NEWS ITEMS ON CAG/ AUDIT REPORTS

1. High coverage, high enrollment, but a persistent 'health protection gap': Evaluating Modi's PMJAY *(newslaundry.com)*

10 Apr, 2024

Who really pays for it? Who's left out? A report card on the flagship insurance scheme.

It's 2018 in India. Your average per capita income is Rs 91,921 a year and 16 percent of this, Rs 20,135, could go towards a single hospitalisation. You're unlikely to have insurance either – at this point in time, just 19.1 percent of urban Indians and 14.1 percent of rural Indians have medical insurance.

And yet you're one of the lucky ones. For India's poorer families, medical expenditure is far more devastating, considering they are unlikely to earn even a fraction of this income in the first place. And more than 80 per cent of India have no way to pay for their hospitalisation except through out-of-pocket expenditure.

This is the context in which the Narendra Modi government launched the Pradhan Mantri Jan Arogya Yojana, or PMJAY, in 2018.

PMJAY is the world's largest publicly funded health insurance scheme, providing secondary and tertiary care hospitalisation services to about 15.5 crore poor and vulnerable families in India. These 60 crore beneficiaries form the bottom of the population (in terms of income and assets) and are the most likely to not get medical help because they can't afford it.

The help and hope offered by PMJAY to these families can't be overstated – but there are drawbacks.

One, it does not cover costs incurred on out-patient care, which is 40-80 percent of all out-of-pocket medical expenses incurred in India.

Two, PMJAY is a fully government-funded programme where the central government pays 60 percent of total costs for most states, while state governments pay the rest. However, the actual split is roughly around 28 percent by the centre and 72 percent by the states, as we'll explain later in the story.

Three, despite PMJAY and its ambitions, about 40 crore people – 30 percent of the population – still have no medical coverage at all.

So, what's gone wrong and right with the Modi government's flagship insurance programme? How does it stack up to similar initiatives by the former UPA government? Which states lag in terms of coverage? Are as many women as men getting access?

Let's find out.

A little context

First, some background on how PMJAY works.

PMJAY provides beneficiaries with a cover of Rs 5 lakh per family per year for secondary and tertiary care hospitalisation at public and private-empanelled healthcare providers.

Benefits under PMJAY are portable across the country. A beneficiary can visit any empanelled private or public hospital in India to avail of cashless treatment even if they're signed up for the scheme in a different state.

One of the stated goals of the scheme is to "mitigate catastrophic expenditure on medical treatment". Scheme beneficiaries can avail of nationwide cashless access to treatments for approximately 1,929 procedures, covering up to three days of pre-hospitalisation and 15 days of post-hospitalisation expenses.

Other costs related to treatment – like drugs, supplies, diagnostic services, physician's fees, room charges, surgeon charges, and OT and ICU charges – are also covered. All pre-existing conditions are covered from day one with no cap on family size and age. But, as mentioned before, PMJAY does not cover out-patient care.

The primary criteria for PMJAY eligibility were derived from the Socio-Economic Caste Census of 2011, which identified poor and vulnerable families in rural and urban India based on a list of depravity criteria. Based on this data, the scheme targeted 10.74 crore families and around 50 crore individuals.

By 2022, the beneficiary base was broadened to cover 12 crore families by including households enrolled under the National Food Security Act for foodgrain distribution. Additionally, it included families covered in the Rashtriya Swasthya Bima Yojana (launched by the UPA government in 2008) but who were not present in the census database.

Based on additional criteria added by certain states and union territories, the list of eligible beneficiaries as of 2023 has been expanded further to about 15.5 crore families. States have to pick up the full tab for any beneficiaries added beyond the criteria established by the central government (SECC 2011, NFSA, and RSBY). At least 23 states have opted for this approach. Through this, they either reach a much larger number of people or provide coverage of more than Rs. 5 lakh or both.

States can implement PMJAY either under a trust mode (the state directly implements the scheme without the involvement of an insurance company), an insurance mode (an insurance company is selected to manage the scheme), or a hybrid mode that combines aspects of both.

As of 2024, 23 states and UTs have opted for the trust mode, seven for the insurance mode, and three for the hybrid mode. West Bengal, Odisha and Delhi have opted out of PMJAY entirely, citing their own state-level schemes.

The finances of PMJAY

In most states and union territories with a legislature, the central government bears 60 percent of the cost and the states 40 percent. In Himachal Pradesh, Uttarakhand, Jammu & Kashmir, and the seven Northeastern states, the sharing ratio is 90:10. For states and UTs without a legislature, the central government may contribute up to 100 percent on a case-by-case basis.

However, there is an important caveat to this cost structure.

The central government defines a ceiling rate for insurance premiums paid per family which sets a maximum limit to the central share of contribution. The centre's contribution is roughly 60 percent of this rate in line with its cost-sharing formula described above. As of 2023, this cap is Rs 1,500. If insurance companies or state agencies charge higher premiums than the cap in their respective territories, the extra amount is borne by the states and UTs.

From 2019 to the end of 2023-24, the centre spent Rs 23,575.89 crore on PMJAY. For the sake of simplicity, we'll assume all states and UTs paid 40 percent, which means states and UTs paid a total share of Rs 15,717.26 crore. This gives us a total government expenditure of about Rs 39,293 crore on PMJAY.

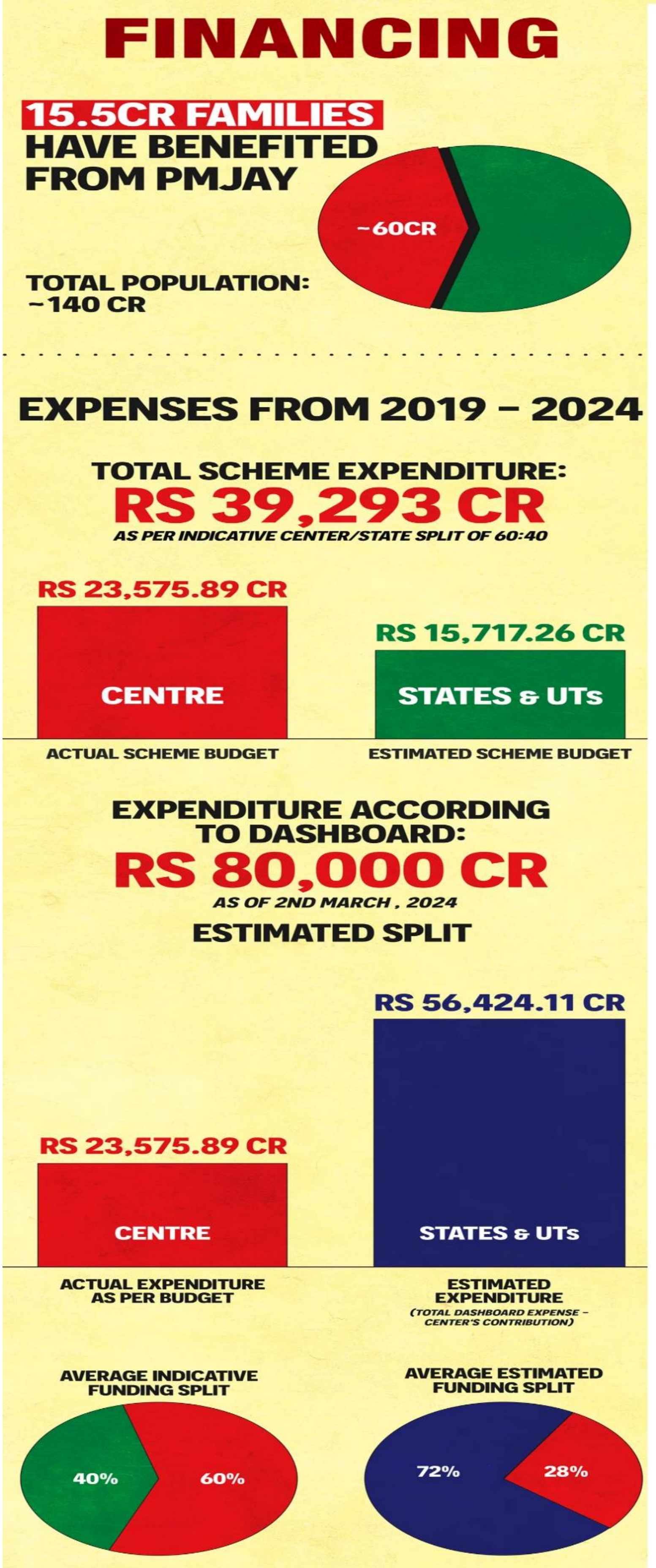
We'll assume further that all this money was spent on insurance and state agency premiums alone, with administrative costs being negligible.

Now we come to the crux of the matter. As of March 2, 2024, the PMJAY dashboard says Rs 80,000 crore was spent on authorised hospital admissions. This gives us a claims ratio of over 200 percent – meaning more than twice the amount paid as premiums (by centre and state) was spent on hospitalisations. How could this have happened?

So, if the centre spent only Rs 23,575 crore and the total expense was Rs 80,000 crore, the only logical implication is that the remaining amount was borne by states, UTs and payouts by insurance companies. No insurance company will take consistent losses if the premiums paid to them don't cover the payouts being made. And we already know the centre capped its contribution to insurance premiums.

Using this maths, it is reasonable to conclude that the actual funding split for PMJAY is around 72 percent by states and 28 percent by the centre – a significant departure from the indicative 60:40 split.

In principle, this is perfectly acceptable as health is a state subject. However, in practicality, this does not point to a long-term financially viable scheme. The fiscal burden of this scheme is bound to waiver the state governments' resolve at some point. The additional burden on state finances also assumes greater significance given the ongoing fiscal tussle between the centre and states.


FINANCING
15.5CR FAMILIES HAVE BENEFITED FROM PMJAY
~60CR
TOTAL POPULATION: ~140 CR
EXPENSES FROM 2019 – 2024
TOTAL SCHEME EXPENDITURE:
RS 39,293 CR
AS PER INDICATIVE CENTER/STATE SPLIT OF 60:40
RS 23,575.89 CR
CENTRE
RS 15,717.26 CR
STATES & UTs
ACTUAL SCHEME BUDGET
ESTIMATED SCHEME BUDGET
EXPENDITURE ACCORDING TO DASHBOARD:
RS 80,000 CR
AS OF 2ND MARCH , 2024
ESTIMATED SPLIT
RS 56,424.11 CR
RS 23,575.89 CR
CENTRE
STATES & UTs
ACTUAL EXPENDITURE AS PER BUDGET
ESTIMATED EXPENDITURE
(TOTAL DASHBOARD EXPENSE – CENTER'S CONTRIBUTION)
AVERAGE INDICATIVE FUNDING SPLIT
40%
60%
AVERAGE ESTIMATED FUNDING SPLIT
72%
28%

Hits and misses

Now, let’s turn to how PMJAY fares under various metrics.

Scheme coverage

The number of families verified and successfully enrolled by each state is directly proportional to the funds that the centre will release to the state under the programme. Thus, it is in every state’s interest to enrol as many eligible families as they can under the centre’s criteria.

As discussed earlier, beneficiaries for the scheme have been identified using data from the 2011 Socio-Economic Caste Census, the National Food Security Act and the Rashtriya Swasthya Bima Yojana. States have also been given considerable freedom to identify, verify, and enrol eligible families using their best available data.

Twenty states chose to use only Census or SECC 2011 data. Others like Andhra Pradesh, Tamil Nadu, Kerala and Chhattisgarh relied on data prepared by their civil supplies departments. Yet others relied on data sources like the Public Distribution System in the case of Jharkhand, or the state statistical outline in the case of Himachal Pradesh. The full list of how different states identified eligible families can be accessed here.

But while the original coverage aggregate target of 12.09 crore beneficiaries has been superseded at the national level, there is a considerable difference in performance at the state level.

States and UTs like Puducherry, Uttarakhand and Ladakh verified more than 1.5 times the target provided to them. Others like Uttar Pradesh, Madhya Pradesh and Haryana, though usually basket cases of misgovernance, performed well by superseding their target by more than 25 percent. In fact, most states and UTs superseded or nearly fully met their targets, barring these three groups of states:

(1) Punjab, Mizoram, Jharkhand, Chandigarh and Nagaland with verification rates of 80 percent.

(2) Goa and Manipur with verification rates of 60-70 percent.

(3) Sikkim, Arunachal Pradesh, Tamil Nadu and Bihar with verification rates languishing at 50 percent or below.

The worst performance on this metric has been clocked by Tamil Nadu and Bihar with verification rates of 39.66 and 32.15 percent, respectively.

The case of Tamil Nadu is most curious as it is one of the wealthiest states in the country with an elaborate welfare setup. But this anomaly is explained by the state’s own Chief Minister's Comprehensive Health Insurance Scheme which gives health cover to an estimated 1.57 crore families, more than twice its target estimate under PMJAY.

The case of Bihar is more troublesome. The state has verified only one-third of its target while it has no complementary scheme at the state level. It recently announced setting one up but that would come into play only next year.

Similarly, Manipur and Nagaland have state-level schemes that target another one lakh families each. This might explain their below-average performance for PMJAY.

Cards issued

The Modi government has been racing against time to issue as many PMJAY cards as possible before the Lok Sabha polls. The interactive chart below summarises the performance of different states in the issuance of PMJAY cards.

Nineteen states have performed better than the national level of 57.46 percent, issuing about 31 crore cards. Fourteen have fared below this average. This includes typically better-governed states like Kerala, Tamil Nadu, and Karnataka. The high enrollment in their state-level schemes could explain these states' low issuance of cards against their PMJAY target.

However, the worst-performing state here too is Bihar. The state's performance is horrendous at a mere 13 percent of the cards issued against the target.

Under PMJAY, 17,135 public and 12,626 private hospitals have been empanelled for a total of 29,761 hospitals. The average number of beds in these empanelled hospitals is 48. This works out to an average of 14.28 lakh beds for 31.63 crore beneficiaries – about 4.5 beds per 1,000 people.

As low as it seems, this number is still many times better than the national average of 0.6 beds per 1,000 people.

The interactive chart summarises the number of hospitals empanelled per state against the beneficiaries targeted and enrolled. At an all-India level, there are about 9.41 hospitals per lakh of beneficiaries enrolled. Twelve states are below the national average, including Kerala.

The case of Kerala is interesting because it has 1.13 "government" hospital beds per 1,000 people. The state's public health infrastructure alone (without accounting for private care available) puts it at nearly twice the national average of 0.6. However, the number of hospitals in the state is just 3,556 for a population of nearly 3.51 crore people. This implies 10.13 hospitals per lakh people in the state. On the face of it, this number seems low. However, when juxtaposed with the bed-to-population ratio, it likely points to an average hospital in Kerala having a much higher bed capacity. The same logic likely explains the state's low rank on the hospital empanelment metric under PMJAY.

The rest fare better, with Karnataka, Sikkim, Tamil Nadu and Arunachal Pradesh being the best.

An important aspect is the uneven distribution of empanelled hospitals within a state. For example, in Tamil Nadu, Thoothukudi district has 19.59 lakh people and Chennai district has 49.86 lakh people, or 2.5 times more people. Chennai also has nearly 3.8 times as many empanelled hospitals as Thoothukudi. This variance in access to care is noticed throughout the country.

Another statistic of concern is that over 25 percent of all empanelled hospitals in the country are inactive. That needs to be looked into because it results in poor access to care despite signing up for benefits of the scheme.

Authorised hospital admissions by state

India’s average hospitalisation per 1,000 people was 29 in 2019-20. However, average hospitalisation per 1,000 people is nearly 160 under PMJAY. This is a significant outcome that the government can be proud of. It implies that a larger proportion of those in need of hospital care in India, especially from the lowest economic strata of our society, are able to get it.

Better-governed southern states lead on this metric, while the usual suspects struggle to keep pace. Big states like Maharashtra, Uttar Pradesh, Bihar, Madhya Pradesh, Haryana and Telangana are all below the national average. This further underscores the need for spreading awareness in these states regarding the benefits of these schemes.

Gender

Research into previous government funded health insurance schemes reveals that women tend to have unequal access and utilisation of their entitled coverage despite having the same benefits as men.

For example, the Rajiv Arogyasri Community Health Insurance Scheme in undivided Andhra Pradesh indicates that women had a lower share of hospitalisation (42 percent) when compared to men. Data from various districts in Tamil Nadu also reveals a lower utilisation level for women, ranging from 20 to 40 percent.

PMJAY seems to have circumvented the issue of gendered variation in access to care, at least at the national level for which the data was easily available. The share of men and women in the issuance of PMJAY cards as well as hospitalisations is nearly equal. This is a huge accomplishment.

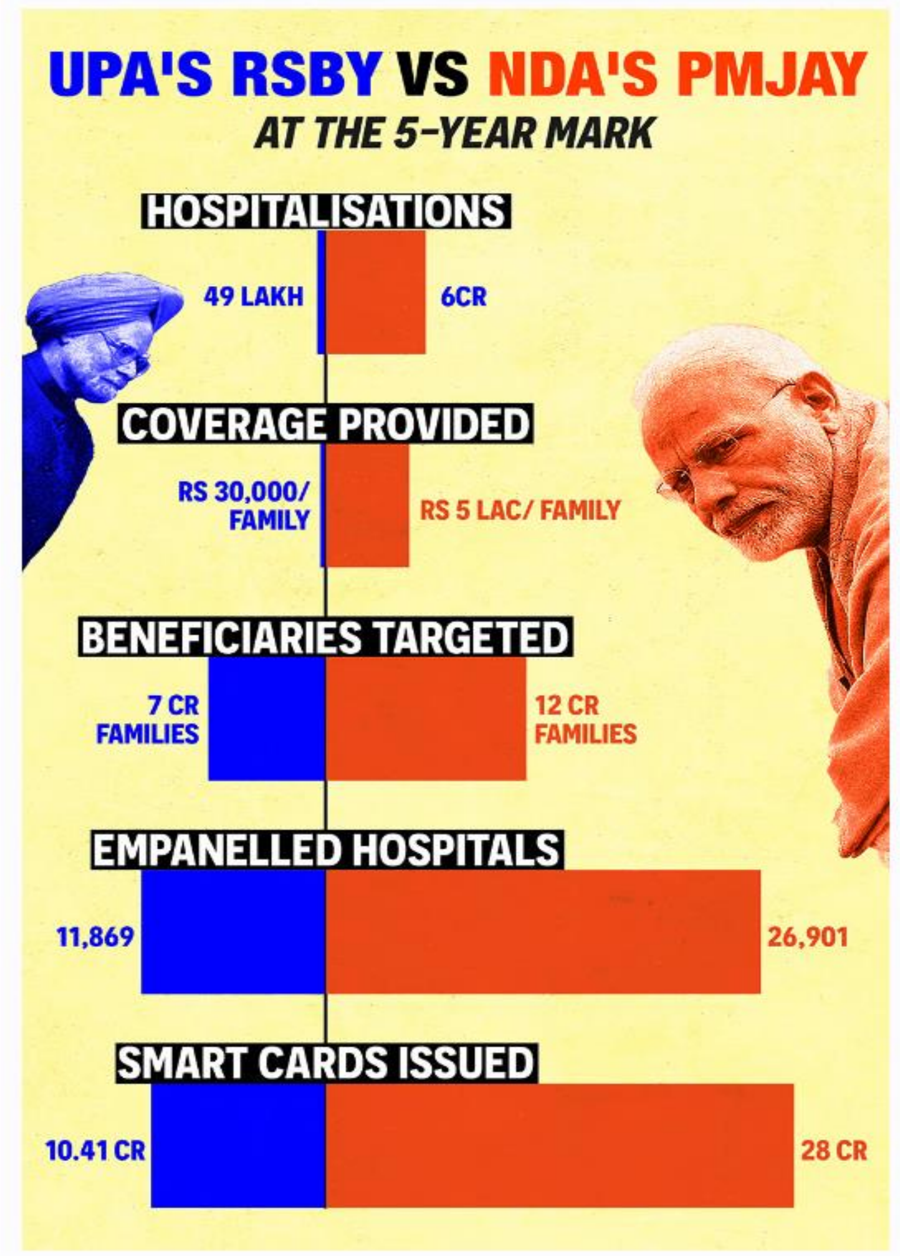
UPA vs NDA

PMJAY is a signature Modi scheme – a scaled-up version of the UPA’s Rashtriya Swasthya Bima Yojana in all aspects. This includes the beneficiaries targeted (12 crore versus 7 crore), coverage provided (Rs 5 lakh versus Rs 30,000 per family), and beneficiary enrolment mechanisms (entitlement versus voluntary).

Aside from its scope and ambition, PMJAY also seems to have beaten RSBY on execution on key metrics.

After five years of its implementation, RSBY managed to issue only about 10.41 crore smart cards to its beneficiaries while PMJAY issued over 28 crore. Similarly, while RSBY funded only about 49 lakh hospitalisations, PMJAY funded over 6 crore. On the metric of empanelled hospitals too PMJAY superseded RSBY by adding 26,901 hospitals, nearly 2.5 times as many.

While some might argue that the relative rapidness of PMJAY's success stems from it subsuming RSBY and building on top of it using UPA-era digital commons (undeniably true), PMJAY's ambition and success stand on their own merit. However, as we see in the next section, it is not without its fair share of discrepancies and lacunae. There is plenty of scope for its improvement.



Discrepancies in the scheme

In August 2023, the Comptroller and Auditor General of India submitted an audit report on PMJAY that highlighted many shortcomings in the scheme.

Some of the key structural deficiencies that the report mentions are quoted below:

• In several states/UTs, there was a shortage of infrastructure, equipment, doctors, etc. Available equipment was found non-functional. Some of the empanelled healthcare providers neither fulfilled minimum criteria of support system and infrastructure nor conformed to the quality standards and criteria prescribed under the guidelines.

• In several states/UTs, mandatory compliance criteria for empanelment of hospitals were not fully followed. These related to issues of infrastructure, fire safety, biomedical waste management, pollution control and hospital registration certifications. In some cases, fire safety certificates had expired before the provider's empanelment under PMJAY.

• Some of the empanelled healthcare providers did not conform to prescribed quality standards and criteria which were crucial to the safety and wellbeing of the beneficiaries and were mandatory minimum conditions for empanelment.

• Anti-fraud cells were not set up in four states and UTs. Meanwhile, claim review committees were not set up in 11 states and UTs, and morbidity review committees in 11 states and UTs.

• State or district grievance redressal committees were either formed after a delay, or without adequate members to carry out their proper functioning, or not set up at all. In cases where bodies were set up, some of them failed to meet regularly.

• Seven states and UTs did not adopt the whistleblower policy to receive complaints related to disclosures on allegations of corruption, medical and non-medical fraud, etc against any stakeholder involved with the implementation of PMJAY.

• Audits were either not conducted or conducted in fewer numbers in 22 states and UTs.

These findings underline the importance of taking steps to fortify both the quantity and quality of healthcare providers to keep up with the increased demand resulting from PMJAY. They also highlight the challenges of formulating nationwide schemes given highly uneven resources, capabilities and even political will within different states.

The main administrative deficiencies pointed out include:

• Instances where hospitals were empanelled but specific treatments were not was noticed across several states.

• Beneficiaries were treated for non-empanelled services. Around 14,000 people were charged by hospitals in such circumstances leading to high out-of-pocket expenditure.

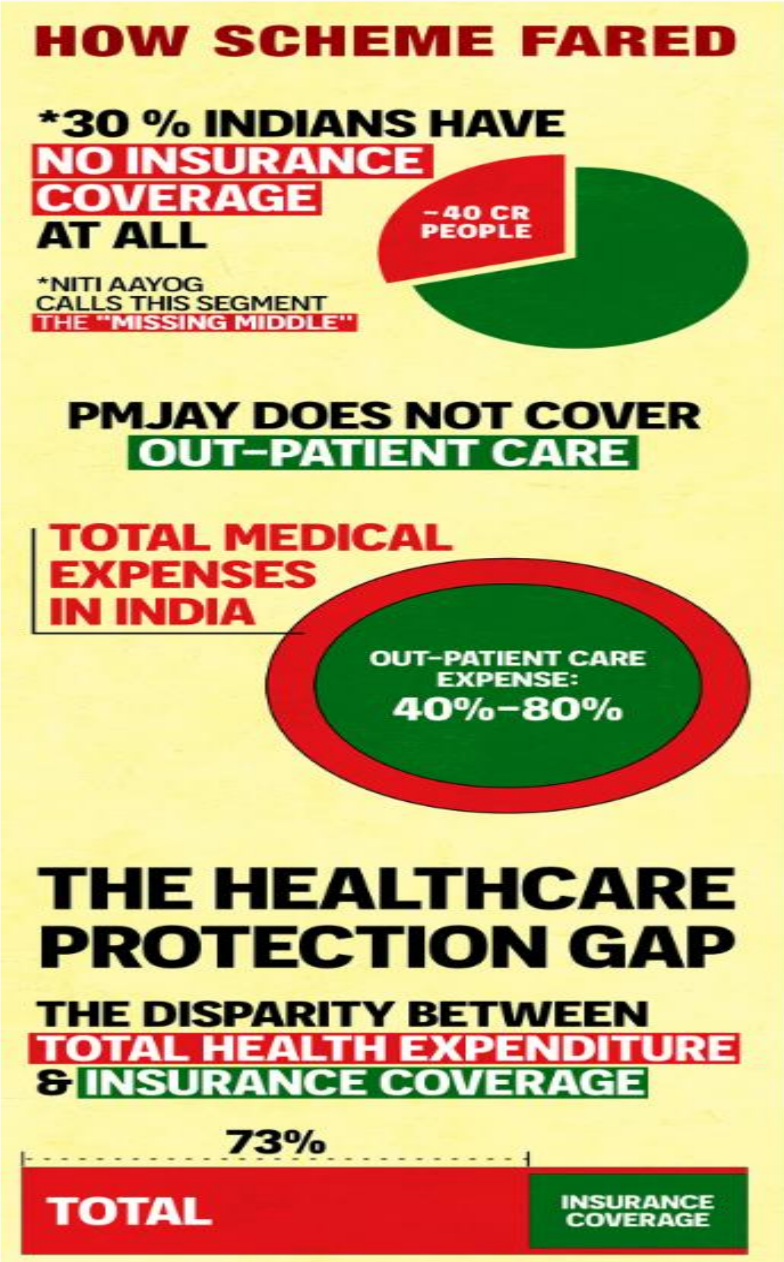
• Registration of multiple beneficiaries against same or invalid mobile numbers.

• Physical verification was not conducted by the district empanelment committee before empanelment of EHCPs in at least three states.

• De-empanelled hospitals providing care and being compensated for it post exclusion from the scheme.

Most of these findings are not egregious. Also, some administrative irregularities are inevitable given the scope and scale of the scheme. As the scheme guidelines evolve, many of these issues will likely improve.

The government's response to the CAG report wasn't this sanguine though. In fact, in a rare instance of public inter-agency friction, the government issued a press release to rebut the CAG report. There were even reports that the officials responsible for the report were transferred shortly. Such needlessly angry reactions show the government in poor light and tarnish the image of an ambitious scheme that is otherwise making a real impact on the ground.



Fixes for the future

As the Standing Committee on Health noted in its report on the Ayushman Bharat scheme, there is much for India to learn from the experience of Latin American countries and the US, as far as universal health coverage goes.

While insurance schemes targeted at specific sections of the population might be a good place to start, long-term financial viability and affordability of the system will likely depend on a broader risk pool that includes poor and vulnerable families as well as high-income families. This will prevent the issue of adverse selection and allow for some cross-subsidisation.

It is also a cause of concern that almost half a decade has passed and only about 57 percent of verified beneficiaries have been on-boarded onto the scheme. States need to catch up on enrolling beneficiaries rapidly. The Standing Committee's report points to an information, education and communication gap that various stakeholders, including NGOs and civil society, need to help fill. Beneficiaries need to know about their eligibility as well as how and where to exercise their entitlements.

As enrolment numbers increase and people have more awareness, service usage under the scheme will naturally increase. This will pose a greater fiscal strain on government finances, especially state budgets, given the current structure of the scheme where the central funding has a cap. As costs of the programme inevitably increase over time, governments will need to find the budgetary resources to ensure quality of care does not suffer. As demand increases, governments should also consider investing in healthcare facilities in areas where there is particular paucity.

As we mentioned at the start of this story, as much of 80 percent of out-of-pocket expenditure is due to out-patient care costs that are not covered under the scheme. This is an area of service enhancement that the government must consider since one of the most pertinent policy goals of PMJAY is to reduce the burden of out-of-pocket expenditure on India's poorest families, thereby preventing catastrophic healthcare expenditure.

There are also closer-to-the-ground implementation hurdles that can greatly improve the customer service experience of beneficiaries. For example, in the same report, the Standing Committee found that several empanelled healthcare providers were not offering all specialities available at their hospital under PMJAY even if there was a corresponding package for it. The committee rightly insisted that these specialities be included in a time-bound manner.

Health insurance fraud is another area of concern. To give some context, the incidence of health insurance fraud in the United States and Europe is estimated to be 10 percent of healthcare spending. In India, that number could be as high as 35 percent – and the National Anti-Fraud Unit of the National Health Agency is only able to detect frauds in about 0.25 percent of total admissions. We need to have more robust fraud detection capabilities that detect unnecessary medicalisation and false medical billing, to prevent costs from spiralling. The practice of following evidence-backed standard critical protocols before recommending procedures, especially those that are medically invasive, should be mandated as far as reasonably possible.

Finally, let's expand the scope of the discussion beyond just PMJAY to the larger question of healthcare coverage of the general population. According to Niti Aayog, at least 30 percent of the population (40 crore individuals), referred to as the "missing middle", are devoid of any financial protection for health. In the absence of a low-cost health insurance product, the missing middle – spread across rural and urban areas – remains uncovered despite the ability to pay nominal premiums.

There's another metric that tracks adequacy of health coverage. This is the health insurance protection gap, the subject of this 2023 report by the National Insurance Academy. The health insurance protection gap denotes the disparity between an individual's total healthcare expenditure and the extent of health insurance coverage they possess. The overall gap for the entire sample was estimated at 73 percent.

This indicates a significant gap in health protection. It's likely a consequence of insufficient insurance coverage and escalating healthcare costs, including medical inflation. This protection gap is widespread across class, gender, rural/urban areas, age groups, occupations, etc. It is a truly pan-India problem that nearly 75 percent of Indian households face, despite close to 70 percent of them having access to some form of public or private insurance.

With the ambitious target of universal healthcare firmly in sight, it is imperative that India figures out a way to insure the missing middle and close the protection gap. After all, that's what Viksit nations do. https://www.newslaundry.com/2024/04/10/high-coverage-high-enrollment-but-a-persistent-health-protection-gap-evaluating-modis-pmjay

2. As Focus Shifts To E-ways, Centre Plans Change In Construction Norm To 'Lane Km' *(swarajyamag.com)* Apr 10, 2024

the Centre is set to shift its approach to measuring highway construction in the country, moving from the 'road km' metric to 'lane km' starting this fiscal year.

This change reflects a heightened emphasis on constructing more expressways and roads with at least four lanes.

Presently, the linear length method gauges the progress of constructing and widening national highways (NHs), treating every kilometre of both a six-lane road and a two-lane road as equivalent to 1 km.

In fact, even railways calculate its laying of tracks and electrification in terms of route km.

"Overall highway construction as per current road km norm is almost at peak. Now we are building more high-speed roads & expressways. Hence, going ahead with the current norms will have little relevance," reports ET.

In order to maintain data consistency when comparing with previous years, the records of national highway construction from earlier periods will be converted into lane kilometers.

Last year, a significant controversy erupted following a report by the CAG, which highlighted the "very high" civil construction cost of the 29-km Dwarka expressway.

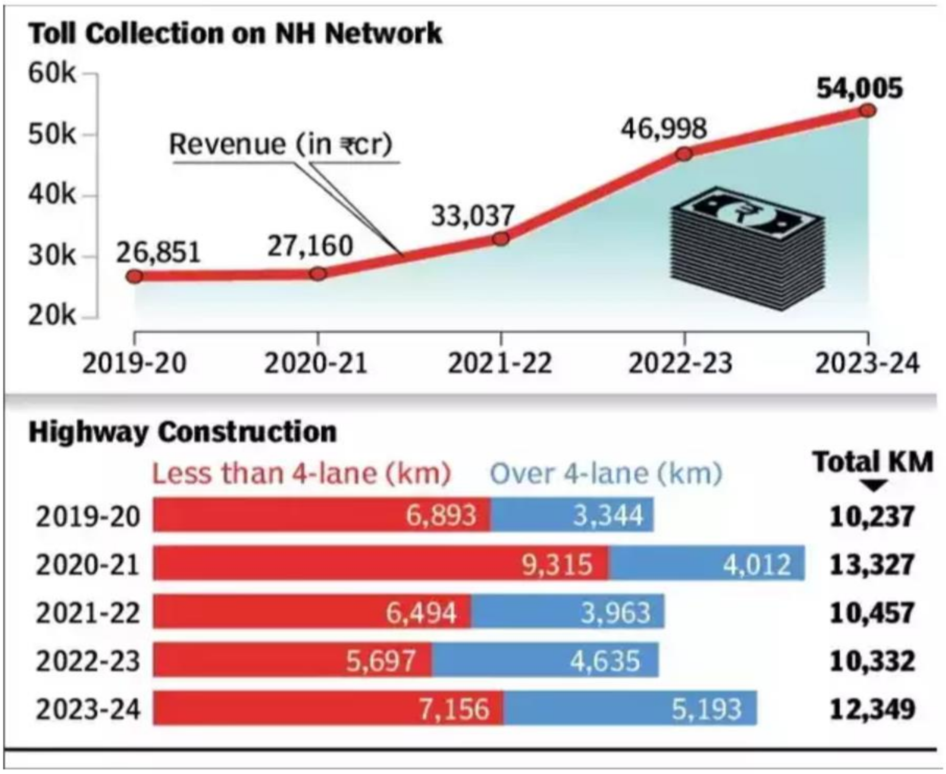
The report indicated an average cost per kilometer of Rs 251 crore, compared to the government-approved Rs 18.2 crore per kilometer. In response, the highway ministry emphasized that the stretch, inclusive of elevated and underground structures, was 563 lane km. https://swarajyamag.com/infrastructure/as-focus-shifts-to-e-ways-centre-plans-change-in-construction-norm-to-lane-km

3. Govt likely to change construction norm to ‘lane km’ as focus shifts to building high speed NHs, e-ways *(timesofindia.indiatimes.com)* 10 Apr, 2024

NEW DELHI: Govt is likely to modify the method of measuring highway construction in the country from ‘road km’ to ‘lane km’ from this financial year as the focus now shifts to building more expressways and roads that are of at least four lanes. For actual comparison with past data, the NH construction details of earlier years would be converted to lane km, sources said.

Currently, the linear length method is used for measuring the progress of construction and widening of NHs. So, both a single kilometre of a six-lane road and a two-lane is treated as one kilometre. “The overall highway construction as per the current road km norm is almost at peak. Now we are building more high speed roads and expressways and hence going ahead with the current norms will have little relevance,” said a source. In fact, even railways calculate its laying of tracks and electrification in terms of route km.

Last year, a huge controversy had broken out after the CAG, in its report, had pointed to “very high” civil construction cost of the 29-km Dwarka Expressway. While it had said that the average cost per km stood at Rs 251 cr against Rs 18.2 crore per km approved by govt, the highway ministry had pointed out how the stretch, including elevated and underground structures, was 563 lane km.



As per the latest data, the NH construction and widening during 2023-24 touched 12,349 km and 42% (5,193 km) of these were of more than four lanes. This is the maximum ever construction of such highway stretches. Data also show that the collection of toll from commuters during last financial year touched an all time high of Rs 54,814 cr compared with Rs 47,153 cr during the previous financial year.

Officials also said that the road transport ministry is looking at options to use both Automatic Number Plate Recognition (ANPR) and Global Investigation Satellite System (GNSS) based tolling collection mechanism so that people don't need to stop at any toll plaza. https://timesofindia.indiatimes.com/india/govt-likely-to-change-construction-norm-to-lane-km-as-focus-shifts-to-building-high-speed-nhs-e-ways/articleshow/109173314.cms

4. From struggling to buy fighter jets during Congress rule to exports worth Rs 88,000 crores under Modi govt: How defence sector is powering Atma Nirbhar program *(opindia.com)* 9 April 2024

Post-2014, the defence sector has seen a drastic transformation and is witnessing a quantum jump. Now, the Indian defence sector is manufacturing hardware not only for the utilisation of the Indian armed forces but for exporting to other nations as well.

Ensuring the territorial sovereignty and safety of the most populous country in the world requires not only soldiers but also a significant arsenal of state-of-the-art defence hardware and software. However, after its Independence, India was forced to rely on other countries such as Russia, France, Israel, and the United States to meet the requirements of its armed forces and had negligible defence exports.

The country had to import everything from rifles to fighter jets, increasing concerns about India's dependence on foreign countries. Over the years, India became the world's largest arms importer. During the Congress era, Defence Minister AK Antony had admitted that the government did not have the money to buy weapons. In March 2013, a CAG report revealed that the country did not even have ammunition to fight the war for 10 days.

Post-2014, the defence sector has seen a drastic transformation and is witnessing a quantum jump. Now, the Indian defence sector is manufacturing hardware not only for the utilisation of the Indian armed forces but for exporting to other nations as well. Conspicuously, the country's defence exports have increased manifold. Several prominent weapons manufacturing giants have started to manufacture defence equipment in India. Additionally, new Indian players have started to make their mark in the defence manufacturing sector. Pending defence projects have started to gain momentum and armed forces have gained renewed confidence in Made in India products. Overall, the Modi government has been committed to promoting indigenous defence manufacturing.

Exports increased by over 20 times compared to the UPA era

During the ten years of the Modi government, India's defence exports have increased by more than 20 times. This upsurge is attributed to the production of high-quality defence products within the country. Notably, nations like Armenia, Bangladesh, and the Philippines are making multi-crore defence deals with India to import defence hardware including Brahmo's missile deals from India. Examining the data reveals that during the UPA government's tenure (2004-14), India exported defence products worth a total of Rs 4312 crores.

Registering a growth of more than 1900%, the defence exports amounted to Rs 88,319 crore in the ten years of the Modi government (2014-2024).

In the fiscal year 2023-24 alone, the country's defence exports stood at a historic high of Rs 21,083 crores, up from Rs 15,920 crores in 2022-23. This represents a significant increase of 32.5% within just one year. What's noteworthy is that 60% of these defence exports were from government defence manufacturing institutions, totalling more than Rs 12,000 crores.

India has exported heavy defence hardware to Armenia, including air defence systems, ATAGS (artillery guns), Pinaka rocket systems, and Swathi radars. Likewise, India has also exported BrahMos missiles to the Philippines. Bangladesh has been continuously purchasing defence products from India. During the ten years of the Modi government, India has come out of the shadows from merely being a defence importer to making huge strides in export as well as manufacturing defence hardware through Atmanirbhar defence and Make in India initiatives.

Self-reliance and roping foreign weapon giants to Make in India

While Indian defence manufacturers have progressed significantly over the past 10 years, foreign companies are also coming to India for manufacturing. Notably, Israel's IWI is collaborating with the PLR company to manufacture rifles in the country, a Korean company is partnering with L&T to manufacture Howitzer guns. Likewise, Airbus is manufacturing C-295 aircraft for the Indian Air Force in Vadodara, Gujarat. Additionally, the Israeli company Elbit Systems and Aerospace in collaboration with Adani gave the Indian Navy its first 'Made In India' long-endurance drone, the Drishti 10 Starliner UAV.

To promote self-reliance, the Defence Ministry has initiated the issuance of multiple 'import embargo' or negative arms import lists. As of May last year, the Modi government had announced a list of 928 military items, that will come under a phased import ban between December 2023 and December 2029. The 'import embargo' list means that the listed defence hardware will not be imported (barring extreme scenarios) and they must only be purchased from Indian manufacturers. So far, MoD has issued five such lists and it covers items used in fighter planes, trainer aircraft, warships, and different types of ammunition.

New startups are getting opportunities, soldiers designing weaponry

In India, the landscape of defence manufacturing is evolving, embracing not just established government entities but also burgeoning startups. The central government launched the IDEX scheme in 2018. Under this scheme, budding defence startups are provided with a grant of ₹50 crores for designated projects. This has not only diversified the industry but has also galvanized the involvement of young innovators in defence technology. Recently, under IDEX, the Ministry of Defence concluded a deal worth ₹200 crores, entrusting two companies with the task of manufacturing drones.

The military is witnessing a surge in innovative designs originating from within its ranks. Evidently, Indian Army officer Pratap Bansod has spearheaded the development of ASMI, a state-of-the-art machine pistol. The Indian Army has committed to purchasing 550 ASMI pistols. Notably, ASMI not only boasts indigenous production but also offers a cost-effective alternative to foreign-made counterparts.

After being stalled for years, several projects now enhancing the country's defence

In the Modi government, defence projects stalled for decades have also gained momentum. Projects that were initiated in the 1980s saw progress under the Modi government. The prime example of this is India's indigenous combat aircraft, LCA Tejas. Tejas was sanctioned in the 1980s, with its maiden successful flight occurring during the Vajpayee government in 2001. Subsequently, the project continued to progress at a sluggish pace.

The project gained steam under the Modi government. In 2015, Tejas was inducted into the Air Force for the first time. Currently, the Indian Air Force has about 40 Tejas Mk1 aircraft, while it has placed an order for approximately 83 more Tejas Mk1 (improved versions Tejas Mark-1A) with Hindustan Aeronautics Limited (HAL). Recently, the Indian Air Force has also inducted formidable combat helicopters, which were also long overdue. Additionally, the army has ordered the production of 550 Arjun Mark-1 tanks.

The country now possesses an indigenous aircraft carrier INS Vikrant, primarily built under the Modi government. Prime Minister Modi dedicated it to the nation in August 2022. This carrier, with a displacement of 45,000 tons, has been under construction for a long time.

Furthermore, the Modi government has strengthened the military by finalising several long-pending defence deals. The biggest example of this is the procurement of 36 Rafale jets for the Air Force. The Air Force was in need of new generation fighter aircraft for a long time, and the Modi government purchased these aircraft by signing a government-to-government deal with France. Additionally, the Modi government has acquired helicopters like Chinook and Apache to enhance the Air Force's capabilities. For the Indian army, the Modi government has procured rifles from the SIG Sauer company.

New projects under the pipeline
The Indian armed forces are undergoing modernisation with state-of-the-art technology, and efforts are actively underway in this direction. Recently, the Modi government has approved the development of fifth-generation fighter jets. The first flight of these jets is expected to take place by 2030. Additionally, efforts are underway to acquire new submarines for the navy. A new lightweight tank is being developed for the army, primarily aimed at countering China. Work is also progressing on several other missiles, many of which have undergone successful testing. https://www.opindia.com/2024/04/exports-worth-rs-88000-crores-under-modi-govt-how-defence-sector-is-powering-atma-nirbhar-program/

STATES NEWS ITEMS

5. ED's Prolonged Chase After Former Kerala Finance Minister Thomas Isaac *(outlookindia.com)* 10 April 2024

Dr. T. M. Thomas Isaac, the former Finance Minister, is one of the opposition party leaders who have come under the radar of the Enforcement Directorate (ED). The ED began serving summons to Dr. Isaac in July 2022 but has not been able to bring him in for questioning even once. Dr. Isaac challenged the legality of the ED's notices in the High Court of Kerala. The Court asked the ED to explain the alleged offence and the necessity for questioning Dr. Isaac. However, to date, the ED has failed to provide any convincing explanation to the High Court. Consequently, they have not obtained approval to interrogate the former finance minister regarding his alleged involvement in the financial activities of the Kerala Infrastructure Investment Fund Board (KIIFBI). Dr Isaac is contesting to the Lok Sabha from Pathanamthitta constituency this time.

Although the Enforcement Directorate (ED) has not made any breakthroughs in the case, they continue to serve summonses to Dr. Thomas Isaac. The latest summons requested his appearance for interrogation on 12th March. Since the writ petition filed by Dr. Isaac is under consideration by the High Court, he replied to the ED stating that they must wait until the next hearing of the case in the High Court.

The Enforcement Directorate's "untiring efforts" to bring Dr. Issac into the interrogation room began with the first summons in July 2022. The case revolves around allegations that the Kerala Infrastructure Investment Fund Board (KIIFB) violated the provisions of the Foreign Exchange Management Regulation Act (FEMA) by issuing Masala bonds (Rupee-denominated bonds).

KIIFB is a statutory body established in 1999 under the Kerala Infrastructure Investment Fund Act as the principal funding arm of the state government.By the amendments introduced by the previous LDF government in 2016, KIIFB was enabled to mobilise funds for infrastructure development projects using financial instruments approved by Securities & Exchange Board of India (SEBI) and Reserve Bank of India (RBI). According to the KIIFB website, the board has so far approved funding for projects worth ₹60,102 crore, covering all vital sectors like healthcare, education, transportation, information technology, sanitation and energy among others.

The Enforcement Directorate's case is grounded on the findings of the Comptroller and Auditor General of India (CAG), which asserts that the Kerala Infrastructure Investment Fund Board (KIIFB) raised funds from the international market through the issuance of Masala bonds without the consent of the Central government. In its 2021 report, the CAG stated that the external borrowing undertaken by KIIFB was unconstitutional because Entry 37 of List 1 of the Seventh Schedule under Article 246 of the Constitution only authorizes the Union government to raise foreign loans. However, constitutional experts contend that this interpretation of Article 246 is flawed, as the power vested with the Union Government pertains not to raising foreign loans but to legislating on foreign borrowing. Nevertheless, this report was not endorsed by the Legislative Assembly.

Dr Thomas Isaac who challenged the summons in the High Court argued that KIIFB had the approval of the RBI for issuing Masala bonds. Section 6 of the FEMA empowers RBI to prohibit, restrict or regulate foreign borrowings. Under Section 6(3)(d) of FEMA, RBI is entrusted with the powers to regulate "any borrowing or lending in foreign exchange in whatever form or by whatever name called'. By invoking these powers, the RBI issued a circular on the issuing of rupee-denominated bonds overseas (Masala bonds). According to this circular, any corporate or body corporate is eligible to issue such bonds. Section 4(2) of the Kerala Infrastructure Investment Fund Act – the statute under which KIIFB is formed – defines KIIFB as a body corporate which mobilised ₹2,150 crore by issuing Masala bonds in March 2019.

Notably, the Kerala Infrastructure Investment Fund Board (KIIFB) is not the first entity of its kind to issue rupee-denominated bonds to raise foreign funds. The National Highways Authority of India (NHAI), another statutory body, had previously mobilized ₹5,000 crore by issuing Masala bonds with the approval of the Reserve Bank of India (RBI). Consequently, the central question posed to the court was how the Masala bonds issued by KIIFB were deemed illegal while those issued by NHAI were considered legal. In response, the High Court of Kerala directed the Enforcement Directorate (ED) to provide details of any similar cases pursued against other body corporates for issuing Masala bonds.

ED could not file anything of this sort.

It was apparently clear that ED had not done sufficient homework before going after Dr Isaac for 'violating FEMA provisions' by issuing Masala bonds. Even the Union Government had on record approved that Masala bonds were completely legal. While answering a question on the legal validity of Masala bonds in the Lok Sabha on March 22, 2021, Anurag Singh Thakur, Minister of State in the Ministry of Finance said that the RBI had given ‘no objection’ from the angle of FEMA for raising rupee-denominated bonds.

However, ED did not stop there.

In August 2022, the Enforcement Directorate (ED) issued another notice to Dr. Issac, demanding his presence at their office in Kochi along with an extensive list of documents. The list included details of all bank accounts operated by Isaac and his family members over the past decade, information regarding all movable and immovable properties owned by him and his family members both in India and abroad, copies of Income Tax Returns (ITR) filed over the past 10 years, and specifics of all foreign visits undertaken during the same period, along with their purposes and income acquired. Additionally, the ED instructed Isaac to provide details of all companies of which he served as director, along with financial statements spanning the last 10 years.

Dr. Isaac contested these demands in court once more, asserting that he had not served as a director for any company since stepping down, except for his ex-officio capacity roles at KIIFB and CIAL (Cochin International Airport Ltd) as the Finance Minister. Furthermore, he maintained that if any violations of the Foreign Exchange Management Act (FEMA) had occurred, the Reserve Bank of India (RBI) should also be summoned. In response, the High Court of Kerala issued a notice to the RBI, seeking clarification. The RBI informed the court that all actions undertaken by KIIFB had received their approval, and KIIFB consistently submitted monthly reports to the RBI without fail. However, the RBI did not endorse KIIFB's assertion that the authority to investigate violations of the Foreign Exchange Management Act (FEMA) rested solely with the RBI and not with the Enforcement Directorate (ED). According to the affidavit submitted by RBI, under Section 37(1) of FEMA, the investigative authority lies with the ED and not with the RBI.

KIIFB officials also approached the High Court alleging that the ED was harassing them by continuously serving notices for personal appearance despite providing all necessary documents and appearing multiple times.

Dr Isaac also argued that demanding for his personal bank account details and ITRs of the last ten years do not make any sense as it had been nothing but the infringement of his privacy. Though ED had kicked off the investigation over months, they could not make any breakthrough in the case, he argued. In October 2022, the High Court imposed a stay on further proceedings by ED and expressed doubts over the ‘very premise of the case itself’. The court agreed to the grievances raised by the petitioners (both Dr Isaac and KIIFB). The Court held that CAG report cannot be the basis of such an inquiry as the report had been rejected by the State Legislative Assembly. The High Court had also expressed displeasure over ED’s inability to file the details of the similar cases taken against the issuing of Masala bonds by any other entity. It was pointed out by Isaac in the High Court that National Thermal Power Corporation Ltd and Indian Renewable Energy Development Agency Ltd have also issued Masala Bonds and no investigation/inquiry is being conducted with respect to the issuance of Bonds by those entities.

In November 2023, the Kerala High Court granted permission to issue fresh summons to Dr Isaac and KIIFB. This time ED rolled back from the earlier demand for submitting the bank account details and ITRs of Dr Thomas Isaac but wanted the right to summon him for asking the details of a few things that had been under investigation. Though Dr Thomas Isaac challenged every move by ED, the Kerala High Court later maintained the position that it would be better to cooperate with the investigation.

Summons were issued to Dr Isaac and KIIFB in February this year. This time, the High Court refused to intervene. Justice Devan Ramachandran gave an order instructing Dr Isaac and KIIFB to cooperate with the ED. As reported by Live Law, this is what the single bench had said orally "I can make one suggestion, I am making this suggestion based on the Apex Court judgments. If you want you can co-operate with the summons once which I will be watching. There will be no arrest, no intimidation, there will be no interrogation. It will be only for the purpose for their (ED) purpose of getting facts. And only once, just once. And, then I will take it forward."

The writ petition filed by Dr Thomas Isaac is posted for hearing to 26th of this month. Despite sending summons several times, ED could not bring Dr Thomas Issac to their interrogation room till day. https://www.outlookindia.com/national/eds-prolonged-chase-after-former-kerala-finance-minister-thomas-isaac

SELECTED NEWS ITEMS/ARTICLES FOR READING

6. Highway build hit second-highest peak in FY24 but misses target by a mile *(livemint.com)* 09 Apr 2024

According to official data, a total of 12,349 km of highways were constructed in the just-concluded financial year

After making a modest beginning, the government has ended the financial year with the second highest level of highway construction but it missed out on the target for the year by a wide margin.

According to official data, 12,349 km of highways were constructed in FY24, which is just lower than the record construction so far of 13,327 km reported in the pandemic year 2020-21. The government kept the FY24 construction target at a record 13,814 km, which the ministry of road transport and highways (MoRTH) later described as "aspirational" after failing to miss the construction target in the previous two financial years.

According to officials, the good part about the data for the last fiscal is that it contained 9,642 km of lane augmentation or capacity augmentation projects and not just strengthening projects (where no new highway is constructed but existing roads are repaired and strengthened). This accounted for over 4,900 km of the total 13,327 km constructed in record year FY21.

But FY24 saw the highest level of broader roads of over four lanes constructed at 5,193 km.

While highway construction has picked up pace last year relative to previous two years, MoRTH also used up its entire record capex provided by Budget FY24. This is the first time that spending has touched 99.93% of the revised capex of ₹2.64 trillion provided in the budget.

Officials said that capex spending of MoRTH has remained over 90% level in previous five years and in fact above 98% in three of the five years with the exception of FY20 when it was 91% and FY22 when it stayed at 93%.

Officials said that going forward the expectation is that in the current fiscal entire (100%) capex of ₹2.72 trillion provided in FY25 would be spent to build highways.

Officials also said that FY24 signalled a revival of private sector investment in highways with companies pitching in with around ₹35,000 crore investment, taking the overall capex spent to over ₹3 trillion.

Along with construction, highway awards also picked momentum in the last quarter of the last fiscal taking total awards to 8,581 km.

Officials said that the general elections will not slow down construction as there was a big pipeline of projects that should ensure roadworks will remain closer to FY24 levels in FY25.

Officials said they were targetting 12,000-13,000 km a year over the next decade after which overall construction may slow down a bit as most highways required in the country would have been built and the focus would shift to maintenance of new alignments.

Under the Vision 2047 plan, MoRTH is targeting to construct 50,000 km of access-controlled highways that according to officials would add more lane-km to the network as most of these would be 4-8 lane networks. https://www.livemint.com/economy/highway-build-hit-second-highest-peak-in-fy24-but-misses-target-by-a-mile-11712672487985.html

7. States & UTs closed just 3.7% of 9+ lakh MGNREGS-related issues raised by social auditors in 2023-24 *(theprint.in)* 09 April, 2024

Rural ministry data shows auditors surveyed 73.04% of 2.69 lakh gram panchayats, flagging issues like funds misappropriation, violations in scheme implementation & workers' grievances.

States and Union territories (UTs) have addressed only 3.7 percent of the over 9 lakh issues raised in 2023-24 in work done under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), according to the latest data on the Union Ministry of Rural Development portal.

Social audit units, which assessed the work done under MGNREGS by gram panchayats between April 2022 and March 2023, flagged issues ranging from funds misappropriation and violations in processing and implementing the scheme to grievances of MGNREGS workers, among others.

All states and UTs have set up social audit units under Section 17 of the Mahatma Gandhi National Rural Employment Guarantee Act, 2005, to check corruption under the flagship rural employment scheme of the Centre. The social audit units share their assessments in the gram sabha, which has to "monitor the execution of the works with the gram panchayat".

The rural development department is eventually responsible for addressing the issues raised by the social audit units and recovering any embezzled funds after detailed investigations.

The social audit units surveyed 73.04 percent of 2.69 lakh gram panchayats in the country, flagging 9,23,190 issues in MGNREGS work at 1.96 lakh gram panchayats. But, only 3.7 percent, i.e., 34,020 issues, have been addressed, as per the action taken report on social audit available on the rural development ministry's portal for the scheme as on 9 April.

The social audit units covered over 95 percent of the gram panchayats in Andhra Pradesh, Telangana, Kerala, Odisha, Rajasthan, Uttar Pradesh, and Jammu and Kashmir, but less than 30 percent of the gram panchayats in Arunachal Pradesh (14.35 percent), Goa (0 percent), Haryana (10.68 percent), Jharkhand (6.34 percent), Maharashtra (27.52 percent), Meghalaya (28.38 percent), and Uttarakhand (25.09 percent).

In Andhra Pradesh, close to 41,000 issues were raised by social audit units, with just 9.37 percent (3,847) issues addressed. In Rajasthan, which has one of the highest numbers of households registered under the scheme, the state government addressed 7.8 percent issues.

When asked about the low percentage of issues addressed, a senior official with the Rajasthan government pointed out "delays in getting the compliance report on each of the issues raised in social audits". "In cases of financial misappropriation, a detailed investigation has to be done before submitting the compliance report. Shortage of staff is another issue impacting social audits," added the official.

Even in Kerala, where the audits are 100 percent done, the state government has addressed less than 50 percent of the issues.

According to a senior official with the Kerala government's local self-government department, i.e., the implementing agency of MGNREGS, many issues arise due to the failure to present documents relating to the implementation of the scheme during the audit. "These issues are dropped after the compliance report is filed. But it takes time to complete the process," said the official.

ThePrint reached the Union ministry of rural development via email. This report will be updated if and when a response is received.

Task force for social audits

To strengthen social audits and extend the audits to other government schemes, the Comptroller and Auditor General of India and the rural development ministry have constituted a joint task force for "streamlining social audits".

The joint task force will look into modifying the existing audit standards to apply them to other central government schemes under which social audit is mandatory.

The task force will be developing "norms for ensuring the financial, administrative and functional independence of social audit units", "defining norms of fund allocation and fund releases to social audit units", building minimum standards for training and capacity building of social audit resource persons, among other things, according to the task force's terms of reference, which ThePrint has seen.

According to senior central government officials, the task force conducted a meeting with social audit units of a few states in March.

Social activist Nikhil Dey, co-founder of Mazdoor Kisan Shakti Sangathan, said, "When the social audit standards were formulated in 2014-15, it was only MGNREGS where social audit was mandatory. This is why the present standards are specific to MGNREGS. But now there are 10 or more things where social audit is mandatory, either through law or government orders, such as the food security Act and old age pension, among others."

"There is a need to relook at the entire framework of social audit structure as social audit has become mandatory for other schemes. Also, there are several issues in the way social audits (under MGNREGS) are done — the recovery of funds and how directors of social audit units are appointed, among others. These have to be addressed," added Dey. https://theprint.in/india/governance/states-uts-closed-just-3-7-of-9-lakh-mgnregs-related-issues-raised-by-social-auditors-in-2023-24/2033730/

8. State Funding, Right to Recall and More: Why Electoral Reforms Can't Wait Any Longer *(thewire.in)* April 9, 2024

While the Supreme Court's decision to strike down the scheme represents a significant stride towards heightened transparency in political funding, it is unlikely to solely eliminate the pervasive issue of monetary influence in elections.

In a ground-breaking ruling on February 15, the Supreme Court dealt a decisive blow to the electoral system by striking down the contentious electoral bonds scheme. The court's decision, based on violations of voters' right to information as enshrined in Article 19(1)(a) of the Indian constitution, signifies a crucial juncture in the fight for transparency and accountability in Indian elections. Not only did the ruling annul the scheme, but it also mandated an immediate cessation of the sale of electoral bonds.

Chief Justice D.Y. Chandrachud, in the lead opinion, highlighted the detrimental effects of the electoral bonds scheme on political funding accountability. The complete non-disclosure of the funding origins via electoral bonds was identified as a breeding ground for corruption, and the establishment of a quid pro quo culture with the ruling party. The opacity of this system often had far-reaching implications for policy decisions and licensing by corporate entities.

Described as allowing an "unbridled influence of corporates in the electoral process," the scheme's allowance of anonymous donations to political parties created a shroud of secrecy around funding sources, undermining the public's ability to make informed decisions and hold political entities accountable.

While the Supreme Court's decision to strike down the scheme represents a significant stride towards heightened transparency in political funding, it is unlikely to solely eliminate the pervasive issue of monetary influence in elections. Political parties possess a myriad of channels for securing funding, and the discontinuation of the electoral bonds scheme may prompt the exploration of alternative avenues for financial support.

Furthermore, the financial transfers facilitated through electoral bonds during an election year constitute only a fraction of the total estimated election expenses. A study conducted by the Centre for Media (CMS) during the 2019 elections pegged these expenses as high as Rs 60,000 crore. Anticipated spending for the 2024 elections is expected to surpass this figure, taking into account inflation and escalated stakes. Needless to say, it will be a futile attempt to find the needle of transparency in a mountain of cash.

Reshaping power dynamics: The imperative for wide-ranging electoral reforms

Amidst calls for sweeping electoral reforms, the abrogation of the controversial electoral bonds scheme addresses a specific facet of the issue. Yet, the need of the hour extends beyond this singular policy tweak to embracing comprehensive changes. Initiatives like state funding of elections, where the government extends equitable support to all candidates, stand as potent measures to redress the power dynamics and counter the corporate hegemony that pervades elections.

As the Indian electoral apparatus contends with the profound influence of elite-dominated political factions, a stark reality emerges. In a landscape where a handful of privileged entities wield disproportionate power, the interests of the few often take precedence over the collective welfare. These parties, often orchestrated by a narrow coterie of influential figures or business tycoons, perpetuate a system of exclusion and inequality, relegating diverse voices and public concerns to the periphery.

Empowering democracy: The case for direct candidate selection by constituents

Envisioning a transformed democratic future, a compelling strategy emerges amidst the backdrop of entrenched elite influence: the advocacy for direct selection and election of candidates by constituents within each constituency. This progressive approach offers voters the power to select candidates based on merit, integrity, and alignment with local issues, rather than mere party affiliations or elite connections. By mandating that the final list of candidates be endorsed by the electorate, ensuring that parties no longer unilaterally dictate candidate selection, this system promotes a more inclusive and representative democracy.

Central to direct candidate selection's efficacy is its potential to foster greater accountability among elected representatives. With candidates directly chosen by the people they represent, their mandate derives from grassroots support, not party allegiance, steering elected officials to prioritise constituents' concerns and aspirations.

This alignment is instrumental in shaping policies and decisions that genuinely reflect the needs of the local populace.

Moreover, embracing direct selection and election of candidates serves to erode the grip of political parties on individual representatives. This decentralisation of power dilutes the influence of party elites, curbing their sway in determining policy trajectories and candidate choices. Such a pivot redirects focus from blind party loyalty towards a people-centric paradigm, where constituents' voices hold greater sway.

A fusion of direct candidate selection by constituents and state funding of election campaigns stands poised to overhaul the electoral landscape, ensuring fairness and integrity in the electoral process.

Strengthening democratic accountability: The impact of the right to recall

The principle of the right to recall an elected representative in case of contravening the constituency's interests stands as a robust mechanism for bolstering citizen engagement in the electoral construct. By affording constituents the agency to oust an underperforming legislator mid-term, the right to recall epitomises a more direct and participatory form of democracy, empowering voters while ensuring elected representatives remain answerable.

Election Commission of India.

In the knowledge that their actions and decisions are subject to continual scrutiny and potential recall by the electorate, representatives are incentivised to prioritise constituents' interests above personal motives or party mandates. This embedded accountability mechanism serves as a potent driver for elected officials to remain responsive to the needs and demands of their electorate, fostering a symbiotic relationship between representatives and their constituents.

Moreover, the right to recall engenders a more active role for citizens in the electoral ecosystem. By granting constituents the means to actively shape and monitor the performance of their representatives, this framework cultivates public awareness, accountability, and civic engagement in governance processes, underscoring the pivotal role of citizens in democratic decision-making and oversight. This right will ensure that election promises do not vanish faster than the magician's bunny after the elections.

The people's right to shape legislation

The right to initiate legislation is a crucial mechanism that can empower individuals and communities, potentially ending marginalization. Public referendums and involvement in decision-making processes enhance transparency and accountability significantly.

Currently, the responsibility to initiate legislation mainly lies with the executive in the existing electoral system. This often limits the general public's ability to actively engage in the legislative process. Recent events, such as the struggles of farmers to secure MSP guarantees and the widespread demand to abolish oppressive laws like the UAPA, highlight this issue.

Granting people the ability to propose new laws or suggest changes to current legislation is vital for establishing a democracy cantered on the people. By directly involving citizens in the legislative process, policies and laws can better represent public interests and adapt to the changing needs of society.

This approach ensures that policy decisions are guided by the collective desires of the populace rather than the priorities of those in power. Allowing individuals and grassroots organizations to shape the legislative agenda fosters active citizenship, encouraging people to play a proactive role in determining the direction of their nation.

Furthermore, empowering citizens to initiate legislation promotes a culture of civic engagement, motivating individuals to address critical issues, push for necessary reforms, and hold elected officials accountable for their decisions. This right is a veritable genie which can grant the legislative wishes of the people, one petition at a time!

Revitalising democracy: Redefining constituency boundaries for effective representation

The delimitation of constituencies is a critical issue affecting India’s parliamentary system, with a high voter-to-representative ratio impacting democracy and representation quality. When one Member of Parliament represents a large number of voters, establishing a direct connection with constituents becomes challenging. This lack of accountability hampers effective citizen engagement and limits avenues for voicing concerns.

Addressing this challenge requires electoral reforms focused on shrinking constituency sizes and empowering district, block, and village constituency committees—the third tier of governance. The existing Panchayati Raj system has struggled to prevent power concentration in central and state-level executive bodies.

Reducing constituency sizes can result in more focused and efficient representation, enabling elected officials to better grasp and tackle the specific needs and issues facing their constituents. By reshaping the electoral system to be more inclusive and responsive to India’s diverse population, we can elevate people to the forefront of decision-making processes.

Towards a level-playing field: Breaking the symbol monopoly

The issue of election symbols in India has sparked controversy, with larger political parties enjoying an advantage over smaller parties and independent candidates due to their control of recognizable symbols. These symbols play a vital role in shaping voter perception and aiding in candidate differentiation, offering a quick means for voters to distinguish among candidates. The exclusive use of distinct symbols by established parties can establish a brand presence that boosts visibility and recall, granting them an unfair edge in elections. With a well-recognised symbol to lean on, even a candidate with as much dynamism as a potted plant can win the elections. In its report on electoral reforms in 2015, the Law Commission of India has highlighted the dangers of a ruling party using party symbols on advertisements related to achievements of the government.

To level the electoral playing field and enhance participation, breaking the monopoly on election symbols held by dominant parties is crucial. Providing equal access to unique symbols for smaller parties and independents can shift the focus towards policies, ideologies, and candidate qualifications rather than just party branding. It's essential to allocate common symbols not only to parties but also to people's organizations like workers', women's, or farmers' groups. This move could foster a more diverse and informed election environment where candidates are evaluated based on their capabilities and visions.

Reforms such as voter-direct candidate selection, state funding of elections, and dismantling the monopoly of major parties on election symbols could significantly address challenges like non-transparent Electronic Voting Machines (EVMs), unfulfilled manifesto pledges, undue influence, ill-gotten vote banks, criminalisation of politics and electoral misconduct.

The need for a thorough overhaul of the electoral process

The recent court ruling on electoral bonds has underscored the critical necessity for sweeping electoral reforms in India. More than just discontinuing the scheme, substantial changes are imperative to combat the sway of money in politics, promote transparency, and uphold democratic principles. India must now forge a reform path that transforms the democratic framework, ensuring elected officials are answerable to the public they represent, not their financial backers.

In the current political landscape, citizens lack avenues to partake in day-to-day decision-making processes beyond casting their votes. Power is highly centralized in the Executive branch, with the Legislature often beholden to the Executive rather than the populace, despite lawmakers dubbing themselves "people's representatives." The mounting calls for electoral overhauls highlight a gap between the government and the governed, emphasizing the limited opportunities for public engagement in governance.

Shifting the focus to the citizens in the political domain necessitates a transformative departure from the prevailing system controlled by elite political parties. Instead, direct selection and election of candidates by the people, the implementation of recall and legislative initiation rights, state-funded elections with no private financing, and the utilization of referendums to gauge public sentiment are essential. Only through such changes can individuals transition from being mere voters to active decision-makers, ensuring elected representatives cannot infringe upon the public's authority in shaping their future. https://thewire.in/politics/state-funding-right-to-recall-and-more-exploring-electoral-reforms-in-indian-context

9. India as a gas-based economy: Six years to go *(orfonline.org)* April 9, 2024

The share of natural gas in India's primary energy basket remains marginal, thus the probability of India becoming a gas-based economy by 2030 is low

In 2016, the Government of India (GOI) announced that India would increase the share of natural gas in its primary energy basket from 6.14 percent in 2016 to 15 percent by 2030 and become a "gas-based economy". Since the announcement, the share of natural gas in India's primary energy basket (commercial energy, not including energy derived from unprocessed biomass) increased marginally to 6.83 percent in 2020 but has since fallen to 5.7 percent in 2022. The share of natural gas in India's primary energy basket was 9.43 percent in 2010 when domestic gas production substantially increased. If the current trend continues, the probability of India becoming a gas-based economy by 2030 is low.

Trends in Production and Consumption

India's natural gas consumption in 2022-23 was about 164.3 million metric standard cubic meters per day (mmscmd). To increase consumption to 600 mmscmd by 2030, the annual growth rate in consumption has to be more than 10.5 percent, which is not an impossible target. In the period 2008-2018, natural gas consumption in China grew by over 13 percent. Behind this double-digit growth rate for natural gas consumption in China was an annual average economic growth rate of over 8 percent, regulatory reform for transparency and flexibility along with focused policy mandates. India has implemented progressive policies in the gas sector, but production and consumption trends in the last decade are not very encouraging.

To increase consumption to 600 mmscmd by 2030, the annual growth rate in consumption has to be more than 10.5 percent, which is not an impossible target.

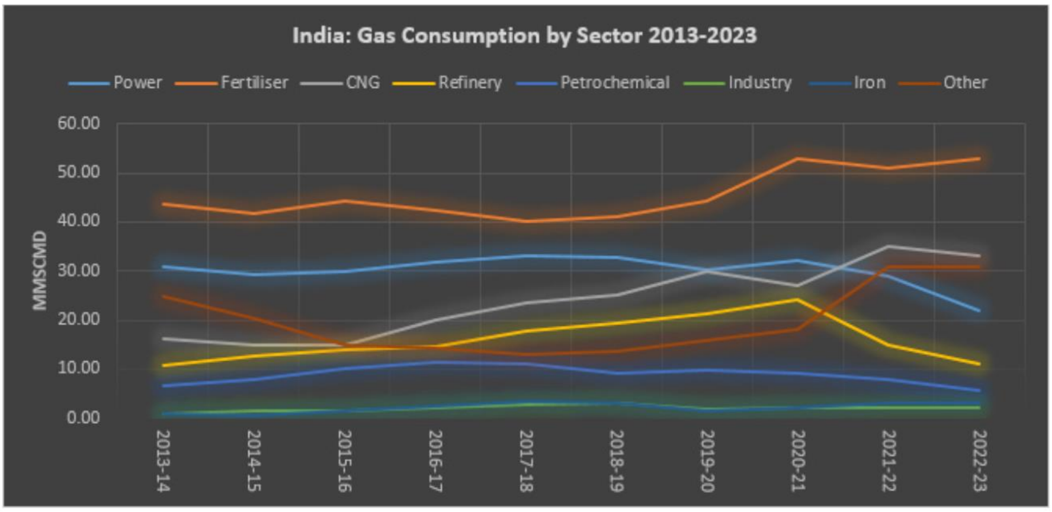
In India, net domestic production of natural gas declined from 108.94 mmscmd to 92.23 mmscmd, demonstrating an annual average decline of about 1.6 percent in 2012-13 to 2022-23. Import of LNG (liquified petroleum gas) increased from 39.24 mmscmd in 2012-13 to 72.07 mmscmd in 2022-23, representing an annual average growth of about 6.2 percent. In the same period, consumption of natural gas increased from 148.18 mmcsmd to 164.30 mmscmd, showing an annual average growth of about 1.3 percent. Peak domestic production of 143.61 mmscmd was in 2010-11 while peak consumption of 175.74 mmscmd as well as peak LNG import of 92.84 mmscmd were in 2019-20 prior to the pandemic.

Sector-wise growth trends

In the '70s and '80s, natural gas consumption grew at double-digit rates annually, typical of a new consumption segment, starting from a small base. In the 1990s and 2000s growth in consumption of natural gas slowed down to an annual average of 6-7 percent. In the 2010s and 20s, consumption growth fell to an annual average of around 1 percent. In the decade ending in March 2023, natural gas consumption by the power sector fell by an annual average of 3.7 percent from 30.92 mmscmd in 2012-13 to 22 mmscmd in 2022-23. Consumption of compressed natural gas (CNG) supplied to domestic and transportation segments made up for the decline in consumption by the power sector, recording an annualised growth of 8.2 percent in the same period. While consumption growth in the industrial and sponge iron segments remained robust at 12 percent and 16 percent respectively, consumption in the refining segment grew only by an annual average of just 0.1 percent in the decade ending in March 2023 and consumption growth in the petrochemical segment fell by an annualised rate of 1.9 percent in the same period.

Consumption of compressed natural gas (CNG) supplied to domestic and transportation segments made up for the decline in consumption by the power sector, recording an annualised growth of 8.2 percent in the same period.

In 2013-14, the power sector accounted for 23 percent of natural gas consumption, but by 2022-23, its share had fallen to about 13 percent. If natural gas is promoted as a fuel for providing power at short notice with costs reflected in tariffs, the offtake of gas for power generation may increase. However, a decline in the cost of battery storage solutions that can also provide power at short notice to make up for intermittency in renewable power generation is likely to reduce the attractiveness of gas as fuel for power generation. The share of the fertiliser segment in natural gas consumption increased marginally from 32 percent in 201-14 to 33 percent in 2022-23. India plans to stop the import of urea by 2025 which means demand will shift to natural gas (feedstock for urea production). This could potentially increase the consumption of imported liquefied natural gas (LNG) by the fertiliser segment.



Source: *Petroleum Planning & Analysis Cell (PPAC)*

The share of CNG in natural gas consumption increased from just over 16 percent in 2013-14 to 33 percent in 2022-23. CNG consumption has potential for growth in the future but it is dependent on the availability of domestic gas at regulated prices and investment in infrastructure. The unified tariff (UFT) policy introduced by the Petroleum and Natural Gas Regulatory Board (PNGRB) in April 2023 could facilitate growth in CNG consumption as it aims to create a single, consistent and fair tariff structure for natural gas transport across the country. The UFT policy will apply to a network of 21 pipelines, representing around 90 percent of pipelines in operation or under construction. The unified tariff is a fixed charge determined by the PNGRB and based on the levelized cost of service of the entire pipeline network, and is revised periodically to reflect the changes in pipeline costs and utilisation. The zonal factor is variable and depends on the tariff zone. There are three tariff zones: the first up to 300 kilometres (km) from the gas entry point, the second between 300 km and 1,200 km and the third beyond 1,200 km. The zonal factors for the three zones are 0.25, 0.5 and 1.0 respectively. The zonal tariff, corresponding to the fee paid by the shipper to the pipeline operator for the transport of gas, is calculated by multiplying the unified tariff by the zonal factor. A stable, competitive and transparent pricing regime enabled by UTF will benefit domestic production and demand and in addition attract investment in gas infrastructure. The suggestion from the Energy Transition Advisory Committee (ETAC) to develop strategic gas storage could also strengthen the country's energy supply security and reduce price volatility both of which could potentially boost demand for natural gas. The government is reported to be studying the prospect of developing gas storage with a capacity of 3-4 bcm (billion cubic meters). The share of petrochemicals and refining segments in natural gas consumption in 2022-23 was lower than that in 2013-14. The sector is dependent on imported LNG and high volatility in the price of imported LNG contributed to the decline in natural gas by these sectors. The availability of substitutes at more certain price prospects also contributed to the reduction in natural gas consumption by the refining and petrochemicals segments.

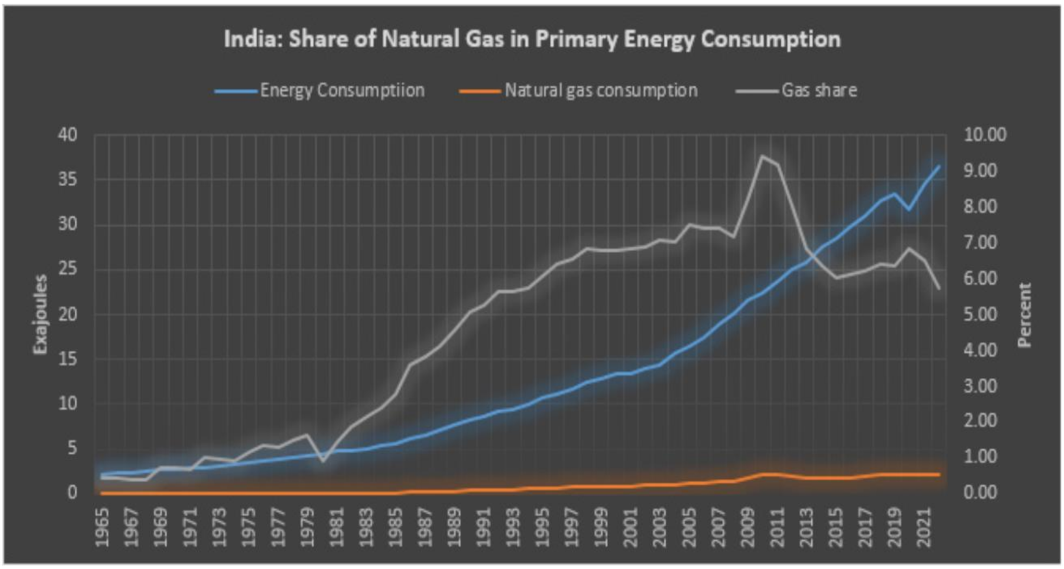
Takeaways

Notwithstanding the attractiveness of natural gas as a bridge fuel for India, gas faces stiff competition from coal in terms of affordability and energy security (availability of domestic coal) and from solar and wind in terms of environmental acceptability. In the context of emissions, it is well established that natural gas scores over coal and oil. Coal-to-gas switching is generally seen as the means to rapid reduction in CO2 emissions. Typically, natural gas emits 50-60 percent less CO2 when combusted in an efficient power plant compared to emissions from a typical coal plant. Considering only tail-pipe emissions, natural gas used as fuel for transportation emits 15-20 percent less emissions than petrol when burned in a modern vehicle.

The fact that LNG supply chains produce more emissions per unit of gas than pipeline gas because of the additional energy required for liquefaction is used to strengthen the case against gas.

But there is the environmentalist argument that gas is not necessarily carbon-free and investment in gas supply chains would lock in emissions and create new path dependencies that would only extend the life of fossil fuels. The conclusion is that facilitating natural gas use is inconsistent with the goal of decarbonisation and it would potentially create stranded assets. The fact that LNG supply chains produce more emissions per unit of gas than pipeline gas because of the additional energy required for liquefaction is used to strengthen the case against gas.

Despite these shortcomings, gas has contributed to emission reduction. Prior to the pandemic, natural gas contributed to a 1.7 percent fall in global emissions on account of coal to gas switching in the United States and Europe. In the US, coal to gas switching was driven by the price competitiveness of gas over coal and in Europe coal to gas switching was driven by high carbon prices. In India, coal's cost competitiveness is not likely to be eroded by natural gas, especially when most of it is imported. Carbon prices, even if implemented are not likely to be high, as India already imposes excessive taxes on fossil fuel consumption. It appears that India will need more than six months to become a gas-based economy.



Source: *Statistical Review of World Energy 2023*

https://www.orfonline.org/expert-speak/india-as-a-gas-based-economy-six-years-to-go

10. IAF upgradation plan aims to operate Su-30MKI fleet till mid-2050s *(firstpost.com)* April 9, 2024

This ambitious aim is contingent upon a major increase in domestic participation in the Su-30MKI program. Through this modification process, the IAF hopes to achieve an astounding 78% indigenization of the fighter aircraft. This will effectively turn the Su-30MKI from a Russian platform into an aircraft that is mostly constructed and maintained in India

The Indian Air Force (IAF) has its Su-30MKI fighter jets ready for a long trip. These potent aircraft are expected to remain in service until the middle of the 50s thanks to a suggested integration and upgrade program.

This ambitious aim is contingent upon a major increase in domestic participation in the Su-30MKI program. Through this modification process, the IAF hopes to achieve an astounding 78% indigenization of the fighter aircraft. This will effectively turn the Su-30MKI from a Russian platform into an aircraft that is mostly constructed and maintained in India.

Hindustan Aeronautics Limited (HAL) has been tasked by the IAF with investigating ways to prolong the lifespan of the Su-30MKI fleet in order to meet the operational target by 2050. At present, the service life of a single Su-30MKI is around 6,000 flight hours, which translates to approximately 30–40 years of operation.

The IAF wants to increase this by 1,500 hours, which could give each aircraft an extra 10 to 15 years of service.

Working with the Gas Turbine Research Establishment (GTRE) to create domestic modifications for the AL-31F engine that drives the Su-30MKI is a crucial component of this life extension plan.

This is especially important as HAL currently produces a sizable 87.7% of the engine's parts in India. These engines' operating life will be prolonged by domestic upgrades, which will additionally

The final two Su-30MKI units built under a prior order in 2021 were just delivered to the IAF. The go-ahead was then given for HAL to produce 12 more Su-30MKIs. New aircraft will take the place of a Su-30MKI that was lost in an accident back in 2001.

The aircraft will require minimal Russian assistance after all Indian enhancements suggested by the HAL are implemented, including new avionics, Aesa radar, mission computer, IRST system, and all other significant Russian sensors that are to be replaced with Indian ones. The Airframe's sturdy construction will guarantee that aircraft life extension is possible even in the absence of OEM support. https://www.firstpost.com/india/iaf-upgradation-plan-aims-to-operate-su-30mki-fleet-till-mid-2050s-13757913.html

11. Beyond PLI targets *(financialexpress.com)* April 10, 2024

A comprehensive strategy is needed to propel India's manufacturing capabilities

India's manufacturing sector, with a share of 2.8% of global output in 2022, lags significantly behind giants like China (30.5%), the US (15.6%), and Germany and Japan (around 5-6% each). Despite numerous initiatives by the government, the share of manufacturing, on an average, has hovered around 16% of gross value added (GVA) in the last decade. Alongside initiatives such as National Manufacturing Policy (2011), Make in India (2014), Startup India (2016), and Atmanirbhar Bharat (2020), a major initiative of the central government to boost manufacturing output in India was the production-linked incentive (PLI) scheme.

Introduced in March 2020, the PLI scheme covers 14 sectors aimed at bolstering India's manufacturing capabilities and generating employment. The scheme envisaged a provision of `1.97 trillion as incentives/subsidies ranging from 4-6% on incremental sales for a period of 5-6 years over the base year. The scheme was meant to offset some of the disadvantages faced by the Indian manufacturing sector such as high logistics costs due to inadequate infrastructure, high cost of capital, stringent labour laws, inadequate access to power, and skill gaps.

The giant has arrived: India's rise as a global power creates a tightrope of domestic and international aspects

The budgeted allocation under the PLI scheme for all sectors aggregated `25,453 crore up to 2024-25; actual disbursements were `10,206 crore (up to 2023-24). The latest data released by the government suggests that the scheme witnessed over `1.03 trillion of investment till November 2023, resulting in production/sales of `8.61 trillion and employment generation (direct and indirect) of over 6.78 lakh. The PLI scheme is reported to have promoted exports surpassing `3.2 trillion. The targets set under the scheme over the five-year period were `2.7 trillion worth of investments, `32 trillion for sales, and 59 lakh jobs. It will, therefore, be a tall order to achieve these targets in the remaining years.

It is, however, not clear whether the reported investments, production, employment, and exports numbers are really exceptional, as these would have grown in any case in the business-as-usual scenario. Therefore, the contribution of the PLI scheme would need to be assessed over and above normal circumstances. In addition, data in some targeted sectors under the scheme would also need to be adjusted to avoid double counting. Some companies covered under the scheme may grow at the expense of micro, small and medium enterprises (MSMEs). Therefore, some additional investments/ employment/sales/ exports under the scheme could be at the expense of MSMEs. Likewise, exports would need to be adjusted for imports used as inputs. Since granular data is not readily available, the analysis of the effectiveness of the scheme can be made only at a macro level.

The share of manufacturing in domestic GVA declined to 14.1% in 2023-24 from 14.7% in 2019-20. India's share in global manufacturing output also declined to 2.8% in 2022 from 3% in 2017, as against China, whose share increased from 26.1% in 2017 to 30.5% in 2022. According to the periodic labour force survey, the proportion of workers employed in the manufacturing sector increased from 10.9% in 2020-21 to 11.4% in 2022-23.

The PLI scheme may help overcome some of the disadvantages facing Indian manufacturing, but there is no escape from the longer-term challenges facing the sector in India at a systemic level. The experiences of successful countries such as China, the US, Germany, and Japan suggests that manufacturing is determined by a host of factors, particularly, quality of labour force, infrastructure, regulatory environment, and trade policies.

It is encouraging that India has made rapid progress in recent years in some of the key factors that determine manufacturing. India improved its position to 40th rank among 132 economies in the Global Innovation Index 2023 from 81st in 2015. The Logistics Performance Index 2023 by the World Bank placed India 38th out of 139 countries, a sharp improvement from 54th in 2014. Despite these developments, we have a long way to go to make India's manufacturing globally competitive. Latest estimates (2024) by the International Labour Organization suggest that the output per worker in India was at $20,108 based on 2017 constant gross domestic prices (GDP) in purchasing power parity terms, which was very low as compared with many other major manufacturing countries such as China ($37,548), Japan ($80,185), the UK ($94,772), Germany ($107,131) and the US ($134,766). Low productivity is also reflected in indices such as the World Competitiveness Index (International Institute for Management Development) where India's ranking slipped by three spots to 40th in 2023. India's R&D expenditure is low at 0.64% of GDP in 2020-21. This pales in comparison with R&D expenditures (as a percentage of GDP in 2019-20) in China (2.4%), Germany (3.1%), and Japan (3.3%), underscoring a critical gap that India needs to bridge to improve its manufacturing competitiveness on the global stage. Since the quality of the labour force is one of the crucial factors impacting manufacturing capabilities, it is important to invest in vital sectors such as education and healthcare, the public spending on which has remained extremely low; expenditure on education has stagnated at around 2.9% of GDP for nearly a decade, and that on healthcare at 1% of GDP in the last three decades. India's position at 134th in the Human Development Index for 2022 was behind even neighbouring countries such as Bhutan, Sri Lanka, and Bangladesh. No doubt, India has a huge domestic market; however, if it has to achieve manufacturing on a global scale and integrate into the global value chain effectively, it needs access to other markets for which there is a need to explore free trade agreements.

Overall, a comprehensive strategy is needed aiming not just for physical infrastructure development but also human capital for propelling India's manufacturing capabilities and establishing it as a manufacturing hub. https://www.financialexpress.com/opinion/beyond-pli-targets/3451716/

12. The climate crisis is not gender neutral *(thehindu.com)* April 10, 2024

While climate action requires 100% involvement of the population, at the same time, empowering women would mean better climate solutions

The climate crisis is already here and does not impact everyone equally. Women and girls experience disproportionately high health risks, especially in situations of poverty, and due to existing roles, responsibilities and cultural norms. According to the United Nations Development Programme (UNDP), women and children are 14 times more likely than men to die in a disaster. The Supreme Court of India has just ruled that people have a right to be free from the adverse effects of climate change, and the right to a clean environment is already recognised as a fundamental right within the ambit of the right to life.

Agriculture is the most important livelihood source for women in India, particularly in rural India. Climate-driven crop yield reductions increase food insecurity, adversely impacting poor households that already suffer higher nutritional deficiencies. Within small and marginal landholding households, while men face social stigma due to unpaid loans (leading to migration, emotional distress, and sometimes even suicide), women experience higher domestic work burdens, worse health, and greater intimate partner violence. In fact, when compared to districts without droughts in the past 10 years, National Family Health Survey (NFHS) 4 and 5 data showed that women living in drought-prone districts were more underweight, experienced more intimate partner violence and had a higher prevalence of girl marriages. For women, the increasing food and nutritional insecurity, work burdens and income uncertainties lead not only to poor physical health, but also impact their mental health and emotional well-being.

Extreme events and gender-based violence

The world is witnessing an increasing frequency of extreme weather events and climate-induced natural hazards. A report from the Council on Energy, Environment and Water (CEEW) in 2021 found that 75% of Indian districts are vulnerable to hydromet disasters (floods, droughts and cyclones). NFHS 5 data showed that over half of women and children living in these districts were at risk. Studies are increasingly showing a direct correlation between these natural disasters and gender-based violence against women. Also, extreme weather events and subsequent changes in water cycle patterns severely impact access to safe drinking water, which increases the drudgery and reduces time for productive work and health care of women and girls.

The past decade has been the hottest ever recorded in human history and countries such as India are likely to face unprecedented heatwaves. Prolonged heat is particularly dangerous for pregnant women (increasing the risk of preterm birth and eclampsia), young children, and the elderly. Similarly, exposure to pollutants in the air (household and outdoor) affects women's health, causing respiratory and cardiovascular disease, and also the unborn child, impairing its physical and cognitive growth. One of the most worrying aspects of air pollution is its impact on the growing brain. Emerging data from cohort studies in India show that for every 10 micrograms per cubic meter increase in PM2.5, the risk of lung cancer increases by 9%, the risk of cardiovascular deaths on the same day by 3%, and stroke by 8%. For dementia, the risk increased by 4% for 2 micrograms increase in annual PM2.5.

Of course, not all women are equally at risk, even within the same geographic or agro-ecological zone. Thus, though climate change has a distinct gender dimension, there is a need for more evidence on the intersectionalities that make certain sub-groups more vulnerable and therefore in need of more protection.

Why does climate action need women?

Climate action requires 100% of the population if we want to achieve the Paris Agreement goal of limiting global temperature rise to 1.5° C. At the same time, empowering women means better climate solutions; when provided with the same access to resources as men, women increased their agricultural yields by 20% to 30%. Tribal and rural women, in particular, have been at the forefront of environmental conservation. Giving women and women collectives (Self-help Groups and Farmer Producer Organisations) the knowledge, tools and access to resources would encourage local solutions to emerge. Adaptation measures will necessarily be different in rural and urban areas as exposure to heat, air pollution and access to water and food will vary by context.

As India's summer begins, understanding the heat and health conundrum

On heatwaves and water shortage

While gaps in data (sex disaggregated data for multiple social outcomes) and knowledge need to be filled by more research, there are areas where immediate action is needed. First, we should reduce the impact of prolonged heat on priority groups (outdoor workers, pregnant women, infants and young children and the elderly). Data from many Indian cities show that there are excess deaths during the heat wave days, though they may not be recognised as such. Loss of productivity will impact small and large businesses and our economy. Urban local bodies, municipal corporations and district authorities in all vulnerable districts need to have a plan and provide training and resources to key implementers. Heat wave warnings (based on local temperature plus humidity), change of timings for outdoor work and schools, cooling rooms in health facilities, public drinking water facilities, and immediate treatment of those with heat stroke will minimize deaths. In addition, urban planning to improve tree cover, minimising concrete, increasing green-blue spaces and designing housing that is better able to withstand heat are longer-term actions. The Mahila Housing Trust in Udaipur showed that painting the roofs of low-income houses with reflective white paint reduced indoor temperatures by 3° C to 4° C and improved quality of life.

Water shortage is probably the biggest threat to our very existence and needs concerted societal action. Traditionally, India had one of the most advanced systems for rainwater harvesting and storage with a system of ponds and canals. Work done by the M.S.

Swaminathan Research Foundation in a few districts of Tamil Nadu showed that using geographic information systems, the panchayat could map key water sources, identify vulnerabilities and climate hazards and develop a local plan to improve water access by directing government schemes and resources.

Working at the village level

Convergence of sectors and services and prioritisation of actions can happen most effectively at the village or panchayat levels. Devolution of powers and finances and investing in building the capacity of panchayat and SHG members can be India's way of demonstrating how to build resilience in a community-led and participatory way.

Finally, a gender lens needs to be applied to all State-action plans on climate change. The National Action Plan on Climate Change (NAPCC) and State Action Plan on Climate Change (SAPCC) highlight the impacts on women, yet often default to portraying them as victims, missing deeper gender dynamics. A review of 28 SAPCCs showed a lack of transformative approaches, with only a few recognising women as agents of change. Recommendations for the ongoing revision of SAPCCs lay stress on the need to move beyond stereotypes, recognise the vulnerabilities of all genders, and implement gender-transformative strategies, ensuring a comprehensive and equitable approach to climate adaptation. Instead of being labelled as victims, women can lead the way in climate action. https://www.thehindu.com/opinion/lead/the-climate-crisis-is-not-gender-neutral/article68047470.ece

13. A risk-laden 'solution' *(millenniumpost.in)* 9 April 2024

Have you ever thought of infusing clouds with sulphur dioxide to block the sun, or, vacuuming carbon dioxide out of thin air, or, adding iron to the ocean to draw greenhouse gases down to the sea floor. No matter what we have thought, all of these things are being tried now to save dear Earth. As recently as a few years ago, technologies designed to change Earth's atmosphere — what is broadly known as geoengineering — were considered too impractical, too expensive and too outlandish to be taken seriously. But days are changing.

The effects of climate change are becoming worse. And nations are not meeting their collective goal of slashing greenhouse gas emissions. The stakes are very real: Last year was the hottest in modern history. Oceans around the world are shockingly warm. Floods, fires and droughts are growing more intense. So, investors and entrepreneurs are trying — sometimes unilaterally — to fix that. Many scientists and environmentalists worry about the safety and efficacy of geoengineering. And some of the best-funded projects are bankrolled by the very oil and gas companies most responsible for the greenhouse gas emissions. Still, plans to intentionally tinker with the planet's atmosphere are racing ahead.

In Odessa, Texas, Occidental Petroleum is building the world's largest direct air-capture plant. The company plans to turn it on next year. The mechanics are relatively straightforward: giant fans blow air across water that has been treated to absorb carbon dioxide. Occidental then uses chemicals to isolate that CO_2, mixes the gas with water and pumps it underground. Extreme subterranean pressure keeps the gas locked away forever. Most of the carbon dioxide it captures will be sequestered in bedrock, removed from the atmosphere for good. But at least some will be used to extract yet more oil from the ground, creating more of the greenhouse gases that are dangerously heating the planet. Another company in Iceland is also coming up with the same technology.

Other attempts to tweak the climate are still in their infancy. A California start-up claimed to have released sulphur dioxide into the atmosphere in Mexico without permission, hoping to block solar radiation. Afterward, Mexico imposed a ban on the process. Researchers in Massachusetts are investigating whether they could generate blooms of phytoplankton that would absorb carbon dioxide and settle on the seafloor. Critics of the air-capture plants like those in Texas and Iceland remain sceptical. The projects are enormously expensive and very energy-intensive and snag only a sliver of annual greenhouse gas emissions. Maybe they distract policymakers from the more urgent work of reducing fossil fuel emissions.

Despite these concerns, the market for these ventures is set to boom — from less than 10 billion dollar today to as much as 135 billion dollar by 2040, according to a geoengineering consulting group. Occidental is planning to build 100 plants in the coming years, funded in part by 1.2 billion dollars for the technology from the Biden administration in the US. The company wants to build similar plants in Kenya, Canada, Europe and Asia.

It's not unusual for a new technology to gain momentum before the major questions about its efficacy, safety and regulation are resolved. The question however remains, who deserves the right to alter the planet, and what burdens of proof should they first meet? Right now, there are no international standards governing these new technologies, even though they could affect the whole planet. We don't have a great track record of sustained global cooperation; we should keep that in mind. Geoengineering has an extra edge over other technologies to do something for the Earth's atmosphere. According to the experts, that is going to have detrimental effects in terms of saving the Earth from drastic change in weather. https://www.millenniumpost.in/opinion/a-risk-laden-solution-559216

14. Human-made crisis *(millenniumpost.in)* Sunita Narain | 9 April 2024

Instead of chasing the mirage of bringing water from 100-km away Cauvery, Bengaluru should invest in the protection of its local water systems

I wrote last time how Bengaluru's water crisis is human-made. This crisis is not about the lack of water, but about how the city managers have invested in a system that is both capital- and resource-intensive and how this leads to unsustainable water supply and inadequate sewage management. This crisis is then exacerbated by climate change, which is adding to greater variability in rainfall and extreme rain events. What, then, is the way ahead?

The key to a water-secure future for Bengaluru, and indeed for all our cities, is that water supply must be affordable. Only then can it be sustainable. In the case of Bengaluru, water is sourced from the Cauvery, some 100 km away, pumped up and transported. This means the cost of water is high. Worse, the longer the distance, the more is the water leakage. In the case of Bengaluru, water leakage is roughly 50 per cent. In Delhi, which also sources its water from a distance and then transports it across the length and breadth of the city, the loss is a whopping 60 per cent. This means, the water that is finally available after leakage or loss, is even more expensive to supply. This also means, industries and households either do not get the supply as the agencies cannot invest in new pipelines; or, if the cost of water is high, they prefer to look for other options—from tankers to digging borewells. In Bengaluru, it is estimated that half the water supply comes from its underground aquifers.

The problem is, groundwater is not accounted for—the water and sewage boards discount its usage because they do not control its supply. In most cases, they do not even have any estimation of how much water is being sourced from below the ground, as against the "officially" supplied and billed water. The only way to do the math is to estimate the water demand of the city—this is done on a per capita basis, assuming a quantity for each person's requirement in different classes of cities. Bengaluru and Delhi, for instance, have recommended water supply of 150 litres per capita per day and 15 per cent over and above this, for leakage. The gap between the "official supply" and demand is then assumed to be from groundwater. But this is often underestimated because the massive losses are not measured. In the case of Bengaluru, the gap is 50 per cent; it will be safely 60-70 per cent after accounting for water leakage. This is where the opportunity lies.

If city managers accept that aquifers are a critical source of drinking water and make it part of the city's water-secure future, it will change the equation. The question then would be how groundwater can be used sustainably. This is where the answer of recharging through rainwater becomes the real kicker. Conservation of lakes, and not just cosmetic beautification, becomes a necessity. The fact is, lakes and other waterbodies are sponges of a city; they hold excess rainwater and recharge the groundwater for times of scarcity. As climate change raises the spectre of more rain in fewer days, all cities will need to drain their flood. If cities do this in a way that helps recharge their aquifers, they can survive prolonged periods of water scarcity and drought.

Bengaluru, like most other cities of India, had an intricate system of lakes, so that the overflow of one would spill to the next and then the next. But this was studiously discounted because our highly trained water managers only focus on "big" engineering solutions of transporting water in pipelines. The city, over the past many decades, has been fighting a battle to protect its waterbodies—but losing to land development and also to pollution. The 2011 report on lakes submitted to the state high court estimated that there were 189 lakes in Greater Bengaluru and said that not only the lake but even the catchment and drainage need to be protected—without any real success.

Lakes can be protected only if they become part of the water-wise futures of our cities. If Bengaluru did not have the mirage of bringing water from 100-km away Cauvery, it would have invested in the protection of its local water systems—from rainwater harvesting to lake conservation. These would then have been part of the water supply infrastructure, making water supply less expensive and thus more affordable. This, in turn, would have required water boards to rework the paradigm of sewage management so that the wastewater could be intercepted locally, taken to treatment plants and then used to recharge lake water. The fact is, we discharge as much as 80 per cent of the water that is supplied as sewage. Its availability is more secure than water transported over distances. This is why excreta matters. But all this requires changing the mindset of our water managers, and I am not sure how many more droughts this will take. https://www.millenniumpost.in/opinion/human-made-crisis-559217

15. Data poisoning problem *(thehindubusinessline.com)* Updated: April 09, 2024

Involves feeding inaccurate info during AI training

Artificial intelligence has become an essential part of our daily lives, impacting everything from our shopping habits to our healthcare. However, the increased dependence on AI systems has also opened up new avenues for cyber threats, including 'data poisoning' attacks. These malicious acts involve inputting inaccurate information into AI systems during their training, leading them to acquire distorted patterns and make biased or inaccurate judgments. Data poisoning poses a significant risk to AI in general, but generative large language models (LLMs) are particularly vulnerable as they are trained using massive datasets — often from the public internet — that enable them to recognise, translate, predict, or generate text or other content.

There are two primary forms of data poisoning attacks. Targeted attacks seek to manipulate the AI's behaviour for specific inputs. As an example, a malicious individual could manipulate a facial recognition system to incorrectly identify a specific individual. Unfocused or untargeted attacks, on the other hand, seek to diminish the overall performance of the AI by injecting irrelevant data to significantly impact the system's accuracy across different inputs. These are similar to poisoning a well, and the consequences can be as wide-ranging.

Errors in AI systems
AI models that are not impartial can contribute to the continuation of social disparities in various domains, including loan approvals, hiring practices, and the criminal justice system. Errors in AI systems involved in self-driving cars can result in accidents. The potential for disruption is extensive, affecting a wide range of areas, including financial markets and national security.

While some companies have made efforts to improve their data collection practices, incorporate diverse and reliable datasets for training AI models, and mitigate the risk of manipulation, it may be necessary to introduce a legislation to address concerns related to data poisoning. This is especially so as data poisoning may not always be malicious or criminal in nature as it may also act as a tool for artists to defend their artwork from copyright infringement. For example, it may help altering the pixels of an image and when an AI model is trained on these poisoned samples, the hidden characteristics of these images slowly deteriorate the output of the model.

The recent introduction of the Artificial Intelligence Act by the European Parliament is the first set of comprehensive regulations to govern AI and represent a significant step forward. It acknowledges the potential danger of data and requires specific precautions for AI systems deemed "high-risk". These systems, such as facial recognition or those used in critical infrastructure, need to be designed with a strong encryption against data poisoning attacks. Article 15 of the Act requires the implementation of "technical solutions to address AI specific vulnerabilities including, where appropriate, measures to prevent and control for attacks trying to manipulate the training dataset ('data poisoning'), inputs designed to cause the model to make a mistake ('adversarial examples'), or model flaws". It also argues for limiting control by restricting access to training data sets and for ensuring that only authorised personnel have the ability to modify the data is crucial in order to minimise the risk of tampering.

With a strong emphasis on data integrity and cybersecurity, Article 15 aims to foster the creation of reliable AI systems. Ensuring fairness and avoiding discrimination is crucial, as it helps build public confidence in AI technology. Nevertheless, there are still some obstacles to overcome. The development of enforcement mechanisms for Article 15 is ongoing. In addition, establishing international collaboration on data security in AI development continues to be a challenge. In spite of these difficulties, the EU's approach provides valuable insights for other countries. https://www.thehindubusinessline.com/opinion/data-poisoning-problem/article68047717.ece

16. More trouble in store for Senthilbalaji, NGO alleges Rs 397 cr scam in transformer procurement, moves HC demanding probe

(uniindia.com) 10 April 2024

An NGO, which has been fighting against corruption, has moved the Madras High Court demanding a probe into the alleged Rs 397 crore scam in procurement of distribution transformers between 2021 and 2023 when V.Senthibalaji, now lodged in prison after his arrest in a moneylaundering case, was the Electricity Minister.

The petition was filed by Arappor Iyakkam seeking a direction to the Directorate of Vigilance and Anti Corruption (DVAC) to register a case into the alleged scam.

Apart from seeking a direction to the DVAC, the NGO also wanted a High Court-monitored probe by a Special Investigation Team (SIT), since materials collected by it had reportedly revealed losses to the tune of Rs 397 crore to the public exchequer due to collusive bidding for supply of the transformers to the Tamil Nadu Generation and Distribution Corporation (TANGEDCO). In an affidavit filed before the court on Tuesday, Arappor Iyakkam Managing Trustee Jayaram Venkatesan submitted that distribution transformers were used to step down the voltage used in distribution lines to a level that is usable by the end consumer.

TANGEDCO procures these transformers in various capacities, ranging from 25 KVA to 500 KVA, depending on the load capacity requirements.

The procurement takes place by inviting tenders through online. Hence, the petitioner analysed 10 tenders floated between 2021 and 2023 for procurement of 45,800 distribution transformers.

The total value of these tenders floated by the TANGEDCO amounted to Rs 1,182.88 crore, he claimed. The tenders were examined by Arappor Iyakkam from the viewpoint of the number of participating bidders, the value quoted by each bidder, the prevailing market rate, and other parameters to find out if there were any irregularities. The elaborate exercise led to the finding that in seven of the 10 tenders there was clear evidence of unjust enrichment to the contractors through collusive bidding and cartelisation, and the resultant loss to the public exchequer was found to be Rs 397 crore, he said.

“It is interesting to note that in each of the 10 tenders, more than 26 bidders were shown to have participated, thereby creating an apparent image of healthy competition, but what is to be noted is that in all tenders, almost all bidders had quoted exactly the same price corrected to the same decimal points,” the affidavit said.

It said “It is mathematically near to a zero probability for more than 20 bidders to have quoted the exact same rate in tenders. The only logical and plausible conclusion that follows from this fact is that these bidders have conspired and colluded amongst themselves to prefix the rate and had thus snuffed out the competition and made a mockery of the tender process.”

Stating that there were materials to suspect the involvement of the then Minister Senthilbalaji, TANGEDCO CMD Rajesh Lakhoni and Financial Controller (Purchase) V. Kasi in the entire process, the petitioner had included all three of them as respondents to its writ petition.

Mr Senthilbalaji was presently in judicial custody after he was arrested by the Enforcement Directorate in the cash-for-jobs scam during his tenure as Electricity Minister during the previous AIADMK regime.

He later quit the AIADMK and joined the DMK and made a Minister after the DMK came to power in 2021.

He resigned as Minister after the court took objections in his continuance as a Minister without portfolio even after his arrest on June 14, 2023. https://www.uniindia.com/news/south/more-trouble-in-store-for-senthilbalaji-ngo-alleges-rs-397-cr-scam-in-transformer-procurement-moves-hc-demanding-probe/3177144.html