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17th December, 2025



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PM honoured with Ethiopia's highest award

Press Trust of India

ADDIS ABABA

Prime Minister Narendra Modi on Tuesday was conferred with Ethiopia's highest award 'The Great Honour Nishan of Ethiopia' by his Ethiopian counterpart Abiy Ahmed Ali.

The award was to honour Mr. Modi's role in strengthening India-Ethiopia ties, the Ministry of External Affairs said.

India and Ethiopia also elevated their ties to a strategic partnership, after the leaders discussed issues of bilateral interest.



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Stepping stone

India's nuclear governance needs regulatory independence

Nuclear power contributed only around 3% of the electricity generated in India in 2024-25. The government has set a target to install 100 GW of nuclear capacity by 2047, including from at least five indigenous small modular reactors by 2033. In this picture, the SHANTI Bill proposes to change who can legally build and operate civil nuclear facilities. By allowing the Centre to permit nuclear energy activities through licences to government entities, joint ventures and "any other company" (subject to conditions), SHANTI indicates that the intended new class of operators is domestic private capital rather than foreign plant owners. India being able to meet its 100 GW target will indeed require large capital mobilisation, and allowing licensed non-government entities expands the roster of entities that can share the construction risk. SHANTI also seeks to keep the most sensitive fuel cycles in state control while holding room for private participation in plant delivery and parts of the supply chain, reducing scope of commercial entry to those segments most relevant to scale power generation and keeping functions sensitive to nuclear proliferation with the state. The Bill could also mitigate the legal ambiguity new entrants face by putting safety, enforcement and dispute resolution and the terms of participation in the same statute. This could also reduce transaction costs for developers and shrink site approval and commissioning timelines.

However, the Bill's liability and governance provisions warrant caution. The maximum operator liability for a nuclear incident is ₹3,000 crore. The Centre is liable for nuclear damage beyond the operator's cap and can also assume full liability for a non-government installation if in the public interest. These choices make investment risk easier to price but also ask whether the capped operator amount is adequate for victims and for environmental remediation. Second, SHANTI requires operators to maintain insurance or other financial security, but exempts the Centre's nuclear installations, rendering clear public accounting very important. It also allows operator recourse only when expressly provided in a written contract or when an incident is due to an act or an omission with the intent to cause nuclear damage. This makes supplier accountability depend largely on what the operator secures by contract, which means how much recourse the operator has against suppliers can vary across projects. Finally, India's nuclear governance needs to address its regulator's independence. While SHANTI creates a statutory framework, it also vests significant influence in appointments with the Centre and the Atomic Energy Commission. This is still not conducive to increasing public trust and may also deter investor confidence.

Blatant foul

US's militarised approach to Venezuela is a violation of international law

In line with a series of hostile moves, the U.S. seized a Venezuelan oil tanker, *Skipper*, on December 10. Venezuela called it the latest example of Washington's "piracy, kidnapping, theft of private property, extrajudicial executions in international waters". The tanker was part of Venezuela's ongoing efforts to support Cuba through subsidised oil shipments, with proceeds from resale to China providing Havana crucial revenue. For decades, Venezuela has sent oil to Cuba at highly subsidised prices, with Cuba sending doctors and security professionals to Venezuela. The seizure represents a troubling escalation in U.S. policy toward Venezuela under President Nicolás Maduro. It is also clear that the U.S. Secretary of State, Marco Rubio, a major hawk on U.S. foreign policy towards Cuba, has sought to disrupt one of the island nation's economic lifelines. The overt moves to engineer regime change in Venezuela and other brazen acts mark a new low in U.S. foreign policy, recalling the interventionist era of its Monroe Doctrine in Latin America.

Before the seizure of *Skipper*, the U.S. had also conducted strikes in Caribbean waters on boats that Washington alleged were used by drug traffickers. These attacks appear to constitute acts of war carried out without clear legislative authorisation. The Trump administration insists that the operations are part of its "war on drugs", but has not presented credible evidence to link Mr. Maduro to cartels or to drug trafficking networks. To be clear, Mr. Maduro is credibly accused of manipulating the results in the 2024 presidential elections and his government also bears substantial responsibility for Venezuela's crippling economic collapse. But, acknowledging its failures does nothing to justify the Trump administration's hostile approach. Be it the disproportionate economic sanctions that hurt Venezuela's ability to sell its crude oil, covert actions to take down the Maduro presidency, the ill-conceived recognition of an opposition politician, Juan Guaidó, as President, or the extrajudicial killings in the Caribbean and the seizure of the oil tanker, these actions are tantamount to flouting the rules of the international order that the U.S. purports to uphold. The parallel with U.S. policy towards Cuba since the Cuban Revolution in the 1950s is instructive. The U.S. has maintained an embargo on trade to force regime change in the island nation. The world must condemn these moves, even while maintaining the critique of the Venezuelan regime. A principled defence of international law that applies equally to all actors, including the rich and the powerful, is an imperative so that the world does not descend further into anarchy.

Women more willing to donate organs posthumously in India

In 17 out of 21 major States, more women were willing to donate organs posthumously than men

DATA POINT

Sambavi Parthasarathy
Vignesh Raddhakrishnan

India belongs to a small cluster of nations where living organ donations vastly outnumber deceased organ donations. Ironically, this is not due to a lack of intent, data indicate that posthumous organ donation intent among Indians is relatively high.

Crucially, women showed a greater willingness to donate organs after death. This sentiment aligns with the reality that women continue to shoulder the burden of donations. However, men significantly outnumber women among organ recipients – a trend that data suggest is driven not only by social factors, but potentially by a higher need among men.

These insights stem from an analysis of Indian driving license applications submitted in 2024, which explicitly asked applicants if they were willing to donate their organs or tissue in the event of death. **Chart 1** illustrates the State-wise percentage of men and women who answered 'yes'.

This trend holds true even in populous States such as Uttar Pradesh and Maharashtra, where willingness among women ranged from 17% to 29%, while men lagged behind in the 12% to 19% range. The highest level of willingness among women was seen in Delhi (approximately 27%). This far outstripped the male share of 16%. Meanwhile, Odisha led the charts for men with a national high of 20%, yet even in that State, women were more willing, at 22%.

However, there are caveats. First, stated intent differs from action. Second, the data are skewed towards a younger demographic typical of new license applicants, though they do include renewals. Yet, the potential is undeniable: if even a fraction of these pledges

translated into reality, it would transform India's donation landscape, where transplants from deceased donors have only been fewer than 24,000 in the last decade.

Chart 2, which plots the 2024 data across 77 countries, lays bare this disparity. While India ranks a respectable 20th globally for living donors (10.8 living donors per million), it plunges to 67th for deceased donors (0.8 deceased donors per million).

When read together, **Charts 1** and **2** raise a pertinent question. We know that public willingness is high, and the robust figures for living transplants prove that the medical infrastructure is capable. This suggests that the failure lies somewhere in the middle, in the systemic disconnect between a citizen's intent and the hospital's ability to execute it.

The gender skew in **Chart 1** is noticeable. Of the 21 major States for which data were considered, more women were willing to donate organs in 17. So, higher willingness could also explain why women donate more organs than men. In 2023, over 60% of donors were women (**Chart 3**).

In sharp contrast, when we look at organ recipients, in 2023, nearly 65% were men. This is a lopsided ratio that reflects a long-standing and persistent skew in India's transplant ecosystem. **Chart 3** details the organ-wise breakdown of recipients in 2023. The share of male recipients was distinctly higher than that of women across every category. In the case of liver transplants, men accounted for a staggering 70% of recipients in 2023.

Does this reflect a higher medical need? An earlier analysis by us revealed that in 2022, 4.5 times more men than women died of liver disease – a gap that has widened over the last decade (**Chart 4**). Crucially, these deaths were concentrated among middle-aged men, pointing to alcohol-related complications as a primary driver.

Skewed donor gap

The data for the charts were sourced from NOTTO's annual reports, the Global Observatory on Donation and Transplantation, and MCD reports

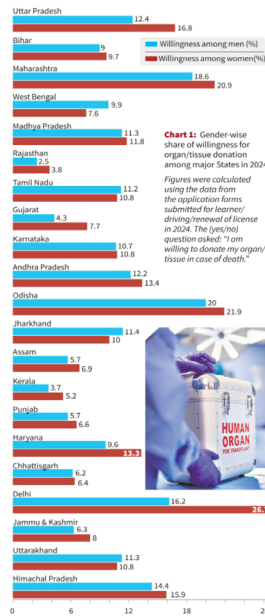


Chart 1: Gender-wise share of willingness for organ/tissue donation among major States in 2024

Figures were calculated using the data from the application forms submitted for learner/driving/renewal of license in 2024. The (yes/no) question asked: "I am willing to donate my organ/tissue in case of death."

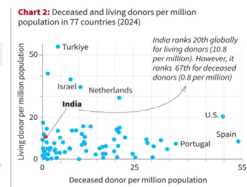


Chart 2: Deceased and living donors per million population in 77 countries (2024)

India ranks 20th globally for living donors (10.8 per million). However, it ranks 67th for deceased donors (0.8 per million).

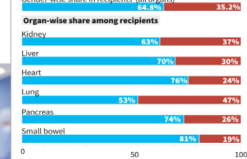


Chart 3: Gender-wise breakdown of donors and recipients for select organs in 2023

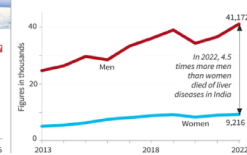


Chart 4: Gender-wise number of certified deaths due to liver diseases in India between 2013 and 2022

INBRIEF



India-Maldives joint military exercise EKUVERIN concludes

The bilateral military exercise EKUVERIN between the Indian Army and the Maldives National Defence Forces (MNDF) concluded with a joint validation exercise in Thiruvananthapuram on Tuesday, marking the culmination of two weeks of intensive training. The validation phase was witnessed by Major-General R.D. Sharma of the Indian Army and Brigadier General Abdulla Ibrahim from the Maldivian side, along with observer delegations from both countries. The Indian Army said that the exercise focused on Counter Insurgency and Counter Terrorist operations in contemporary operational environments, with the aim of enhancing interoperability, operational synergy.

Indian Army receives final batch of Apache helicopters

Saurabh Trivedi
NEW DELHI

The Indian Army on Tuesday received the final batch of three AH-64E Apache attack helicopters, completing its six-unit fleet at the 451 Army Aviation Squadron based in Jodhpur, Rajasthan. The helicopters landed at the Air Force Station, Hindon, in Ghaziabad before being inducted into the service.

The Apaches were contracted in February 2020 under a \$600-million deal with the United States. The first batch of three helicopters was delivered earlier this year, and the arrival of the final batch will ensure full operationalisation of the Army's dedicated Apache squadron.

The six advanced attack helicopters will be stationed at Jodhpur. The squadron was raised in March last year to cater



Taking flight: The AH-64E Apache is regarded as the world's most advanced multi-role combat helicopter. AFP

specifically to operational requirements on the western front.

The deliveries come against the backdrop of a telephonic conversation between Defence Minister Rajnath Singh and U.S. Defence Secretary Pete Hegseth in July this year, during which both sides reviewed ongoing and upcoming initiatives to strengthen bilateral defence cooperation. During the talks, the United States

had assured India of delivering the first batch of three Apaches within two weeks and the remaining three by November this year. The first batch was delivered after a delay of nearly 15 months from the original delivery schedule of May 2024, primarily due to global supply chain disruptions.

The AH-64E Apache is regarded as the world's most advanced multi-role combat helicopter.

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Inhalable microplastics, a hidden toxin worsening the air in our cities

A study which researched the threat posed by inhalable microplastics has warned that they can also smuggle in toxic co-pollutants, including heavy metals such as lead and cadmium, and hormone-disrupting chemical compounds like diethyl phthalates; researchers found atmospheric lead levels to be highest in Kolkata, followed by Delhi

Neehanjana Rai

In successive weekends in November, hundreds of Delhi residents gathered at India Gate holding placards that read, "I miss breathing" and "right to live, not just survive". Winter's onset has once again plunged the National Capital Region into dense smog, with the air quality index refusing to exit "severe" (300-400) or "very poor" (400-500) levels.

Even now, regulators are scrambling to enforce graded action plans to mitigate the concentration of PM2.5 and PM10 particles in the air. Into this toxic mix, new research has introduced a previously overlooked problem known as inhalable microplastics. According to scientists, they pose a direct and alarming risk to human health.

Atmospheric pollution has traditionally been associated with the so-called criteria pollutants, aside from the two size-wise groups of particulate matter, these include carbon monoxide, lead, sulphur oxides, nitrogen oxides, and ozone. Of late, however, they've been joined by respirable emerging contaminants — including inhalable microplastics — fuelled in no small part by the production of 400 million metric tonnes of plastics every year. The world also releases 52.1 million tonnes a year of plastic waste into the environment.

A first-of-its-kind comprehensive study published in *Environment International* in November examined inhalable microplastics in India. These are plastic particles smaller than 10 micrometres (µm). The researchers, led by Indian Institute of Science Education and Research Kolkata professor Gopala Krishna Darbha, monitored ambient concentrations at human breathing height (1.5 m) in five highly populated markets in Delhi, Mumbai, Kolkata, and Chennai.

Thus, the team estimated the average concentration of inhalable microplastics in all four cities to be 8.8 µg/m³. "This means the average city resident is breathing in about 12 microgram every single day," Dr. Darbha said. "This is a very high daily dose of pollution. The most critical factor is the size of these particles. They are so tiny that they can bypass our natural defences and penetrate deep into the lungs. This chronic exposure presents a serious, ongoing risk to public health."

Researchers, however, said that the greater danger is these plastic particles serving as Trojan horses that smuggle in toxic co-pollutants, including heavy metals like lead and cadmium and hormone-disrupting chemical compounds like diethyl phthalates. The



A smoggy winter morning, in Gurgaon, on December 16, 2023. PTI

team found atmospheric lead levels to be highest in Kolkata, followed by Delhi.

The team members also found, reportedly for the first time, that the inhalable microplastics can also carry microbes, including harmful fungi like *Aspergillus fumigatus*, that contain antibiotic resistance genes, meaning they could spread infections that don't respond to common antibiotics.

By comparing this information with major toxicology databases, the team found that breathing these contaminated plastic particles was associated with a higher risk of cancer, hormone-related diseases, breast problems, and respiratory illnesses.

Time and place
In all four cities, winter evenings had a mean inhalable microplastic concentration of 12.7 particles/litre while non-winter evenings averaged 8.8 particles/litre, reflecting a 45% seasonal increase during winter.

There was a significant inter-city variation as well; the data revealed that the residents of Delhi and Kolkata were exposed to high concentrations of inhalable microplastics — 14.8 µg/m³ and 12.3 µg/m³ respectively — whereas Mumbai (2.65 µg/m³) and Chennai (4 µg/m³) fared much better.

The major factors here are meteorological conditions," Dr. Darbha said alluding to Mumbai and Chennai being coastal cities. "Second is urban population density, and the third is waste mismanagement."

Zeroing in on the particles themselves, the researchers identified a kind of plastics in the air, most of them coming

from places the researchers said people usually overlook.

"The particles were primarily less than 100 µm in size (56.2%), followed by 100-500 µm (24.7%) and over 500 µm (19.1%). Fragments were more common than filaments," the team wrote in its paper.

Larger filament-shaped airborne microplastics typically — originate from synthetic textiles or toy fillings. Smaller fragments, often secondary airborne microplastics, arising from packaging, tyre wear, household release, cosmetics, paint and micro-industries, construction, (and) were more prevalent due to their small size and weathering, particularly in areas like Sealdah Market and Chandel Chowk.

Policy imperative
According to Dr. Darbha, the current air quality index may capture "a certain percentage of nanoplastics" but describes the existing evidence as "too preliminary" to correlate AQI values with inhalable microplastics. He did say workers such as traffic police and labourers are especially

vulnerable, since "tyrewear particles seem to be more carcinogenic and may be a severe threat to their lungs. Policy reform is needed to protect such vulnerable groups."

The study also said the particles persist in the air due to low gravitational settling velocity.

"The government should ban single use plastic and many such polymers," he said, adding that cotton-based clothing is preferable to synthetics and that "recycled and refurbished polyester or fabric fibres... are capable of releasing these tiny plastics."

He also said that uncontrolled waste disposal, improper waste segregation, and burning emitted poisonous gases and smaller particulate matter, some of which could piggyback on the inhalable microplastic particles into our lungs.

Overall, Dr. Darbha said the study provides a new baseline for an emerging environmental crisis. "This is a starting point, and we are definitely looking forward to more results coming up in the country, to have more knowledge-sharing in the... scientific community as well as among the common public to have more awareness."

Against the backdrop of the accumulating evidence of the persistence and harms of microplastic and nanoplastic pollution, the researchers also expressed hope that the Indian government would take serious measures regarding plastic disposal and worsening air quality.

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THE GIST

Atmospheric pollution has traditionally been associated with criteria pollutants; they have now been joined by respirable contaminants fuelled by the annual production of 400 million metric tonnes of plastics, and the release of 52.1 million tonnes of plastic waste.

Researchers found that inhalable microplastics can also carry microbes that contain antibiotic-resistance genes; these contaminated plastic particles were also found to be associated with a higher risk of cancer, hormone-related diseases, breast problems, and respiratory illnesses.

In all four cities, winter evenings had a mean inhalable microplastic concentration of 12.7 particles/litre while non-winter evenings averaged 8.8 particles/litre. There was significant inter-city variation: Delhi and Kolkata fared much worse than Mumbai and Chennai.