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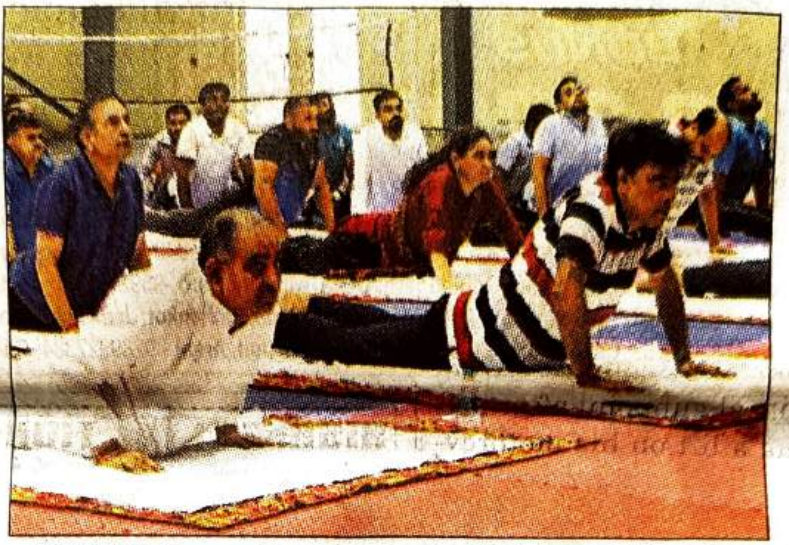
BASAI WEEKLY NEWS UPDATES

JUNE 22-28, 2025

Allegations mount against HAU Vice-Chancellor

SIMPLY HARYANA

DEEPENDER DESWAL



HAU Vice-Chancellor Dr BR Kamboj (front row, left) doing yoga in Hisar on Saturday. TRIBUNE PHOTO

AMID a prolonged standoff at Chaudhary Charan Singh Haryana Agricultural University (HAU), Hisar, the state government has finally stepped in to defuse the tense situation. For over 10 days, academic and research activities have been paralysed, with students boycotting exams and pressing for the removal of Vice Chancellor Dr BR Kamboj.

With the impasse showing no signs of resolution through administrative efforts, the government has now constituted a four-member committee, including three ministers and an MLA, headed by Education Minister Mahipal Dhanda. The committee aims to initiate dialogue and recommend steps to restore normalcy.

The students remain adamant in their demands: the immediate dismissal of the Vice-Chancellor, legal and disciplinary action against those responsible for the alleged lathicharge on June 10, and action against named officials — Registrar Dr Pawan Kumar, Chief Security Officer Sukhbir Singh and other security staff booked in the FIR. Director of Students' Welfare ML Khichar, although not named in the FIR, is also under fire from students.

"So far, only Assistant Professor Radhe Shyam has been arrested," a student leader said, expressing dissatisfaction over the slow pace of justice.

The crisis took a controversial turn when certain caste groups attempted to communalise the issue. Leaders from the OBC Kamboj community issued a public statement in support of the Vice-Chancellor, citing his caste identity. However, students quickly distanced themselves from this narrative.

"Our agitation has nothing to do with caste or politics. It is a campus-specific administrative issue," clarified a student leader. The caste-based support faded shortly after, but it exposed simmering societal undercurrents.

Further complicating matters are past controversies surrounding the VC. A faculty member shared documents with *The Tribune*, alleging that Dr Kamboj violated Clause 25 of the HAU Employees' Conduct Rules, which prohibits using one's position to secure jobs for relatives.

Despite this, his wife, Santosh Kumari — a Haryana Government school teacher — was appointed as Director of the Campus School on February 9, 2024, with retrospective effect from December 16, 2022. The appointment involved redesignating a non-existent PRO post, without any advertisement or open selection, depriving other qualified candidates.

Additionally, she reportedly drew House Rent Allowance from the government while staying at the VC's official residence. "She returned Rs 2.73 lakh to the government in June 2024," the faculty member claimed.

The VC has also come under criticism for his inaction in the tragic case of Dr Divya Phogat, a scientist who died by suicide on October 27, 2023. Despite repeated complaints of workplace harassment — including denial of promotions and opportunities for international training in Mexico and Bangladesh — no serious inquiry was launched, the faculty member alleged. The lack of institutional support, he said, led to her mental trauma and eventual death.

When contacted, VC Dr BR Kamboj remained unreachable. His spokesperson Sandeep Arya said the VC was in a meeting and would respond later. With the ministerial panel in place, hopes are rising for a fair and impartial resolution.

Production of pulses, oilseeds on rise: Govt

TRIBUNE NEWS SERVICE

NEW DELHI, JUNE 21

The Centre has informed a high-level parliamentary panel that domestic production of pulses and edible oils has grown at a faster pace in the last 10 years than the previous decade, even as lawmakers raised concerns over India's dependence on imports to meet demand.

In its presentation to the Standing Committee on Agriculture, the government stated that at 15.66 million metric tonnes (MMT), imports accounted for 56 per cent of the domestic demand for edible oils in 2023-24.

In a meeting on June 20, the Agriculture Ministry, however, emphasised that work was being undertaken for achieving self-sufficiency in the sector, said sources.

They further claimed that the ministry also noted that oilseeds production had risen by 55 per cent from 2014-15 to 2024-25, with third advance estimate pegging its production at 426.09 lakh tonnes in the last fiscal. The corresponding increase was 13 per cent from 2004-05 to 2014-15.

With the country almost entirely dependent on imports to meet the palm oil demand, some MPs flagged health hazards associated with the relatively cheap edible oil, sources said. The ministry said India's heavy dependence on edible oil imports was costing Rs 80,000 crore annually.

Based on the 2023-24 figure shared by the ministry in its presentation, India's domestic production was sufficient to meet the requirement of mustard and groundnut oils, but had to import 3.49 MMT of sunflower oil against the consumption of 3.55 MMT. It also imported more than 60 per cent of the soyabean oil.

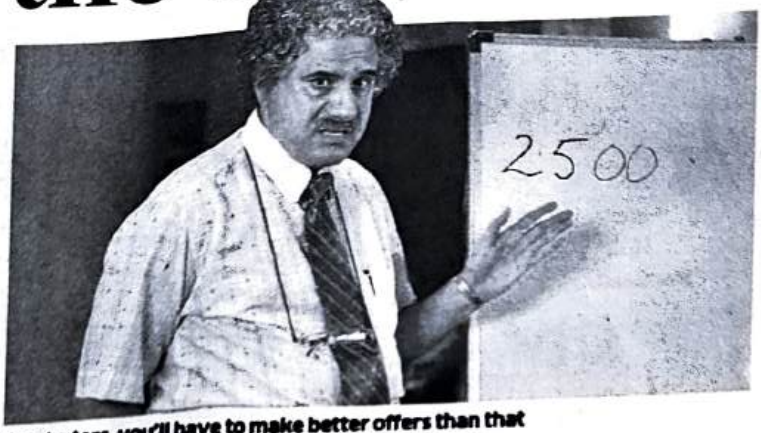
The presentation on pulses said their production rose by 47 per cent between 2014-15 and 2024-25, a period marked by the continuing BJP-led NDA government, against 31 per cent in 2004-14, when the Congress-led UPA was in power.

MPs in the meeting called for incentivising farmers growing paddy and wheat to shift to pulses and other crops. The ministry spoke in detail about the government's roadmap to achieve self-reliance in pulses and oilseeds production by 2030-31.

To lead globally, India must not just invite R&D global excellence—it must be ready to host it

STEM the Tide for Research

Sheel Kapoor & Aditya Sinha



For starters, you'll have to make better offers than that

In 1950, the US made a radical wager: that funding curiosity— unapologetic curiosity—through the installation of the National Science Foundation (NSF) could change the world. The payoff was immense. For every $1 of public research funding, the US economy gained between $1.50 and $3. Over 260 NSF grant recipients went on to become Nobel laureates.

Cut to 2025. The US has proposed a 56.9% cut to NSF's 2026 budget—even as last Friday, a federal judge blocked the move—eliminated over 1,400 grants worth more than $1 bn, and slashed graduate science fellowships by half. In real terms, this means 46,000 jobs lost, and a $6.1 bn hit to GDP through supply chain effects and declining R&D demand.

Efficiency concerns are prompting the US to cut back on scientific research. A March 2025 Nature survey shows 75% of US-based scientists, and 79% of post-graduate and PhD students are considering leaving the country. This moment is India's opportunity.

The question isn't whether top minds will leave the US, but where they'll land

With less than 0.7% of GDP spent on R&D and 15 researchers per 1 lakh people (compared to 423 in the US and 1,307 in South Korea), India is underbuilt, but not incapable. If India reforms its institutions, funds bold research and builds real pathways for global talent, it can become not just the world's back office but also its brain. The question isn't whether top minds will leave the US, but where they'll land.

China has been years ahead in recognising that talent is the new oil. Through flagship programmes like Thousand Talents Programme (TTP) and Young Thousand Talents (YTT), China has systematically built a global pipeline for high-end scientific talent. TTP offers extraordinary incentives:

▶ A one-time bonus of 1 mn renminbi ($1,40,000), 3-5 mn renminbi in research grants, housing subsidies, relocation allowances, and access to senior roles in academia and industry. By 2017, TTP had recruited over 7,000 high-calibre professionals, including Nobel laureates and faculty from MIT, Stanford and Oxford.

▶ Sent out 3,500 offers between 2011 and 2017, targeting PhDs from the top 100 STEM universities. A January 2023 study in Science, 'Has China's Young Thousand Talents program been successful in recruiting and nurturing top-caliber scientists?', found YTT awardees averaged 2.39 publications a year and ranked in the top 15% of Chinese-origin US researchers by productivity.

In May, the EU launched a €500 mn ($576 mn) 'Choose Europe for Science' campaign aimed at attracting global scientific talent between 2025 and 2027. The initiative offers super grants with relocation bonuses and longer contracts. France has pledged €100 mn ($115 mn) under this framework, alongside a separate 'Choose France for Science' co-funding platform. This investment comes as the EU seeks to reverse its declining share in global research output, calling on member states to commit 3% of GDP to R&D by 2030.

India has instituted a range of talent-return and international collaboration programmes, including the Ramanujan Fellowship, VAJRA (Visiting Advanced Joint Research), VAIBHAV (Vaishwik Bharatiya Vaigyanik), SIRE (Science and Engineering Research Board International Research Experience) and GETin (Genome Engineering/Editing Technologies Initiative), to integrate diaspora scientists and enhance domestic R&D capabilities.

However, these schemes have challenges.

▶ They are fragmented across ministries.

▶ Structurally, most programmes are fellowship based with finite tenures, lack tenure-track conversion mechanisms and fail to offer institutional integration or strategic roles within national labs.

▶ Funding levels—typically ranging between €85,000 to €1.35 lakh a month—with modest research grants, are insufficient to attract global talent, or bring Indian researchers back.

▶ Lack of state-of-the-art lab infra, especially outside IISc and IITs, undermine India's competitiveness as a research destination. Returnee scientists often face asymmetric institutional conditions, like outdated equipment, poor administrative support and rigid procurement protocols.

▶ Administrative inefficiencies are common deterrents, such as delays in grant disbursal, compliance burdens and lack of autonomy in fund utilisation.

▶ Cultural resistance within host institutions, coupled with absence of structured onboarding, inter-institutional mobility or peer networks, has often isolated returnees.

▶ Absence of a mission-oriented innovation agenda means returnees are not embedded in coherent national-level grand challenges.

But India's scientific ecosystem has begun to witness a quiet revolution, with momentum accelerating. There is a concerted effort by several ministries towards bringing in reforms for the ease of doing research. Anusandhan National Research Foundation (ANRF) marks a foundational shift in how the country approaches research funding and governance. It's centralising fragmented efforts and introducing coherence across disciplines.

ANRF aims to become the backbone of India's R&D architecture. New funding mechanisms, like the Advanced Research Grant (ARG), are being introduced. It's designed to serve as a stable, long-term 'bread-and-butter' grant for Indian scientists. Simultaneously, critical financial reforms are underway to make research more frictionless. These include streamlining fund disbursal, easing utilisation norms and granting greater autonomy to institutions.

China has been years ahead in recognising that talent is the new oil. Through Thousand Talents Programme, it has systematically built a global pipeline for high-end scientific talent

But India must seize this rare moment to launch a unified, mission-driven, talent-attraction programme targeting researchers from the world's top 100 STEM institutions. The lure of being back home must be supplemented with state-orchestrated efforts.

Fragmented, short-term schemes are no longer sufficient. What's needed is a cross-ministerial effort aligned with national innovation priorities and backed by investment in cutting-edge lab infra. To lead globally, India must not just invite excellence—it must be ready to host it.

Kapoor is CEO, FAST-India. Sinha is a public policy professional

Fossil-Fuel Power

Nearly half of India's 476GW installed power generation capacity is non-fossil-fuel-based as of June 2025, according to government data. However, the domestic power sector remains heavily dependent on non-renewable thermal sources, which together account for the largest share (50.5%) of the country's electricity generation capacity...

Installed power capacity (GW)

	Renewables	Total
2015-16^	76.4	305
2024-25^^	227.0	476

Power generation (billion units)

	Renewables	Total
2015-16*	191	1,168
2024-25**	371	1,824

Per capita electricity consumption, kWh

2013-14	957
2023-24	1,395

Installed power capacity mix (GW)

	Capacity	Share
Thermal$	240	50.5
Solar	110.9	23.3
Wind	51.3	10.8
Hydro	48	10.1
Small hydro	5.1	1.1
Bio-power	11.6	2.4
Nuclear	8.8	1.8

Share of coal@ in thermal is almost **91%**

For renewables, reporting months are ^March 2014, ^^June 2025; *2014-15, **Apr 24 to Feb 2025; $All fossil fuels; @ Incl. lignite

Source: Ministry of power, PTI

SANJEEV RAJ JAIN

Farmer on fast against injustice

Arun Raut alleges that wrong land demarcation has robbed him of ownership of his house in Lavale

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Farmer Arun Raut is on an indefinite fast since 13 days

In the quiet village of Lavale, located in Pune district's Mulshi taluka, a storm of protest has been brewing not with violence or slogans, but with silence and sacrifice. Arun Bhikoba Raut, a farmer whose very livelihood depends on his land, is on an indefinite hunger strike since 13 days outside the Tehsildar's office in Paud, joined by more than a dozen family members.

The protest is not political, but deeply personal. Raut alleges that erroneous land demarcation by the Land Records Department has allegedly robbed him of his rightful ownership of his residence he has cultivated for generations. The dispute, while technical on paper, has spiralled into a matter of survival, identity, and dignity for Raut and his kin.

Sitting on protest alongside Raut are his 80-year-old mother Sindhubai, his aunt Kamal Balsaraf, wife Meena, daughter Rupali Kudale, son-in-law Sandeep Kudale, son Tushar, daughter-in-law Vrushali, grandchildren Soumya, Dhanushya, Vaishnav, and relatives Somnath, Dattatreya, and Manda Satav, a widowed cousin. United by blood and burden, the family has abstained from food and medication since the protest began nearly two weeks ago.

As Raut's health condition worsens by the day, the atmosphere in Paud has turned tense. Social workers, former local leaders, and villagers gather daily, showing solidarity with the family and demanding intervention.

The heart of the matter lies in a land survey carried out several years ago, where government officials allegedly marked Raut's residence incorrectly placing it within the borders of an agricultural plot rather than its actual location. As a result, the government land maps now show boundaries that conflict with ground realities.

"When we took the matter to court, the demarcation presented by the land records office went against us," Raut explained. "But that house doesn't exist where they showed it. It is metres away."

He further alleged that survey officers unilaterally changed the boundary marks, despite older, more accurate maps being available. These manipulations, he says, have effectively stripped him of land he rightfully owns.

District Superintendent of Land Records, Prabhakar Musale, visited the protest site on Saturday and urged Raut to end the hunger strike. He assured a thorough investigation and assured that a neutral review would be undertaken before making any decisions.

Speaking to Pune Times Mirror, Swapna Patil, Deputy Superintendent of Land Records for Mulshi (Paud), "The case was previously reviewed, but Raut did not accept the findings. It was later transferred to the Bhor Land Records Office. Once we receive the case files, we will verify documents under the direction of senior authorities and take a further decision and line of action will be decided."

However, Raut remains unmoved by these assurances. "If my family is to receive justice only after I die, I accept that fate," he said grimly. "Either act according to the documents I hold, or officially declare them false in writing."

The hunger strike has drawn the attention of local leaders and activists. Former Paud sarpanch Vinayak Gujar and activist Pramod Balkawade voiced concerns over the inconsistencies in land measurement.

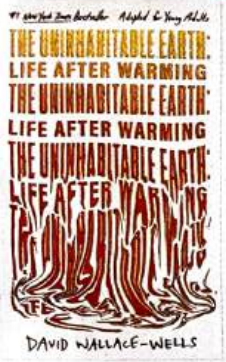
"The same plot has been measured four times, and each time, the department has produced a different map," Gujar stated. "This reflects either gross negligence or deliberate manipulation. Officials have stopped fearing consequences." Their frustration mirrors that of many rural landowners who often face bureaucratic opacity, conflicting records, and delayed justice from land and revenue departments.

As Raut's health deteriorates, pressure is mounting on district authorities to act swiftly. His protest underscores a broader issue: the lack of transparency and consistency in land measurement and record-keeping in rural India. For farmers, land is not just a means of income—it is identity, security, and legacy.

Earth in Words

These powerful reads reveal the truth about our planet, our mistakes—and the hope that still exists

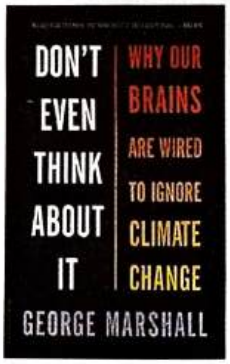
We live in a world on the brink. Climate change, deforestation, plastic pollution, extinction of species, water scarcity, and vanishing biodiversity are no longer distant warnings but current realities. In this global reckoning with nature, books continue to play a unique role. They don't just offer information; they awaken empathy, inspire activism, and create deeper connections between humans and the earth.



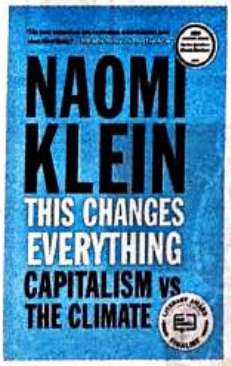
The Uninhabitable Earth: Life After Warming by David Wallace-Wells

Forget the polite warnings. Wallace-Wells delivers a stark, unfiltered look at a future shaped by climate neglect—rising seas, deadly heatwaves, collapsing food systems, and migration crises. Based on cutting-edge science, it's terrifying—but also galvanising.

Don't Even Think About It: Why Our Brains Are Wired to Ignore Climate Change by George Marshall

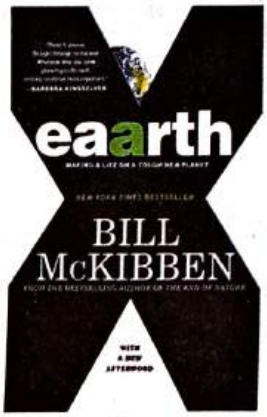


Even in the face of undeniable climate facts, why do so many still remain indifferent? Marshall dives into the psychology behind denial and explores how fear, identity, and social norms prevent us from confronting the climate crisis. A valuable guide to better communication and action.



This Changes Everything: Capitalism vs. The Climate by Naomi Klein

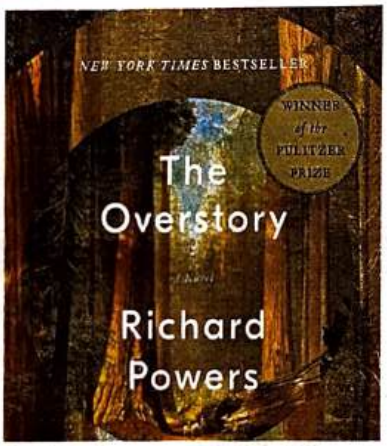
This isn't just a climate book—it's a critique of the global economic system. Klein passionately argues that our addiction to profit, endless growth, and deregulated markets is destroying the planet. She connects the dots between extractive industries, environmental degradation, and political resistance.



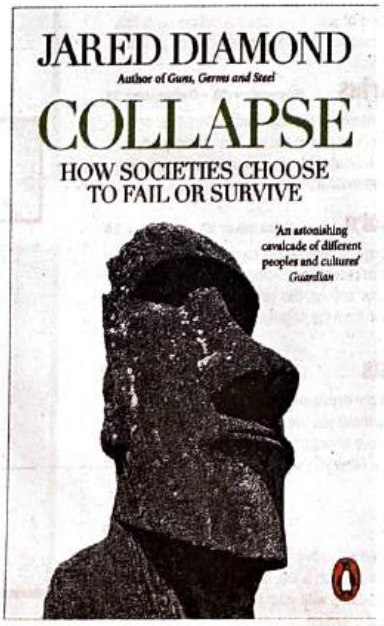
Eaarth: Making a Life on a Tough New Planet by Bill McKibben

McKibben introduces the idea that we're no longer living on "Earth" as we once knew it—we've altered the planet so drastically that it's now "Eaarth." The book blends climate science with practical advice on building local, resilient, community-based futures.

The Overstory by Richard Powers (Fiction)



This isn't just a novel—it's a spiritual experience. The Overstory weaves together the lives of nine characters, all connected by trees and forests. As they awaken to the intelligence and interconnectedness of the natural world, their stories unfold into a larger narrative about protest, sacrifice, and the Earth's resilience.

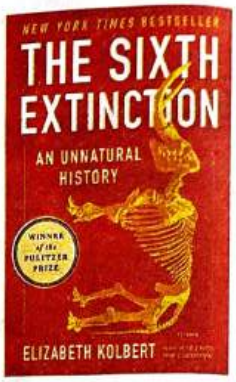


Collapse: How Societies Choose to Fail or Succeed by Jared Diamond

Diamond uses historical case studies—like Easter Island, the Mayan civilization, and Norse Greenland—to examine how environmental misuse has led societies to collapse. He then reflects on how modern nations, including Australia, China, and the US, are faring in similar dilemmas.

The balance between industrial growth and ecological preservation mirrors Diamond's core warning.

The Sixth Extinction: An Unnatural History by Elizabeth Kolbert

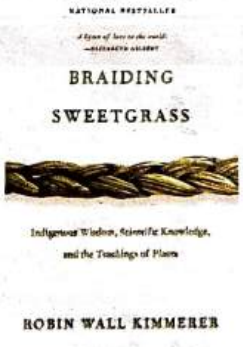


Elizabeth Kolbert, a staff writer for The New Yorker, offers a sobering investigation into the ongoing mass extinction—driven not by natural disasters but by human activity. The book covers vanishing amphibians, endangered coral reefs, and dying forests, all signs of an ecological crisis accelerating beyond control.

Silent Spring by Rachel Carson

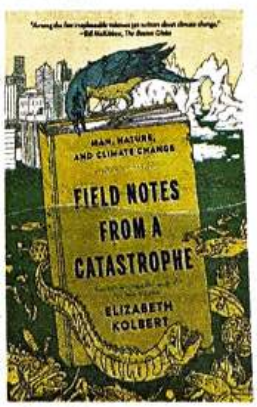
Rachel Carson's Silent Spring is not just a book—it's a landmark moment in environmental history. It courageously exposed how indiscriminate use of pesticides, especially DDT, was poisoning ecosystems and threatening human health. Despite strong opposition from chemical companies, Carson's work led to widespread public outcry, a ban on DDT in many countries, and the eventual formation of the US Environmental Protection Agency.

Braiding Sweetgrass by Robin Wall Kimmerer



A rare blend of science and Indigenous wisdom, this book reads like a love letter to the earth. Kimmerer, a botanist and member of the Citizen Potawatomi Nation, explores how plants, soil, and waters speak to us—if we choose to listen. She reminds readers that environmental healing begins with gratitude and reciprocity.

Field Notes from a Catastrophe by Elizabeth Kolbert



Kolbert's earlier work before The Sixth Extinction, this book is a gripping journey through places already hit by climate change. She shares on-the-ground stories from Alaska, Iceland, and Bangladesh—places where rising seas and melting ice are not theories but daily realities.

The books makes climate change feel personal, urgent, and real.

May showers damage crops worth ₹41cr on 15k ha in Pune: Agri dept

Sandip.Dighe@timesofindia.com

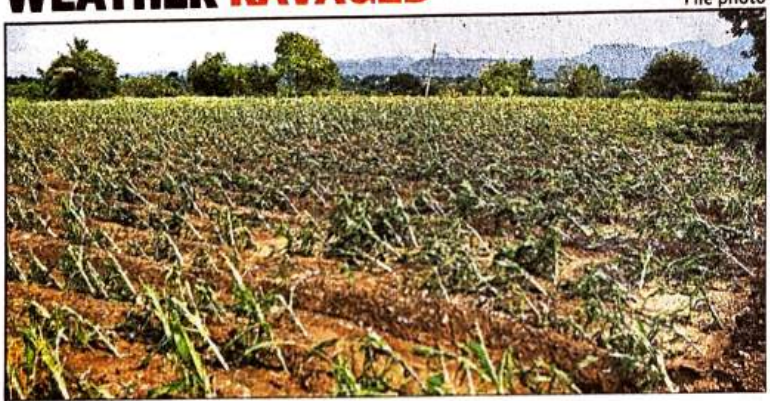
Pune: District agriculture officials have said rainfall in the last three weeks of May damaged crops on 15,035 hectares and caused damage worth Rs41.2 crore.

District agriculture officer Sanjay Kachole told **TOI**, "The total loss as per our assessment is about Rs41.2 crore. We will table the report to the district administration for statutory sanction before sending it to the state govt."

Officials said the maximum crop damage was in Junnar, Ambegaon and Khed tehsils, followed by Indapur, Baramati and Daund tehsils. The rainfall intensity in these tehsils was high and continuous, with gusty winds. The weather caused huge damage to the horticulture plantations — including mango — in these tehsils. It also battered green and leafy vegetables in various villages of the district.

WEATHER RAVAGED

File photo



> Farmers and activists have demanded quick disbursement of compensation to tide over financial problems. It would be a huge relief if farmers receive compensation for their losses in May. They will be able to use the amount in the current kharif and upcoming rabi seasons
> — **Shantaram Sarvade** | FARMER AND ACTIVIST, KHED TEHSIL

According to the rules, farmers whose loss is over 33% are eligible for compensation from the state govt. "Our assessment said 46,029 farmers across the district suffered losses because of untimely rainfall in May. At some places, the rainfall was recorded over 100mm. It completely destroyed fruit plantations. The wind speed was 40kmph to 60 kmph. Resultantly, fruit plantations were uprooted in some villages," said a senior official from the department.

Maximum crops of irrigated fields were affected by the rainfall. "Crops on 3,577 hectares were damaged by the rainfall in the last two weeks of May," said the officials.

Meanwhile, farmers and activists have demanded quick disbursement of compensation to tide over financial problems. "It would be a huge relief if farmers receive compensation for their losses in May. They will be able to use the amount in the current kharif and upcoming rabi seasons," said farmer and activist Shantaram Sarvade of Khed tehsil.

The state govt takes a couple of months to disburse compensation to farmers. "This practice needs to stop because it increases the agony of farmers who have already suffered losses, disturbing their financial planning for the season. It is the state's duty to release compensation on time to support them," said Jitendra Bidwai, an activist from Junnar tehsil.

Nashik farmers upset with NDCC loan recovery drive

Abhilash.Botekar
@timesofindia.com

Nashik: A group of farmers in Nashik district, dissatisfied with the loan recovery drive of the Nashik District Central Cooperative (NDCC) bank, declared that they would await an "opportune" time for a loan waiver following chief minister Devendra Fadnavis's statement in Pune city.

More than 56,000 farmers owe approximately Rs 2,300 crore to the financially struggling NDCC bank, which risks losing its banking licence due to Reserve Bank of India action if it fails to recover loans.

The NDCC bank is scheduled to hold its annual general meeting on July 4 to announce a new scheme aimed at promoting loan recovery from farmers. NDCC bank officials said, "A new plan was devised under Vidyadhar Anaskar, the administrator of State Co-operative Bank, who has been appointed the 'organisational advisor' of the NDCC bank to steer the bank out of the crisis.

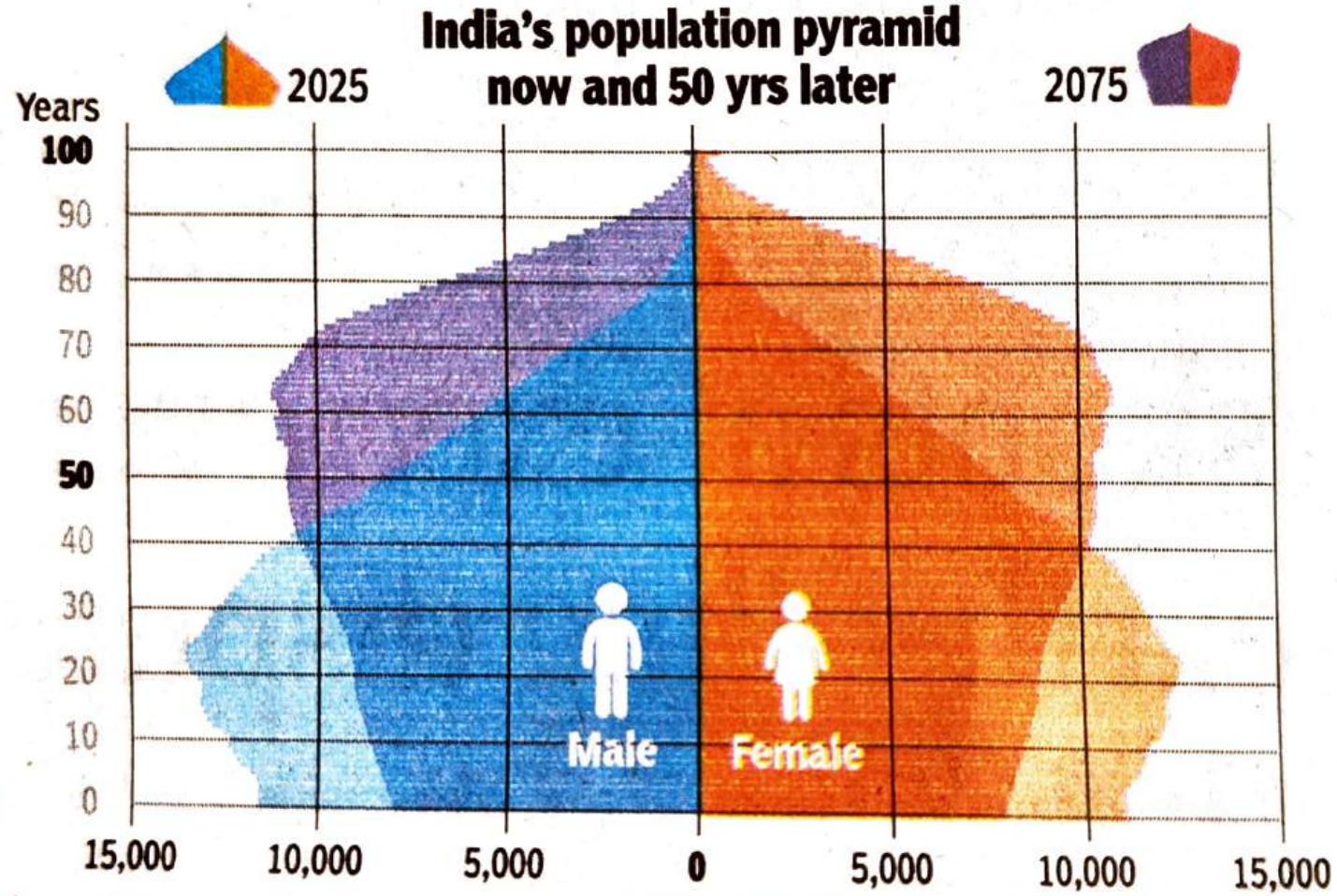
This plan will be unveiled during the meet which is scheduled on July 4.

STATOISTICS A slice of life in numbers

By Doreen Bora

1 In 3 Indians Will Be Over 60 By 2075

India's population is set to reach 1.6 billion by 2075, but its demography will transform from a youthful pyramid into a greying dome. The demographic bulge will shift to the 60+ age group, which will be 31.5% of the population – up from 11% today



Source: UN, World Population Prospects 2024

CLOSE WATCH

Researchers in China have made a contact lens that gives people infrared vision — even with their eyes closed. The lens is infused with nanoparticles that convert near-infrared light into shorter wavelength light humans can see

QUICK QUIZ

Earth's rotation is grad
effect is this having on
Clue: It's only millisec
but adds up over eons.
Send your answers to s

Even If She Can't Smell You, She'll Still Get You

A fumigation drive in Mumbai

While the dengue mosquito is a smarter predator than previously thought — it can detect you with its legs, too — Indian scientists have detected that a stealthy group of immune cells could be the unsung heroes in fighting the infection

Chethan.Kumar@timesofindia.com

It's tough to outsmart a mosquito out for your blood. Here's some consolation. The buzzing insect outsmarts even supersmart scientists.

"Aedes aegypti", the mosquito behind dengue, Zika, and yellow fever, hunts down its prey — humans — primarily by its sense of smell. So, when researchers from the Rockefeller University stripped Aedes aegypti of its primary olfactory gene, Orco — knocking out their sense of smell — they reckoned the female mosquito will lose her hunting instinct. But she was smarter than they were.

As a new study published in Science Advances details, when deprived of their olfactory power, Aedes use their ability to sense body heat. Typically, it's the mosquito's antennae that detects odours and heat. But Orco mutants deploy their forelegs to detect human skin temperature.

Researchers traced this sensory compensation to a heat-sensitive receptor called "Ir140". Once the sense of smell was gone, the receptor's power increased. Scientists call this upregulation.

This kind of cross-modal compensation, where one sensory system ramps up when another fails, happens in humans too. It's why some visually impaired people develop a heightened sense of hearing. That the same compensation happens in mosquitoes, shows how evolution has fine-tuned them into single-minded hunters. It's only when Orco and Ir140 are knocked out — a complicated process — that Aedes lose their ability to detect heat.

Humans aren't entirely helpless prey, though. A group of immune cells, called T cells, battles mosquito-borne diseases like dengue. But that story has got more interesting.

In a new study led by India's National Institute of Immunology (NII), AIIMS-Delhi, and global collaborators, scientists have identified a powerful subset of immune cells — CD4+ T cells — that help drive the body's antibody response during dengue infection.

This T cell subgroup, christened "PD-1+CXCR5-CD4+ T cells", works by boosting the activity of B cells, which produce antibodies. Scientists say this is done via a pathway that involves a signaling molecule, called IL-21.

Unlike conventional follicular helper T cells that typically work inside germinal centres, these 'peripheral helper' cells operate outside — extrafollicular niches — and may even travel to inflamed tissues.

This discovery reframes part of the immunological story of dengue. For years, scientists have known that antibodies play a curious double role — they can protect, but also potentially worsen the disease, particularly in people with a history of prior dengue infection. This phenomenon, called antibody-dependent enhancement, means not all antibody activity is beneficial.

The new study now pinpoints a cell type that could be fuelling the surge of antibodies seen in acute and severe dengue. Single-cell analyses revealed that these PD-1+ helper T cells aren't a monolith — they split into IL-21-producing 'helpers' and cytotoxic variants. Some may stick around as memory cells, forming part of our longer-term immune memory against dengue. Whether they confer protection or promote risk in future infections, however, remains to be fully understood.

If and when they are fully understood, scientists hope that accurately identified helper cells can become the basis of a smart vaccine.

Till then, we should just admit that mosquitoes will usually outsmart us.

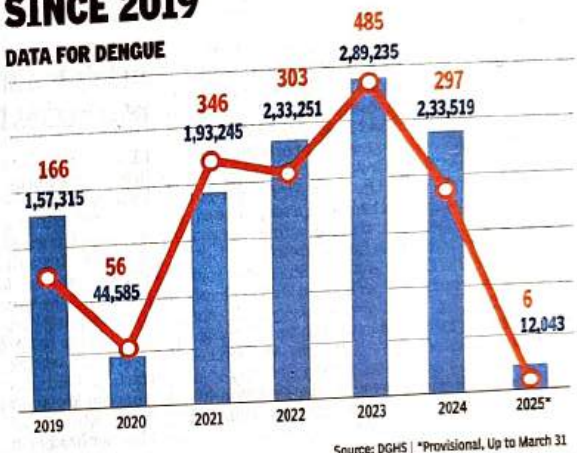
Swarnadip Ghosh, a researcher from National Centre for Biological Science (NCBS) in Bengaluru, summed up all the science in a poem:

"When scent fades out,
the mozzie's not beat,
She hunts you down by
the stink of your feet.
No nose? No problem —
she's got legs that feel heat,
And still thinks your
blood is a five-star treat."

THRIVING ON A WARMING PLANET

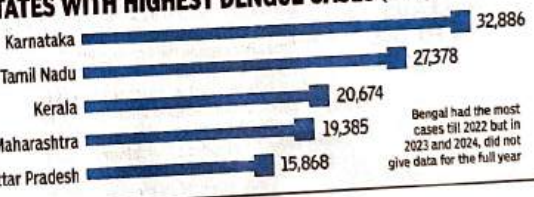
- **Aedes aegypti** is the mosquito that spreads dengue
- Its name means 'Hateful Egypt' in Greek
- Apart from dengue, it also spreads yellow fever and chikungunya
- It can be recognised by black and white markings on its legs, lyre-like marking on thorax
- Males live off fruits. Females bite for blood, needed to mature her eggs
- They have a lifespan of two to four weeks
- Eggs can be viable for over a year in a dry state, which allows mosquitoes to re-emerge after a cold winter or dry spell
- It originated in Africa and spread to the Americas through slave trade
- As the world's climate becomes warmer, Aedes aegypti will spread to more areas, scientists fear

9.3L CASES & 1,659 DEATHS SINCE 2019



Source: DGHS | *Provisional, Up to March 31

STATES WITH HIGHEST DENGUE CASES (2024)



Bengal had the most cases till 2022 but in 2023 and 2024, did not give data for the full year

BREAKTHROUGHS FROM AROUND THE WORLD

HOW RICE INHERITS TOLERANCE TO COLD WITHOUT DNA CHANGES

Rice plants can pass on cold tolerance without genetic changes, a decade-long Chinese study published in the journal Cell has found. Researchers demonstrated that repeated cold exposure triggered heritable 'epigenetic' changes — chemical tweaks on DNA that don't alter its sequence. By the third generation, previously cold-sensitive rice produced seeds despite chill stress, and retained this trait over five generations. Genetic tests confirmed no DNA sequence changes, challenging the traditional view that only random mutations drive evolution. Some experts describe it as "landmark," while others are calling it strong evidence of environmentally induced adaptation.

(SOURCE: NATURE)

has given in-principle approval for the development and con-

While these roads will play a

Nutritious meal for students

Government approves hike in meal expenditure rates; aims to improve food quality

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Maharashtra government has approved a hike in the daily meal expenditure under the Pradhan Mantri Poshan Shakti Nirman Yojana. The scheme provides nutritious mid-day meals to students of primary (Class 1 to 5) and upper primary (Class 6 to 8) schools across the state.

Under the revised rates effective from May 1, 2025, the approved daily meal expenditure is now:

- Rs 6.78 per student for the primary level
- Rs 10.17 per student for the upper primary level

As per central government guidelines, rice and other grains are supplied to schools. The nutritional standard ensures meals provide:

- -450 calories and 12 grams of protein for primary students (Classes 1 to 5),
- 700 calories and 20 grams of protein for upper primary students (Classes 6 to 8).

FILE PHOTO

The Central Government supplies

- 100 grams of rice per student per day for primary students,
- 150 grams for upper primary students.

Earlier, the per-student daily meal expenditure was Rs 6.19 for primary and Rs 9.29 for upper primary. The hike in rates follows the Centre's directive to revise meal costs per beneficiary to meet rising expenses.

Breakdown of revised meal expenditure

Primary (Class 1 to 5):

- Total cost per student per day: Rs 6.78
- Cost for grains and ingredients: Rs 4.19
- Cost for fuel and vegetables: Rs 2.59

Upper Primary (Class 6 to 8):

- Total cost per student per day: Rs 10.17
- Cost for grains and ingredients: Rs 6.29
- Cost for fuel and vegetables: Rs 3.88

Early onset of monsoon brings winged wonders to Pune's hills and gardens

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File photo

Scattered rain this season has helped in butterfly breeding

Pune: The early onset of monsoon, along with intermittent showers, has led to butterflies being spotted earlier than usual this year. Many are flocking to hills near the city to catch an early glimpse of butterflies this season.

Pioneer, common gull, western albatros, common leopard, and white orange tip are some of the species that have been spotted so far. Home gardeners are witnessing butterflies flocking to nectar-laden flowers blooming on their terraces.

Preetam Tulshibagwale, who has followed butterflies for the last 4-5 years, took help from an expert and created a butterfly garden on her terrace. "In half-an-hour, I saw 5-6 species of butterflies on my terrace. Many nectar-bearing plants are in full bloom like snakeweed and milkweed, and these have been attracting a lot of butterflies," she said.

Butterfly watchers said owing to the monsoon, there are many wild plants in the flower beds that attract butterflies. Grass blue butterflies, plain tiger butterflies, common crow, and common emigrant are seen around these wild flowering plants.

Nikita Shinde, a resident of Baner, has spotted many butterflies in her society garden and at the nearby hill. "There was a 10-day window in early June when the rain reduced substantially. I saw many species of butterflies during that time. However, butterflies disappear when it rains heavily. This year, the monsoon has been scattered, and that has promoted breeding," she said.

Environmentalist Rajat Joshi went up to the hills last week to catch early butterfly arrivals. "Butterflies need good sunlight and moisture to thrive. Last week, I spotted many species on Vetal and Taljai tekdis. Breeding activity has also started. Many of the local trees like khair and Indian beech tree on the hills are flowering, and these are attracting butterflies," he said.

Early rain has affected sightings of crimson tip butterfly, which is usually spotted in drier parts of the region.

Amol Nargolkar, who has been looking after his family-owned private sanctuary, Sipna Farms, said butterfly sightings had started, but he expected them to increase substantially by next month.

Poor rains concern for farmers in Marathwada

TIMES NEWS NETWORK

Chhatrapati Sambhajinagar: Marathwada farmers have been concerned as there were no widespread showers during the kharif season in June so far. A major portion of farmers are yet to undertake sowing.

Marathwada region, comprising eight districts, developed a 31% rainfall deficit by Monday. According to an official report, Marathwada witnessed approximately 10% of total Kharif sowing by June 16.

K K Dakhore, an agricultural meteorologist with Parbhani-based Vasantrao Naik Marathwada Agricultural University (VNMKV), stated that revival of the monsoon was unlikely for the region, until June-end.

"There were good showers in May. However, we advised the farming community against going for kharif sowing until 100mm of rainfall was received over a stretch of 10 days in June. The subdued monsoon delayed the sowing in Marathwada. For those farmers who already undertook sowing, there was no alternative except irrigating the crops," he said.

Dakhore stated that kharif sowing could be undertaken until July 15.

Ujani water released to avoid flooding during palkhi arrivals

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Pune: Heavy rain and a significant rise in water level in Ujani dam have prompted the irrigation department to release water into the Bhima river to prevent flooding at Pandharpur when both palkhis will reach this temple town early next month.

On Sunday, the dam began discharging water at a rate of 10,000 cusecs, which went up to 20,000 cusecs in the afternoon and reached 30,000 cusecs on Monday. Ujani's stock was at 77% of its storage capacity on Monday.

Officials from the irrigation department said the discharge was part of flood management and to keep some space in the dam to accommodate the inflow of water from upstream dams. By doing this, the department will be able to release water at a "controlled rate" and avoid flooding ahead of Ashadhi Ekadashi when lakhs of warkaris will visit Pandharpur and take a dip in the Bhima, they said.

Sources said Pune revenue devision could face a challenge if heavy rain continued during Ashadhi Ekadashi, forcing the irrigation department to release water into the Bhima at a higher rate.

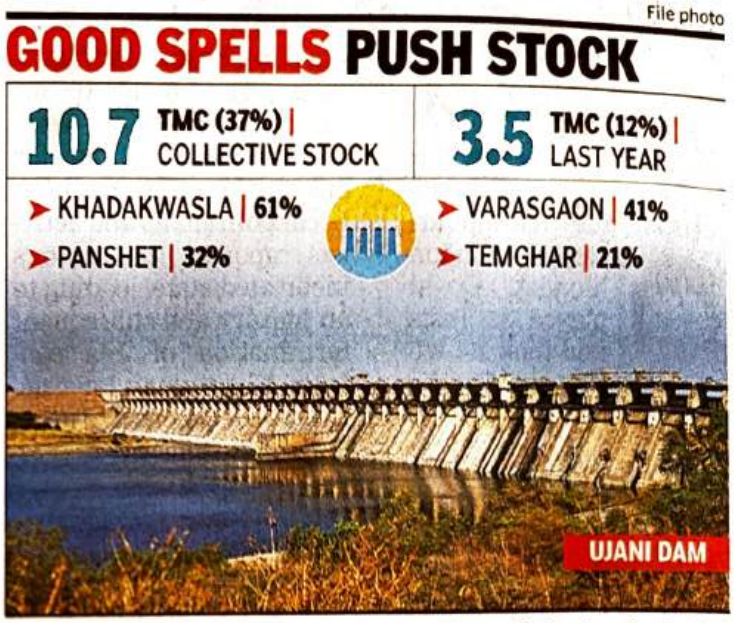
As a precautionary step, the irrigation department has also been releasing water from Veer dam into the river for the last two days. Officials said the release from Ujani and Veer dams would be brought down in case of a drop in rainfall and inflow of water.

Water stock in most dams in and around Pune has been on the rise since last week owing to good spells.

Nazare dam, located in the arid Saswad-Purandar known for less rainfall, too has recorded a good rise in water stock since the beginning of the monsoon. The irrigation department has warned of the release from this dam into the Karha river as live storage has reached 92%.

The irrigation department, in the backdrop of the ongoing palkhi processions, has alerted the local administrations in Pune, Satara and Solapur districts to take measures to stop people from venturing near the rivers and streams.

File photo



Four dams hold 10 TMC

The collective water stock in four dams in the Khadakwasla circle reached 10.7 TMC (thousand million cubic feet) on Monday, which was 7 TMC more than last year's stock of 3.5 TMC on the same day.

The irrigation department has continued the discharge of water from Khadakwasla dam into the Mutha river, though the release has been reduced to a rate of 684 cusecs. Panshet, Varasgaon, and Temghar received around 25mm rain in the last 24 hours ending on Monday.

Asean not keen to review trade pact: Govt

TIMES NEWS NETWORK

New Delhi: Commerce and industry minister Piyush Goyal on Tuesday said little headway was made in the review of 15-year-old free trade agreement (FTA) with Asean, despite nine rounds of negotiations since 2022.

The minister's statement came days after controversy erupted over his comments on some of the Asean countries being a B-team of China. While the assertion was not taken favourably by some of the countries. which are part of the 10-nation trading bloc, the commerce department and the ministry of external affairs are seen to be on the same page, with sources confirming that there is an attempt to stonewall the talks.

In 2019, Asean agreed to the review after much pushing by India, but then did not commence negotiations for almost two years. Indian authorities argued that China worked out arrangements through companies and affiliates, which allowed it to route subsidised goods through one of the countries that make up the trading bloc.

The Modi govt argued that trade deal with Asean was not negotiated properly by the UPA, resulting in the terms of trade being tilted in favour of these countries, which was visible through the rising trade deficit. Officials pointed out that in return for India opening up 71% of its tariff lines, Indonesia responded for only 41% of the products, with two-thirds of the trade liberalised in the case of Vietnam and Thailand—areas where India is seeking correction.

Addressing an event to commemorate the third anniversary of Vanijya Bhawan, the first new office block to come up along Kartavya Path, Goyal said that India was now seeking to enter into FTAs with advanced economies that were complementary and not competing for the same market. "Instead of competition, it is a spirit of collaboration," he told reporters.

India is now seeking to enter into FTAs with advanced economies that are complementary and not competing for the same market, says commerce and industry minister **Piyush Goyal.**

"Instead of competition, it is a spirit of collaboration

Secy: More deregulation needed for FDI inflows to grow from $80bn to $100bn

New Delhi: Govt is seeking to step up FDI inflows from $80 billion levels to $100 billion, a move that will require further deregulation, Amardeep Singh Bhatia, secretary in the department for promotion of industry and internal trade, said Monday. "In achieving that, you need to deregulate as much as possible to ensure that business can work unhindered," Bhatia said, amid efforts towards further decriminalisation and improving business processes. TNN

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Over 24 crore tonnes of legacy waste lie festering in India's dumpyards. As toxins seep into water sources, the true cost of mismanaged waste becomes frighteningly clear

Buried In Garbage, Poisoned By Leachate

India's Mounting Waste Crisis

24
Crore tonnes
Quantum of legacy waste spread across 2,400 dumpsites in Indian cities

Neglected, mushrooming garbage may have gone from being an eyesore to a blind spot across our cities and towns, but the hazard it increasingly represents is not simply optical. The unfolding crisis has far-reaching repercussions for health, economy, the environment, and climate. The oft-used trope of a ticking time bomb for India's garbage problem is painfully accurate. Alarmingly, the issue concerns not just the waste itself, but how it is, or is not, handled. At risk is the air we breathe and the water we drink.

India generates over 1.7 lakh tonnes of waste every day. Over 90% of this is collected, while a little over 54% of it is processed or treated. About a quarter of the waste is disposed through sanitary landfills. There is also construction and demolition (C&D) waste that adds up to 15 crore tonnes a year, choking natural drainage systems. The downside of all this is that our cities now sit atop more than 24 crore tonnes of legacy waste spread across 2,400-odd dumpsites. Seeping below the surface, this waste threatens to infect our groundwater.

Many legacy landfills across the country lack protection against leaching of waste. Rainwater falling on these mounds of waste trickles into groundwater sources. This downward discharge — called leachate — is packed with all the heavy metals, organic pollutants, and pathogens contained in the garbage heap. Consider this: a Central Ground Water Board (CGWB) study found groundwater near Delhi's Bhalswa landfill had lead and iron levels exceeding BIS (Bureau of Indian Standards) limits by 3-5 times. A 2024 study showed that groundwater around Nagpur's Bhandewadi landfill had zinc, copper, and cadmium concentrations exceeding safe limits by more than 200%.

Why should this worry you? Well, chronic exposure to leachate-contaminated water has been linked to gastrointestinal disorders, neurological conditions and cancer.

At Chennai's Kodungaiyur dumpyard, spread over 269 acres and operational for more than 35 years, upto 2,800 tonnes of municipal solid waste (MSW) gets dumped every day. A University of Madras study found microplastic concentrations of as high as 22 particles per 150ml of groundwater near the dumpyard. Its open burning practices release organic compounds such as methane, while anaerobic decomposition of organic waste in landfills also releases methane, exacerbating global warming.

Contamination of groundwater resources threatens public health in peri-urban and rural areas, where nearly 163 million people rely on untreated groundwater for drinking. A 2023 study found groundwater near the Ghazipur landfill in Delhi contained toxic elements with potential long-term carcinogenic effects. Yet, the infrastructure to tackle this is non-existent. A 2023 CAG audit found only three of 17 audited solid waste units in Kerala had functional leachate treatment systems. *Unless investments are made in sanitary landfills, leachate management, and decentralised waste processing, our stressed aquifers — more than 60% of which are in a critical or overexploited state — could face irreversible damage.*

Management Woes

The crisis has a lot to do with unchecked dumping, poor segregation, weak accountability and lax enforcement. Despite initiatives such as Swachh Bharat Mission 2.0 — India's flagship waste management programme — challenges persist around waste segregation (at source and destination), recycling, and development of adequate treatment infrastructure.

A significant part of the waste continues to be mismanaged, adding to environmental degradation and public health risks. Solid Waste Management Rules, 2016, mandate waste segregation at source, but enforcement remains weak. The CAG audit found many urban local bodies did not follow source segregation and scientific waste processing. Even relatively better-performing cities, such as Bengaluru, have less than two-thirds of their households complying. In Chennai, it's below one in 10. In small towns, compliance rates are worse. The consequence: wet waste contaminates dry waste, plastics go uncollected, and everything ends up in landfills.

Ranjith, a sanitary worker in south Chennai, said their battery-operated waste collection vehicles have blue and green bins for segregation, but all the composting and recycling centres are now shut. "This results in waste directly reaching the landfill right from the secondary level," he said. The Greater Chennai Corporation (GCC) last month closed down at least 245 composting and recycling centres, as they were situated near residential neighbourhoods. The NGT's southern bench subsequently pulled up GCC, inquiring what alternatives it had put in place for segregation.

Problematic Solutions

The treatment and processing systems for solid waste include windrow composting, vermicomposting, pit composting, biomethanation, organic waste convertors, RDF/pelletisation plants, material recovery facilities (MRFs), waste-to-energy (WtE) plants, and incinerators. While Swachh Bharat Mission 2.0 highlights the utility of WtE plants, which reduce landfill volumes while generating electricity, these may emit particulate matter far exceeding safe standards.

Indian WtE plants release particulate matter in the range of 65mg/Nm³-75 mg/Nm³, higher than what is permitted in Europe. Delhi's Okhla plant emits dangerous dioxins, threatening the health of nearly 1.5 lakh residents in the vicinity. Similar plants in Hyderabad and Jaipur operate sporadically and pollute the local air, while toxic ash continues to spread around landfills.

"These (WtE) plants require constant plastic waste flow to remain operational, creating contrary economic incentives against reduction of plastic production," said solid waste management expert Visvaja S, who is associated with Centre for Financial Accountability. No wonder, then, that people are turning against them. In north Chennai, for instance, which houses 20-odd red-category industries (those considered the most polluting and are subject to stricter environmental regulations), residents have been up in arms against a proposed 1,000-crore WtE plant at the Kodungaiyur yard.

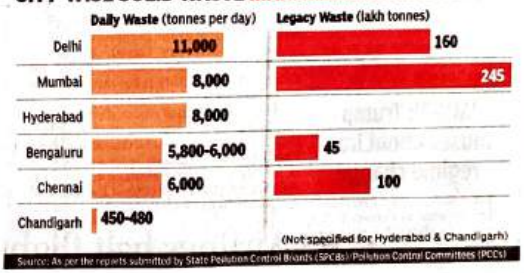
Silver Linings

Chennai's southern dump in Perungudi, meanwhile, is showing some positive signs. It has managed to recycle demolition waste into bollards, medians, stone-seatings. The upside: biomining at the same dumpyard has reclaimed 50% of legacy landfill, with greenery sprouting on restored land. This showcases the transformative potential of biomining in dealing with long-standing waste. However, only 48% of the waste has been taken up for biomining pan-India, and just a quarter of it has been cleared.

Effective and long-term solutions, to begin with, would require ward-level governance to be beefed up. Bulk-waste generators, such as malls and hostels, must compost and segregate on site. Each ward should have material recovery and composting facilities, while GPS-tagged bins and mobile alerts should be utilised to help track garbage collection. The Centre must disincentivise incineration. The Swachh Bharat Mission should no longer grant higher ratings to cities with WtE plants. Emission standards must be independently monitored. C&D waste units must be made operational and the market developed for recycled products such as tiles, road-base materials, and prefabricated blocks. Builders must be held accountable through digital waste-tracking and states must not approve ecologically hazardous treatment plants near residential neighbourhoods.

But the onus of mindful waste management cannot fall only on govt. Public engagement must be strengthened through embedding waste literacy in school and college curriculums, awareness campaigns, and celebrating champions of zero-waste living.

CITY-WISE SOLID WASTE MANAGEMENT SNAPSHOT



Source: As per the reports submitted by State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs)

How Indore, Chandigarh and Ambikapur lead refuse revolution

TIMES NEWS NETWORK

Cities such as Indore, Chandigarh and Ambikapur have set high standards in solid waste management through innovative, community-driven approaches.

Indore, rated India's cleanest city many times, throws up more than 1,100 tonnes of waste daily, collected door-to-door with 100% household segregation. The city processes waste into compost, fuel, converts green waste into wood pellets through PPP that generates revenue and promotes sustainable energy.

WELL-SORTED: Chhattisgarh's small town Ambikapur scores big in waste management

Chandigarh also has near-total door-to-door waste collection and more than 90% source segregation. The city operates more than 400 twin-bin vehicles that collect wet, dry, sanitary, and hazardous waste. Waste is transported to the Dadumajra dumping site, where it is processed in dedicated plants.

Ambikapur in Chhattisgarh processes about 45 tonnes of waste daily, with 90% segregated at source by women from self-help groups. The waste is composted and sold, while the remaining 10% is sent as fuel to cement units. The city has seen 100% cost recovery and transformed its landfill into a sanitation park, becoming a zero-waste city.

New Delhi is doing its bit. Now, 633 residential areas in the capital have turned 'zero waste colonies', processing wet waste on site and ensuring plastic, dry, and electronic waste reach authorised disposal agencies.

A resolute citizenry, combined with strict enforcement of penalties, real-time monitoring, and door-to-door outreach, helped Indore keep things clean.

China tightens fentanyl controls in goodwill gesture to US

China moved to tighten controls over two chemicals that can be used to make fentanyl, in an apparent olive branch to the US that may help maintain their fragile trade truce.

Authorities added two previously unclassified precursors to a list of Class Two chemicals, according to a joint statement by six govt departments on Monday.

The label will subject the substances, 4-piperidone and 1-boc-4-piperidone, to tougher supervision starting July 20. One of the chemicals, 4-piperidone, is regulated in the US as a precursor to fentanyl. The other substance, 1-boc-4-piperidone, can be used to make a precursor for the narcotic.

The announcement followed a meeting between China's minister of public security Wang Xiaohong and US Ambassador David Perdue in Beijing last week. Wang said China was ready to collaborate on law enforcement areas such as counter-narcotics, which has been a source of friction between the world's largest economies.

Beijing's gesture comes after recent trade talks led to a suspension of drastic tariffs of up to 145% on Chinese goods. But 20% levies tied to fentanyl have remained, making products from China less competitive and contributing to a drop in exports to the US. Cracking down on precursors is one of the few obvious avenues China has that may reduce those charges. BLOOMBERG

Khalil to keep protesting against Israel

Newark: A Palestinian activist who was detained for more than three months pushed his infant son's stroller with one hand and cheered as he was welcomed home Saturday by supporters including US Rep Alexandria Ocasio-Cortez. Mahmoud Khalil greeted friends and spoke to reporters at New Jersey's Newark International Airport a day after leaving a federal immigration facility in Louisiana. A former Columbia University graduate student and symbol of Trump's clampdown on campus protests, he vowed to continue protesting Israel and the war in Gaza. "The US govt is funding this genocide, and Columbia University is investing in this genocide," he said. "This is why I will continue to protest with every one of you. Not only if they threaten me with detention. Even if they would kill me, I would still speak up for Palestine." Khalil said he also will speak up for the immigrants he left behind in the detention centre. AP