |
| 60+ | 4,50,958 | 33.48 | 4,90,709 | 43.65 |
| Total | 13,46,939 | 100 | 11,24,291 | 100 |

## GS Paper II – Social Issue

# User data exposed due to flaws in UMANG portal: researchers

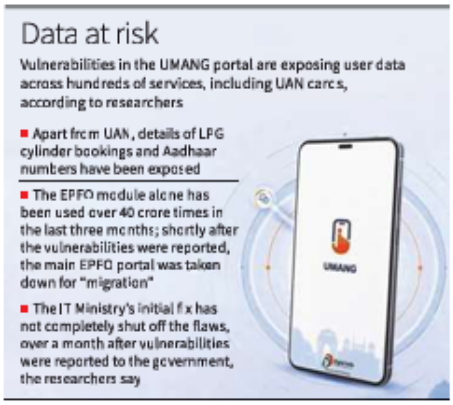
**UAN of PF subscribers, LPG booking details, and Aadhaar numbers among the exposed data; IT Ministry acknowledges vulnerabilities, says necessary measures are being implemented; initial fixes do nothing to fix the system, says researcher**

**Aroon Deep**
NEW DELHI

Multiple vulnerabilities in the UMANG, or Unified Mobile Application for New-age Governance, portal that aggregates hundreds of public services offered by the Union and State governments are leaving data of potentially millions of Indians exposed across a variety of databases, including those from the Employees' Provident Fund Organisation (EPFO), according to two security researchers who shared their findings with *The Hindu*.

The vulnerabilities, which have likely existed for years, affect several services tested on the UMANG portal, which has onboarded over 2,400 services. It stems from the architecture of the portal itself, said the researchers, Akshay C.S. and Viral Vaghela. "Almost everything is broken by design," Mr. Vaghela said.

The data exposed included Unique Account Numbers (UAN) with the EPFO, LPG cylinder booking details with at least one major oil marketing company, and Aadhaar numbers across several services where a user's ID details are saved. The Aadhaar numbers were found across many services in plain text, though such storage is disallowed by the Aadhaar Act, 2016. The Aadhaar module itself within UMANG was not vulnerable.




The EPFO module is UMANG's most-used service, recording over 40 crore transactions over the past three months.

The Ministry of Electronics and Information Technology acknowledged the vulnerabilities in a statement to *The Hindu*. "Our development and security teams have carefully examined the observations and are implementing the necessary corrective and preventive measures," the Ministry said. "The plain-text information in the concerned APIs has been appropriately encrypted."

### API review

The Ministry added that it has "reviewed the API transaction logs for the past three months" and found that "transaction volumes" were consistent and that it continued to keep a watch on activities on the UMANG portal.

*The Hindu* is withholding the precise technical details of the vulnerabilities, as they remain active despite the above interventions. The encryption the IT Ministry referred to is "flawed and inadequate", Mr. Akshay said, adding that a simple workaround allowed it to be cracked anyway. At *The Hindu*'s request, the researchers shared their findings with Karan Saini, another independent security researcher, who termed the vulnerabilities "significant".

"Considering that rate limiting was implemented and the large number-space of EPFO UANs, it is unlikely that the vulnerability could have been exploited to mirror the entire EPFO database," Mr. Saini said, referring to the steps taken by the site to limit the number of requests a user can make. Still, he added, it "could potentially have been abused by cybercriminals in possession of UANs to siphon funds at scale by allowing for both changing of bank account details and initiating payouts, which is very concerning".

"The fixes initially implemented following the disclosure appear to do nothing to secure the system and instead confuse obscurity with security, while also introducing another vulnerability in the process," Mr. Saini said.

Mr. Akshay and Mr. Vaghela reported both vulnerabilities to the IT Ministry and the Computer Emergency Response Team, India (CERT-In), which issues alerts and helps organisations across the country with fixes for vulnerabilities like these. Shortly after the pair reported the vulnerabilities, the EPFO took down its online portal for a "migration", and some services remained unavailable this week.

The researchers said they suspected this was in response to their alerts, which were also sent to the organisation. The Ministry of Labour and Employment did not respond to a request for comment.

"It is worth examining whether the fixes deployed on the UMANG portal were simultaneously deployed across the services for which UMANG acts as a proxy," Mr. Saini said.

## GS Paper III – Environment

# 'Rainfall has major impact on elephant movement in southern Western Ghats'

**Hemanth C.S.**
BENGALURU

The Centre for Wildlife Studies (CWS), in a new study conducted in the southern Western Ghats region of Karnataka and Kerala, has found that rainfall was the strongest environmental factor linked to reported elephant occurrence in both States.

The study titled 'Integrating Ecological Modelling and Local Knowledge to Understand Elephant Occurrence and Human-Elephant Interactions in the Southern Western Ghats' examines where people and Asian elephants are most likely to overlap across the southern Western Ghats and how that overlap may shift by 2030.

**Favourite hub:** Elephants near Kuttampuzha on the fringes of a forest in Idukki district of Kerala. FILE PHOTO

In 2022, 507 community residents were interviewed across villages surrounding the Bandipur and Nagarahole National Parks and the Palakkad and Mannarkkad forest divisions.

The CWS said rainfall emerged as the single strongest environmental factor linked to reported elephant occurrence, and that the relationships were often complex rather than following simple straight lines. "Human land use mattered too, but in revealing ways. In Karnataka, areas of human settlement were positively associated with reported elephant presence, suggesting that elephants there continue to use landscapes close to people. The authors interpret this cautiously: elephants appear to tolerate a certain amount of human pressure, but likely only up to a threshold beyond which they retreat," the CWS said.

The study also found that land-cover mapping showed an increase in human settlements and a decline in dense vegetation between 2012 and 2022.

What stood out was how deeply local communities understand elephant movement. "By bringing these two aspects together, we were able to build a much richer picture of where and why elephants move through these landscapes," said the CWS.

## GS Paper III – Science & Technology

# The right path for India's nuclear power development

**Meera Shankar**
Former Indian Ambassador to the United States

**Ajay Shankar**
Distinguished Fellow, TERI, and former Secretary, Department of Industrial Policy and Promotion (DIPP), Government of India

The country's nuclear future must balance growth with self-reliance and safety

International sanctions were imposed on India after its peaceful nuclear test of 1974. The India-United States civil nuclear deal, which was signed in 2008, ended the restrictions on the import of uranium and of nuclear power plants, with some critical exceptions. The free import of natural uranium has enabled India to grow its nuclear programme. Negotiations with major western nuclear power plant suppliers were started but had to be given up as their plants were far too expensive.

**Homegrown nuclear advantage**

Sanctions forced India to innovate. Every part going into India's nuclear plants was designed, developed, tested, and manufactured in India in patient partnerships between the Atomic Energy Commission (AEC) and Indian firms. The unit size of India's nuclear power plants went up from 200 MW to 500 MW. Now, 700 MW units have been developed. Four units are under construction and another 10 are being developed. India now makes the cheapest nuclear power plants in the world, costing approximately $1,700 per Kw. The South Korean plants cost more, around $2,200 per Kw, the French over $5,500 per kw, and the U.S. $15,000 per Kw. Therefore, India has the potential to become a major exporter of nuclear power plants.

With such a clear cost advantage and self-reliance, reports of plans to import nuclear power plants and technology indicate insufficient awareness of India's own capabilities and price competitiveness. The size of India's potential market for nuclear energy is so large that it would be rational for international suppliers to do whatever it takes to get a substantial share of this market. But would that be the optimum choice for India if costs are much higher or if it creates a new stream of technological vulnerability?

At this time, India has further strengthened its leadership in technology as its 500 MW commercial fast breeder reactor is getting commissioned after overcoming many difficult challenges. Today, India makes Pressurised Heavy Water Reactors (PHWR), which use natural uranium as fuel. The Light Water Reactors (LWRs) use enriched uranium as fuel and are based on uranium enrichment technology which is more widely used in the world. India should try and develop its own LWRs, specially as the Nuclear Suppliers Group waiver permanently prohibits the transfer of enrichment and reprocessing technology to India. This should not be beyond India's capabilities, given sufficient resources and a dedicated programme.

**Scaling up, staying self-reliant**

The government has decided that by 2047, India will develop 100 GW of nuclear power capacity. To achieve this, the sector has been opened up to new entrants from both the public and private sectors through enabling legislation that is well-crafted and investor-friendly. The price of nuclear power in India is now competitive *vis-à-vis* thermal power. The use of the proven, cost-competitive domestic technology by new entrants would be the ideal cost-effective way to scale up. A large programme has scale effects resulting in lower production costs. Further, new entrants could potentially reduce project execution costs and time. Bringing in technology streams and equipment which will give India far more expensive electricity should not merit serious consideration.

To meet the enormous dedicated power demands of artificial intelligence data centres, small modular reactors (SMRs) are being considered as a solution in the West. However, the designs remain under development, with commercial deployment yet to begin. The AEC has offered its technology for 200 MW nuclear plants to new entrants. Smaller unit sizes to suit emerging market needs can also be developed domestically in partnership between the AEC and Indian firms. The market for SMRs in India would be a bilateral contractual matter between the generator and buyer. From a regulatory perspective, there would be merit in taking the view that a foreign-designed SMR plant should have operated satisfactorily for a few years before being deployed in India. There would be little justification for an untested SMR being developed elsewhere being first deployed, experimentally, in India.

**Ambition needs caution**

Given the critical importance of ensuring the safety of nuclear power plants, it would be prudent that new players establish themselves before scaling up. India's record on safety in its nuclear plants has been exemplary till now. This must be preserved going forward. This will be a major challenge amid rapid expansion and the entry of new players, given the prevailing industrial culture in India, where accidents at construction sites and operating industrial plants continue to occur.

A single nuclear mishap could trigger a strong public backlash, similar to the one experienced by the West after Chernobyl (1986), which led to nuclear power development coming to a virtual standstill in many western countries. It would, therefore, be prudent for new entrants to initially develop only a few plants and establish the rigorous internal safety culture required for nuclear facilities, subject to continuous external auditing. Scaling up can thereafter take place gradually, without needlessly risking safety. The goal of achieving 100 GW of capacity by 2047 could be achieved safely while also strengthening self-reliance within India and enabling the country to become a globally competitive player.

## GS Paper III – Science & Technology

# Can biogas aid India's energy security?

India, which imports nearly 85% of its crude oil needs, remains vulnerable to global energy shocks. Over the years, it has pushed several initiatives to promote compressed biogas. Despite these efforts, progress has been limited; government support and incentives could provide a boost to the sector

EXPLAINER

V. Nivedita

Tensions in West Asia continue to keep global energy markets on edge. India imports nearly 85% of its crude oil needs, much of it from West Asia, and supplies faced disruptions due to the Israel-U.S.-Iran war. While the government has diversified its crude oil suppliers, around 90% of India's LPG imports still transit through the Strait of Hormuz, making any instability in the region a potential risk to India's energy security.

Over the years, India has pushed several initiatives to promote alternate fuels like compressed biogas to reduce dependence on imported fuel, tackle agricultural waste and support rural incomes. But despite ambitious targets and policy support, progress has remained limited.

**The search for an alternative fuel**

Biogas is a mixture of methane, CO2 and small quantities of other gases produced by anaerobic digestion of organic matter. It can be processed and compressed to get Compressed Biogas (CBG). It is chemically identical to CNG; renewable, carbon-neutral and can be produced from waste. It can be used directly to produce electricity, heating or as an energy source for cooking.

India has also been trying to blend biogas into its gas supply for at least a decade. The push gathered pace in 2018, when the Sustainable Alternative Towards Affordable Transportation (SATAT) initiative was launched with a target of establishing 5,000 plants by 2023. Only 132 are completed as of June 3, 2026.

The Centre launched the GOBARdhan (Galvanising Organic Bio-Agro Resources Dhan) scheme to increase CBG production. Under this 'waste to wealth' programme, the government offered grants of up to ₹50 lakh per district for

A biogas plant at the Waste-to-Energy unit in Koramangala in Bengaluru. J. ALLEN EGENUSE

community biogas plants. ₹564 crore was earmarked for the purchase of biomass collection machinery, while ₹994 crore was allocated to build pipelines connecting biogas plants directly to the gas grid.

However, progress on the ground has remained limited. The lack of infrastructure, poor private investment, difficulties in accessing formal credit and high upfront cost of technologies have stalled progress. Financial support from the government can make biogas projects economically viable. Other incentives, like accelerated depreciation and tax holidays, would also help attract private players.

**Impact on cultivation patterns**

The development of biogas has been uneven across the world, with Europe, China and the United States accounting for 90% of global production.

Germany is one of the largest producers in Europe, along with France, Denmark and the U.K. The fillip for the sector came in 2000, when Germany introduced the Renewable Energy Sources Act to incentivise production. Over the years, it introduced schemes to guarantee income to producers, gave bonuses to help operators increase their income and encouraged small-scale biogas plants. However, the country's push for biogas triggered a "corn mania", with maize cultivation rising sharply because it was highly profitable for farmers. Maize slowly started to replace other food crops. Over a decade later, the government was forced to step in and control this by introducing a cap on the use of maize in biogas plants.

This danger hits close to home. The Economic Survey 2026 noted that maize cultivation in India has increased sharply, potentially affecting crop diversity and food security. It noted that while the national maize yield increased from approximately 2.56 tonnes per hectare in FY16 to roughly 3.78 tonnes per hectare by FY25, the yields for soybeans, sunflower, rapeseed, peanuts and millets, among other crops, have either stagnated or declined.

While this trend could be attributed to technological advancements, ethanol pricing can be an important factor.

The government fixes administered per-litre ethanol prices based on the feedstock used. The price for maize-based ethanol is higher, while the price for rice-based ethanol is lower. The price for molasses-based ethanol is fixed between the two. Between FY22 and FY25, the administered price of maize-based ethanol grew at a compound annual growth rate (CAGR) of 11.7%, making maize more lucrative for farmers.

While maize's area under cultivation and production jumped between FY22 and FY25, pulses output declined, while oilseeds and other cereals registered only modest growth.

India imports large quantities of pulses and edible oils to meet demand. Yet, instead of focusing on increasing production, the government's policy might inadvertently disincentivise farmers from cultivating them. Over time, this could increase India's dependence on imports and expose domestic food prices to greater volatility during supply shocks.

Denmark, which is targeting to use only biomethane in its gas system by 2030, offers a solution. The government discouraged the use of crops as feedstock, and the primary source is livestock manure and agricultural waste.

**Government's action plan**

In 2023, the National Biofuels Coordination Committee approved a mandatory blending obligation. Gas distributors have been mandated to blend CBG into their supply from FY26. It would start at 1% and rise to 5% by FY29. In her Budget speech in February 2024, Finance Minister Nirmala Sitharaman said the phased blending of CBG in CNG for transport and Piped Natural Gas for domestic purposes "will be mandated."

To meet these targets, the government is ramping up the establishment of plants.

The question is whether the government can replicate India's ethanol blending programme with CBG. In 2014, just 1.5% of petrol was blended with ethanol. By December 2025, it had hit 20%, five years ahead of the original 2030 target.

**THE GIST**

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