

Topics - MINDS MAPS included (Daily current affairs)--

5th November 2024

- **URANIUM MINE**
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By saurabh Pandey



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Villagers in A.P. boycott meeting over uranium exploration

The Hindu Bureau

KURNOOL

Farmers and villagers of Kappatralla and nearby villages in Devanakonda mandal of Kurnool of Andhra Pradesh boycotted a meeting with officials of the Revenue, Mining, Forest and other departments to educate them about the uranium exploration in the uranium area at Kappatralla.

The protesting villagers staged a dharna at the Edulla Devarabanda junction in Devanakonda mandal on the Kurnool-Ballari road leading to a huge traffic jam.

They demanded that the government drop its proposal for uranium exploration in the reserve forest area at Kappatralla.

Officials of the Revenue, Mining, Forest, and Police departments proposed the meeting to get feedback and concerns of the people on uranium mining in the area. The team of officials reached the place but the people refused to interact with them and boycotted the meet.

A team of the protesting villagers met district in-charge Minister Nimmala Rama Naidu, who was on a visit to the district, in Kurnool city and sought immediate cancellation of the permissions given for uranium exploration.

Mr. Rama Naidu agreed to bring the issue to the notice of State Chief Minister N. Chandrababu Naidu and to do justice to the farmers and villagers.

— Topic → URANIUM MINE

- The Tummalapalle Mine is a **uranium mine** in Tumalapalli village located in **Kadapa** of the **Indian** state of **Andhra Pradesh**.
 - The mine will draw most of its water requirements from the river **Chitravathi**.
 - The hydro-metallurgical uranium purification plant which would be constructed in the mine's current lease period, will treat the **dolomite** based uraniferous which is found in the deposits
 - Dolomite is an **anhydrous carbonate mineral** composed of **calcium magnesium carbonate**, ideally $\text{CaMg}(\text{CO}_3)_2$. The term is also used for a **sedimentary carbonate rock** composed mostly of the mineral dolomite
-

Unexpected connection between nickel toxicity, cholesterol found

Fungi that lacked the Sre1 protein were found to be sensitive to nickel. The gene that encodes for this protein is conserved in all animals – meaning once an organism evolved to have this protein, it didn't lose it in the future. In humans, Sre1 is called the sterol regulatory element binding protein

D.P. Kasbekar

Every so often, researchers discover a connection between what were believed to be completely unrelated phenomena. A team from the University of Georgia in the U.S. published one such report in the journal *PLoS Genetics* on September 16. They discovered that exposing mammalian and fungal cells to the heavy metal nickel resulted in sterol deficiency.

Additionally, tolerance to nickel was found to increase when the fungal cells overexpressed a gene called ERG25, which encodes an enzyme. Cells unable to increase levels of the ERG25 enzyme were unable to grow in the presence of a higher nickel concentration.

Until this report, no one suspected nickel toxicity was related to sterol biosynthesis in fungi and animals.

Nickel and sterols in nature

Nickel was once used commonly to secure earrings in pierced ears, but it soon became clear that in a significant fraction of people it was a contact allergen. Nickel compounds are also known to be carcinogenic.

In the wild, on the other hand, plants, bacteria, and fungi need nickel for the normal function of an important enzyme called urease. For example, the fungus *Cryptococcus neoformans* uses urease to help it spread and colonise.

Sterols are an important chemical component of the cell membranes of plants, animals, and fungi. The compound makes the membranes more rigid.

In mammals, including humans, the principal sterol is cholesterol. If it is present in high concentrations in the body, it tends to be deposited in the inner lining of our blood vessels. As the deposits accumulate, they block the flow of blood, eventually leading to chest pain, heart attack, and/or stroke.

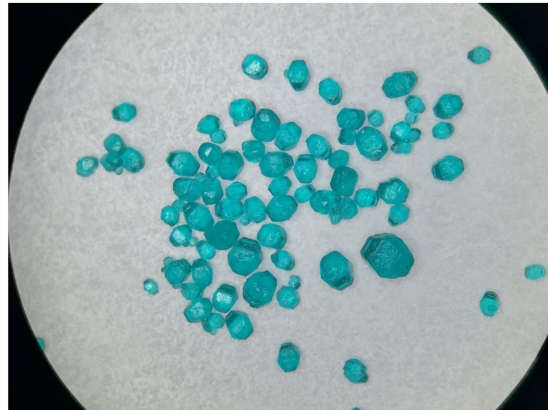
Doctors widely use drugs called statins to reduce the amount of cholesterol the body makes – i.e. cholesterol biosynthesis – to avoid these adverse outcomes.

In fungi, including yeast, the major sterol is ergosterol. Blocking ergosterol biosynthesis can adversely affect fungal growth. In fact, many of the most important agents humans use to fight fungal infections are azoles (like fluconazole), which inhibit ergosterol biosynthesis. Other drugs based on polyenes (such as amphotericin B) bind to ergosterol in the membranes of fungal cells and disrupt their integrity.

At the concentrations at which these drugs are used, their active ingredients appear to effectively lower ergosterol levels and inhibit the proteins required for its biosynthesis. But they don't act against cholesterol. Thus the invading fungus is killed while the cells of the infected mammal or plant are spared.

A surprising connection

In their study, the University of Georgia researchers first found that a 'normal' strain of *Cryptococcus neoformans*, a.k.a. a wild-type strain, could grow in a medium supplemented with up to 250 millimoles of nickel sulphate. At this concentration, the number of nickel atoms in the medium is the same as that



Water-soluble nickel sulphate crystals seen under a microscope. Plants, bacteria, and fungi need nickel for the normal function of an enzyme called urease. LEIBNIZ CC BY SA 4.0

of sodium atoms present in a solution with 14.6 of mg salt per litre. To compare, seawater contains 35 grams of salt in a litre.

Urease is the only enzyme in *C. neoformans* known to require nickel for its activity. The researchers wanted to check whether strains of *C. neoformans* modified to impair its ability to take up nickel from the medium, to attach nickel to urease, or to make the urease thereafter would be more sensitive to nickel than a wild-type strain. It was reasonable to expect that the mutated strains would show altered sensitivity to nickel.

But when the researchers created the mutant strain, they found it survived and grew as well as the wild-type strain in a medium supplemented with 250 millimoles of nickel sulphate. It was a sign that urease was not involved in helping the fungus tolerate nickel.

And then the researchers did what researchers often do. Separate from the urease-impaired strain, they also prepared 284 other

C. neoformans mutants with a different single gene deleted in each mutant. One possible reason is that they wanted to double-check the nickel-impaired strain's response to a growth medium containing nickel. Another is that the researchers tested the additional mutants simply because the opportunity cost of doing so was low.

One of these 284 mutant strains lacked a protein called sterol response element 1 (Sre1). It turned out to be the only strain to exhibit a great sensitivity to nickel – yet another and bigger surprise. This is because Sre1 regulates the expression of genes that control sterol biosynthesis.

In fungi, the major sterol is ergosterol. Blocking ergosterol biosynthesis can affect fungal growth. In fact many of the most important agents humans use to fight fungal infections are azoles which inhibit ergosterol biosynthesis

Instead, the focus of the study shifted from the urease mutants to Sre1 and the genes regulated by it. Serendipitous discoveries like this often take on a life of their own, going on to prompt additional downstream research and innovation.

From SRE1 to ERG25

The gene that encodes the Sre1 protein is conserved in all animals. In other words, once an organism evolved to have this protein, it didn't lose the protein as it continued to evolve. In higher animals, including humans, Sre1 is called the sterol regulatory element binding protein (SREBP).

When cholesterol levels in the body are low, cells break up the SREBP protein, and a fragment is moved into the cell nucleus. There this fragment turns "on" the expression of its target genes: those that encode the enzymes the body needs to synthesise sterols. The researchers found that nickel triggered the cleavage of SREBP.

The absence of SREBP in the Sre1 mutant thus caused *C. neoformans* to become hypersensitive to nickel.

Several sterol biosynthetic genes are turned on when the SREBP fragment enters the nucleus. The researchers

hypothesised that if the body is to tolerate nickel, one or more of these genes has to be turned "on". To test this, they overexpressed each sterol biosynthesis gene in a Sre1 mutant strain and found that the overexpression of the ERG25 gene alone restored nickel tolerance to the strain.

The researchers also grew human cells in cultures with nickel and cultures without. They found that after 72 hours, cells exposed to nickel had lower amounts of cholesterol. This was similar to nickel's effect on ergosterol reduction in *C. neoformans*.

Possibility of novel treatment

The research team is already addressing a number of questions arising from this work. To name three: Can genes corresponding to ERG25 in other fungi confer nickel tolerance in a *Cryptococcus* strain that lacks its own ERG25 gene? Is the sterol biosynthetic function of the ERG25 enzyme required for its nickel tolerance function? And does the human gene corresponding to ERG25 play a similar role in nickel tolerance in human cells?


Beyond these questions lies the possibility of novel treatment. The protein whose recipe the ERG25 gene encodes has a known role in sterol biosynthesis. Now it is known it also confers nickel tolerance – which might involve diverting the protein from the sterol biosynthesis complex to a different nickel-tolerance complex. A drug blocking such a diversion between complexes could potentially act as a novel antifungal agent.


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Topic → Nickel and Its Impact on Sterol Levels




Key Points

 Nickel Exposure: Leads to sterol deficiency in both mammalian and fungal cells.

 Fungal Tolerance: Overexpression of the **ERG25** gene enhances fungal resistance to nickel.

 Health Risks: Nickel is a recognized contact allergen and carcinogen in humans.

 Enzymatic Role: Nickel is vital for the enzyme urease, facilitating the spread of fungi like **Cryptococcus neoformans**.



Sterol Importance: Sterols, such as cholesterol in mammals and ergosterol in fungi, are essential for maintaining cell membrane integrity.



Cholesterol Management: Statins are widely used to reduce cholesterol levels, preventing cardiovascular diseases.

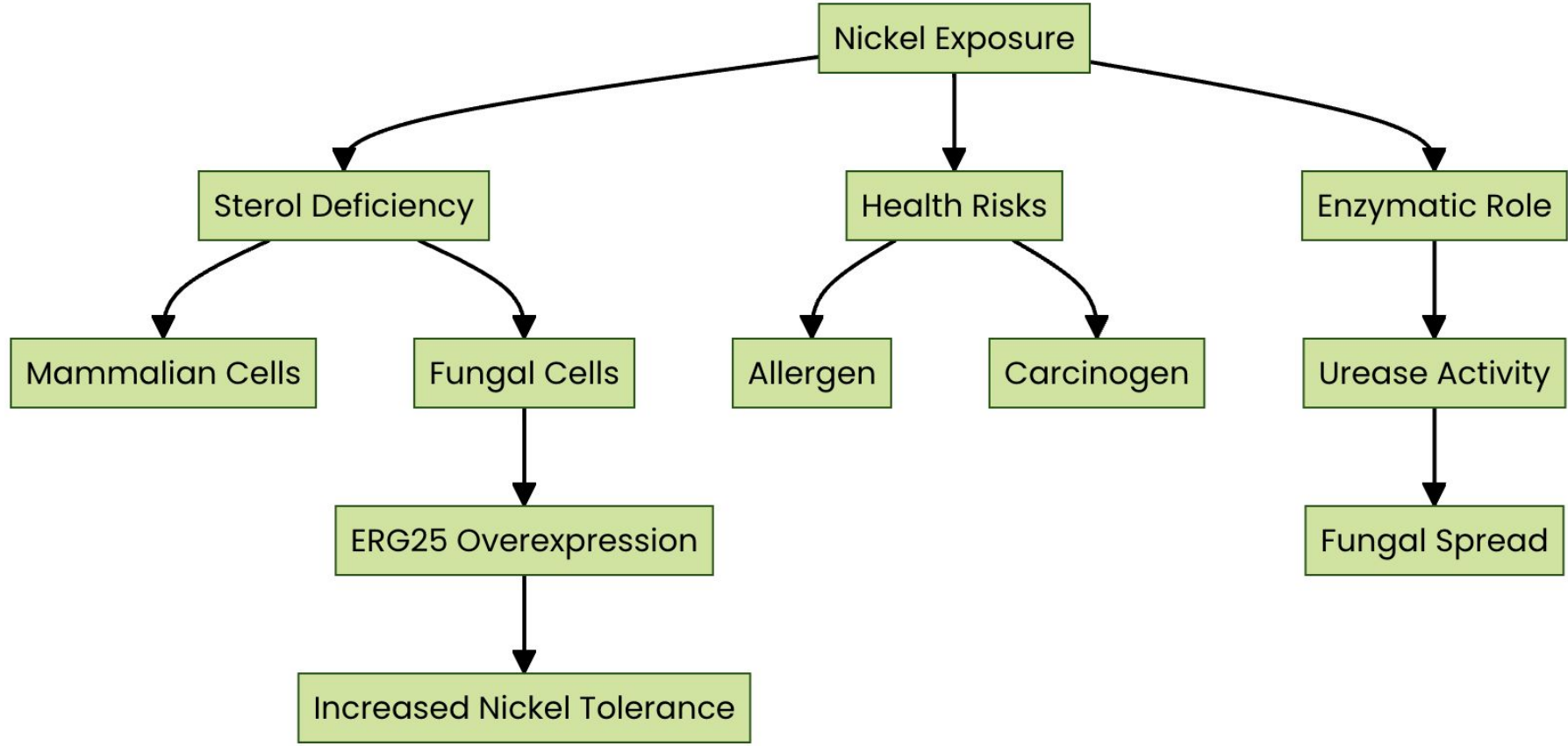


Antifungal Treatments: Drugs like azoles and polyenes target ergosterol biosynthesis, effectively treating fungal infections without affecting human cells.

Summary: Nickel exposure impacts sterol levels, influencing fungal growth and human health. Specific drugs target ergosterol to treat infections.

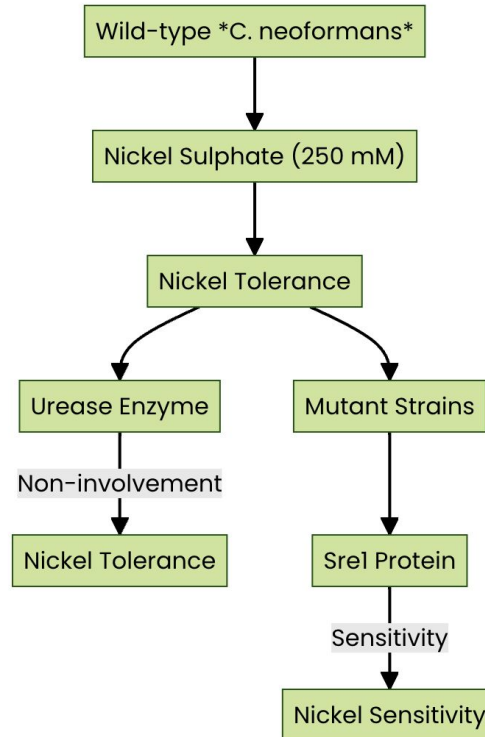


Nickel's Impact on Sterol Levels:



_Key Findings


Sre1 Protein: Identified as a critical regulator of nickel sensitivity in *Cryptococcus neoformans*.
Shift in Focus: From urease to sterol biosynthesis, highlighting the role of Sre1.








The Sre1 protein gene is conserved across all animals, indicating its evolutionary importance.



 In higher animals, including humans, Sre1 is known as the sterol regulatory element binding protein (SREBP).

 Low cholesterol levels lead to the cleavage of SREBP, allowing a fragment to activate genes necessary for sterol synthesis.

 Nickel exposure triggers the cleavage of SREBP, affecting nickel tolerance in organisms.

 The absence of SREBP in Sre1 mutant strains makes *C. neoformans* hypersensitive to nickel.



Overexpression of the ERG25 gene in Sre1 mutants restored nickel tolerance, highlighting its role in sterol biosynthesis.



Human cells exposed to nickel showed reduced cholesterol levels after 72 hours, mirroring the effects seen in *C. neoformans*.

Summary: The Sre1 protein, crucial for cholesterol regulation, is affected by nickel exposure, with the ERG25 gene playing a key role in restoring nickel tolerance



Nations pledged \$16 billion, bringing total contributions to \$40 billion – far from the \$20 billion target. [SAPTA/GETTY IMAGES](#)

COP29 will launch with looming funding gap

Reuters

Wealthy nations appeared to have hit a limit with how much they are willing to pay to conserve nature around the world, instead shifting their focus at the two-week U.N. biodiversity summit towards discussions of private money filling the funding gap.

At the COP16 negotiations in Cali, Colombia, countries failed to figure out how they would mobilise \$200 billion annually in conservation funding by 2030, including \$30 billion that would come directly from rich nations.

That money, pledged two years ago as part of the landmark, Kunming-Montreal Global Biodiversity Framework agreement, is meant to finance activities that boost nature, such as sustainable farming or protecting wildlife reserves.

But there was no consensus as talks dragged on beyond the summit's scheduled end on November 2, during which dozens of delegates departed to catch flights. By Saturday morning's roll call, there was no longer a quorum among the nearly 200 nations for an agreement to pass, forcing organisers to suspend the meeting.

"I am both saddened and enraged by the non-outcome of COP16," said Shilpa Gautam, chief executive of project finance firm Opna.

"The wild thing about the nature financing discussions is that the numbers discussed are already a pittance."

Human activities such as farming, mining, and urban development are increasingly pushing nature into crisis, with one million or so plant and animal

European governments, including Germany and the Netherlands, have slashed their foreign aid budgets over the last year, while France and the U.K. are also cutting back

species thought to be at risk of extinction. Climate change is also adding to nature's woes by raising temperatures and disrupting weather cycles.

Countries will meet again in Azerbaijan next week for the COP29 climate summit, which again will be focused on the steep need for funding from wealthy nations to their poorer counterparts to help shoulder climate costs.

Even before the talks broke down, developed nations had signalled an unwillingness to offer large amounts of cash.

European governments, including Germany and the Netherlands, have slashed their foreign aid budgets over the last year, while France and the U.K. are also cutting back.

Government development money specifically targeted at nature conservation abroad fell to \$3.8 billion in 2022 compared with \$4.6 billion in 2015, according to the Organisation for Economic Co-operation and Development.

At COP16, U.N. Secretary General Antonio Guterres demanded that countries make significant new contributions to the Global Biodiversity Framework Fund.

The response was muted. Nations at COP16 pledged \$60 billion in contributions to the fund, bringing total contributions to roughly \$40 billion – far from a major contribution to the \$30 billion target from nations by 2030.

The United States, which is not a party to the U.N. Convention on Biological Diversity, has not contributed.


–Topic → The Kunming-Montreal Global Biodiversity Framework



- The Kunming-Montreal Global Biodiversity Framework is an outcome of the 2022 United Nations Biodiversity Conference. Its tentative title had been the "Post-2020 Global Biodiversity Framework".
 - The GBF was adopted by the 15th Conference of Parties to the Convention on Biological Diversity on 19 December 2022.
 - The United Nations Biodiversity Conference (COP15) ended in Montreal, Canada, on 19 December 2022 with a landmark agreement to guide global action on nature through to 2030.
 - Chaired by China and hosted by Canada, COP 15 resulted in the adoption of the Kunming-Montreal Global Biodiversity Framework (GBF)
-

Overview

The Kunming-Montreal Global Biodiversity Framework aims to protect, conserve, and restore biodiversity globally.

It emphasizes collaboration among countries and stakeholders to address biodiversity loss. 

Key Components

Goals

Protect 30% of the planet's land and ocean by 2030.

Reduce the rate of biodiversity loss through sustainable practices.

Financial Mechanisms

Establish funding for biodiversity conservation.

Payments for the use of genetic resources.

Stakeholder Involvement

Engage Indigenous peoples and local communities in conservation efforts.

Involve citizens in monitoring biodiversity.

Challenges



Funding Issues

- Disagreements among wealthy nations on financial commitments.
- Need for a clear funding roadmap for species protection.

Implementation

- Ensuring countries meet their commitments.
- Monitoring progress towards set targets.

Future Directions

Continued Dialogues

- Ongoing negotiations and adjustments to the framework.
- Emphasis on adaptive management strategies.

Monitoring and Reporting

- Develop systems for tracking progress and impacts of the agreement.
-



We need to address India's workplace culture



In September, the mother of Anna Sebastian, the young chartered accountant who passed away in July allegedly due to work stress, said, "They say we have received freedom in 1947, but our children are still working like slaves." Her anguished cry goes to the heart of the issue of workplace culture in India's corporate world.

The inquiry report of the Ministry of Labour, promised within 10 days, is still awaited. The corporate world has chosen to remain largely silent on the tragedy. What corporate leader would dare to point fingers at others when the position at his own firm is not very different?

Toxic work culture

The issue is not just long hours or having to put in extra effort to meet a deadline. Employees will gladly slog it out if they are shown respect, appreciated, and feel they are treated fairly. From all accounts, much of corporate India fails on every count. Toxic work culture is pervasive in India's private sector.

Long hours flow directly from a focus on the bottom line that comes at the expense of employees' well-being. The management employs two people where four are required. It seeks to motivate the two employees by giving them the wages of three, thus saving on one employee. Impressive jargon has been created to justify exploitation of employees and inhuman work hours. Meeting stiff targets against heavy odds is 'organisational stretch'. There is 'variable pay' to promote a 'performance culture' that translates into a higher stock price – great for top management that corners most of the stock options. There is a 'bell curve' that identifies super-performers as well as under-performers. There are 'stress management' workshops to deal with the burn-out that ensues. Management does not stop to ask itself why it is creating so much stress for employees in the first place.

Long hours and employee



T.T. Ram Mohan

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If we are to address the worst excesses of India's corporate culture, some form of regulation seems unavoidable

burnout are typical of the corporate culture of the U.S. but not of Europe. France has a 35-hour work week. In the rest of Europe, the norm is about 40 hours. European firms lack competitiveness, did you say? Well, European standards of living are nothing to scoff at.

It is unrealistic to try to import the American culture into a setting that could not be more different. The per capita income in the U.S. is \$85,000. In India, it is \$2,700. The typical U.S. employee operates at a level of comfort – in terms of housing, commuting, health, diet, and leisure – that is way above that of the Indian employee. In India's big cities, simply going to office and getting back can be an ordeal. So are getting school admissions for children (and then getting them into coaching classes), looking after an elderly parent, and generally ensuring that the household is ticking along.

Long hours are only part of the problem. Bosses often use language that can range from being unprofessional to abusive. During the tenure of Prime Minister Rishi Sunak, his deputy, Dominic Raab, faced charges of 'bullying' from officials he had worked with in his previous stints as minister. An enquiry found that he had been "aggressive" and "intimidating" but not "abusive". Mr. Raab, nevertheless, had to resign. Such was the fate of the U.K. Deputy Prime Minister, no less, for having breached norms of civilised behaviour.

One wonders what would happen if these standards were applied to India's corporate world. In the U.S. and in Europe, employees can sue the firm for a range of objectionable behaviours including those that cause them mental stress. They often win huge settlements. No such recourse is available in India.

Employees also feel they are not treated fairly. The performance evaluation system is often suspect and the ruthlessness with which so-called under-performance is dealt with

will make one squirm. Top management will talk of "weeding out dead wood", an expression that shows scant regard for the worth of human beings. Variable pay is heavily skewed in favour of a handful of individuals at the top. When those below seethe with resentment at what they perceive as unfair, a toxic culture is inevitable.

Many public sector firms have a much better work culture. Employees may not get huge rewards but they have job security. Unions act as a check on the arbitrary ways of top management. Inequality in pay is nowhere as glaring as in the private sector. Officers at the middle and senior levels put in long hours. People have their grievances. But complaints about a toxic work culture are rarer.

Time to remedy matters

How do we remedy matters?


Corporates can be expected to be respond along predictable lines: there will be affirmations of "core values", a new "code of conduct" for management, programmes to address the "work-life balance", more "town hall meetings" with employees. If these could make a difference, we shouldn't be having a problem in the first instance. The board of directors should be paying attention to the company's work culture, providing recourse and initiating corrective measures. Alas, boards tend to be even more disconnected from reality than the management. Moreover, they lack the incentives or the motivation to challenge management.


If we are to address the worst excesses of India's corporate culture, some form of regulation seems unavoidable. Regulation may get boards to assume responsibility for the work culture, engage with employees at lower levels, and get a sense of what's going on. The Nirbhaya episode caused a paradigm shift on the issue of women's safety. One, hopes that Sebastian's untimely demise will likewise turn out to be a defining moment for India's workplace culture.


Topic → AI and Gender Bias: Challenges and Opportunities




Key Challenges and Insights

 AI and Gender Bias: AI technologies often mirror societal biases, potentially reinforcing stereotypes instead of empowering women.

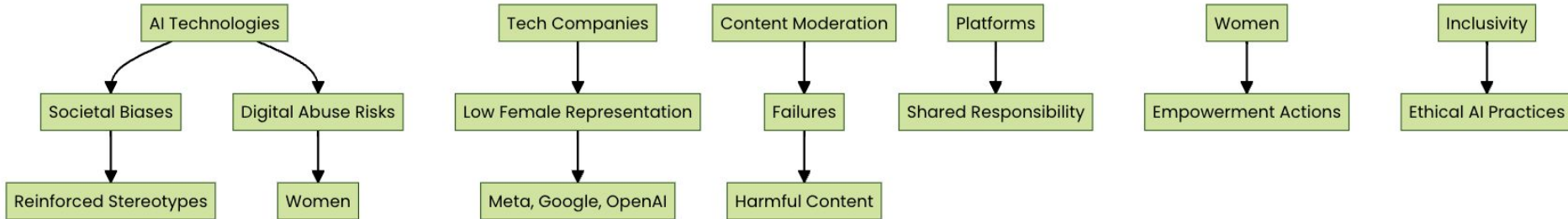
 Increased Risks: The rapid advancement of AI heightens the risk of digital abuse, violence, and threats against women.


 Low Female Representation: There is a notable underrepresentation of women in tech development, especially in major companies like Meta, Google, and OpenAI.


 Content Moderation Failures: Big Tech platforms struggle with moderating harmful content effectively, lacking sufficient investment in safety features.

 Shared Responsibility: Platforms responsible for content creation and distribution should take accountability for harmful content, rather than shifting the burden to users.

Conceptual Overview:



-  Empowerment through Action: Women are encouraged to report online harassment and take proactive steps against misogyny.

 Need for Inclusivity: Increasing female participation in tech development and decision-making is crucial for ensuring fair and ethical AI practices.

Summary

The text underscores the challenges women encounter in the digital realm due to AI's inherent biases, the necessity for improved content moderation, and the critical importance of female representation in the tech industry.

Big Tech's fail — unsafe online spaces for women



Just after U.S. President Joe Biden's stepping away from the 2024 U.S. presidential race and his endorsement of U.S. Vice-President Kamala Harris as the Democratic Party nominee, Ms. Harris got swift support from notable political figures which included former President Barack Obama. But Ms. Harris's candidacy sparked significant political debate. Her campaign was also marred by AI-generated deepfakes and disinformation.

Even before the announcement of her candidacy, Ms. Harris was the target of memes and video content that focused on her mannerisms that generally showed her in a bad light. These attacks escalated after her candidacy was announced. They were personal, focusing on her birth, character, and integrity as an American. For instance, there was a manipulated video with her cloned voice that was shared by Elon Musk. She could be seen saying that "President Biden is senile"; that she does not "know the first thing about running the country" and that, as a woman and a person of colour, she is the "ultimate diversity hire".

In addition to these digital assaults, Ms. Harris faced relentless trolling, particularly from right-wing figures. Former U.S. President Donald Trump often mocked her manner of laughter and labelled her "crazy". Media personalities Megan Kelly and Ben Shapiro were explicit in their posts on how Ms. Harris moved to the top. Social media was flooded with derogatory jokes, sexualised images, and racist and sexist comments directed against her. A recent Artificial Intelligence (AI)-generated video depicted Ms. Harris and Donald Trump in a fabricated romantic relationship. These AI-generated videos are not only violative of privacy but also deeply undermine the dignity of women. Despite user knowledge of such content being fake, their wide circulation suggests deep user engagement.

No isolated case

Ms. Harris's ordeal is not an isolated case. Women in power or those aspiring for high office face similar online harassment. When U.S. politician Nikki Haley, for example, was in the running in the Republican primaries, there were manipulated and explicit images of hers that were circulated online. Italian Prime Minister Giorgia Meloni was a target, featuring in a deepfake and explicit video. In Bangladesh, deepfake images of women politicians Rumin Farhana and Nipun Roy were on social media just before the Bangladesh general election on January 7, 2024. Such content garnered millions of views.



Manish Tiwari

Director of the Institute for Governance, Policies and Politics, New Delhi, focusing on policy for societal good in emerging technology and health ecosystems

The U.S. presidential election campaign has again highlighted a key issue — of technology and online spaces posing a threat to the safety and the dignity of women

This demands the question: how and why do social media platforms allow such content to be posted and shared? What do the content moderators of media platforms do?

Big Tech's failure to curb the deluge of degrading content against women results in a disproportionate burden being imposed on women, impacting their identity, dignity and mental well-being. The nature of online abuse women face is also starkly different from the trolling or insults directed at men. While men may encounter misinformation and disinformation regarding their actions or duties, women face objectification, sexually explicit content and body shaming. Big Tech companies often dodge accountability by claiming that their platforms reflect upon users and that they cannot control it closely. They enjoy immunity from responsibility due to 'safe harbour' protections.

More an illusion of empowering women

Though technology is often praised as a tool for women's empowerment, AI and digital technologies appear anything but gender-neutral. Instead, they reflect societal biases and existing stereotypes. Rather than liberating women, AI can amplify entrenched biases and become a new tool for their abuse and harassment. With AI's rapid evolution, women face increased risks of digital abuse, violence, and threats. These systems, shaped by datasets infused with societal prejudices and developed mostly by men, often lack the inclusivity needed to challenge discrimination effectively. The representation of female staff in technology development (female AI developers) is also low in Meta and Google and OpenAI, according to data from Glass.ai.

Imagine the challenges faced by a serving woman Prime Minister, Ms. Meloni. Now think about the plight of ordinary women. Online harassment sees many women stopping to use digital devices. Or their families restrict their access to these devices, further hindering women's careers and public life. This is not the solution.

Creation and distribution platforms must take the responsibility for failing to curb the spread of harmful content. It is surprising that despite technological advancements, resources are not being invested in developing safety features or enhancing content moderation techniques. Labelling AI-generated content is not always effective. Often, harmful content needs to be removed entirely. For example, with sexually explicit content, the damage comes from sharing and viewing. What is the most troubling is the

owners of big tech themselves sharing misinformation and deepfake videos. While they should be allowed to have a political ideology and profess it, they should also realise the power they hold over millions who may not know fake from real.

Beyond clicks and likes

Big Tech should ensure that proper content moderation teams and safety researchers are not a liability but a necessity. The time taken to review reported pornography is often too long, causing further harm and violating platform policies. The burden should not fall on users to report and follow up on harmful content. Platforms must share the responsibility. Apps that offer explicit services causing harm to women should be critically reviewed and promptly removed from app stores.

Big Tech and policymakers need to resolve such incidents promptly. Women should also be encouraged to take proactive measures by reporting such incidents and taking necessary actions. In Ms. Meloni's case, she sought €1,00,000 in damages. Ms. Harris and her campaign team were able to turn the trolling attacks on their head and question the inherent misogyny of such online attacks. Can we think about huge fines in monetary terms and the limitation of platforms for a certain number of days and in certain geographical limits?

We need more women to be involved in developing technology and holding decision-making positions in tech companies. AI entrepreneur Mustafa Suleyman, in his book, *The Coming Wave*, says moving from technical to non-technical measures is the key.

To make online spaces safer for women, we need safety researchers and simulation exercises to test for gender biases, especially when AI is involved. Technical professionals can check data for biases, as a model is only as good as its training data, while simulations can assess potential risks. This will help to ensure fair, safe and ethical AI by design. Non-technical measures, laws, policies and governance structures must support these efforts.


Ensuring that technology is free from gender bias should not be the job of only feminists, social scientists, ethicists, or users. The responsibility should start with the tech companies which thrive on revenues from the content generated through user interfaces, developers, and algorithms. Governments and their regulatory bodies must set the guardrails to keep these digital spaces safe and fair for women.


Topic --->Toxic Work Culture in Corporate India




Key Issues in Corporate India

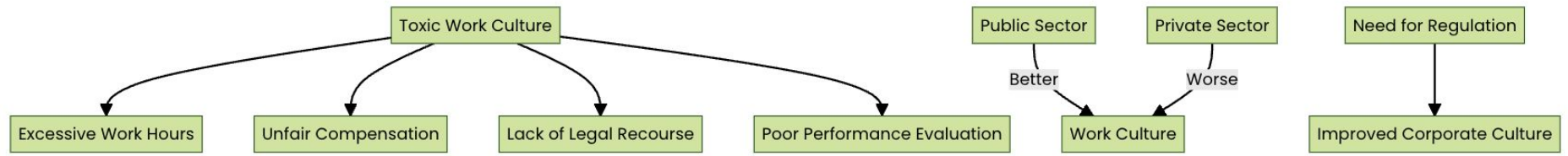
 Toxic Work Culture: Prevalent in corporate India, marked by long hours and a lack of respect and appreciation for employees.


 Excessive Work Hours: Employees face overwork due to insufficient staffing and unrealistic targets set by management.


 Unfair Compensation: Pay structures favor top management, leaving lower-level employees feeling undervalued and resentful.


 Lack of Legal Recourse: Indian employees have limited options for addressing workplace grievances, unlike their counterparts in the U.S. and Europe.

Conceptual Overview:



-  Poor Performance Evaluation: The system is often perceived as unfair, fostering a culture of fear and insecurity.

 Public vs. Private Sector: Public sector firms generally offer a better work culture with job security and less pay inequality.

 Need for Regulation: Regulatory reforms are necessary to hold boards accountable and ensure employee engagement.

Summary: India's corporate sector is plagued by a toxic work culture characterized by long hours, unfair compensation, and a lack of legal protections, highlighting the need for regulatory reforms.

Fresh delay in OPEC+ output hike shows soft demand reality

Clyde Russell
LAUNCESTON

Geopolitical uncertainty will probably garner the lion's share of the blame for OPEC+'s decision to once again delay raising crude oil output, but weak demand, especially in Asia, is more significant.

Eight members of OPEC+, which groups the Organization of the Petroleum Exporting Countries plus Russia and other allies, pushed back their planned increase of 180,000 barrels per day (bpd) in December by another month, they said in a statement on Sunday.

The group had been due to raise output in December as part of a plan to gradually unwind a total of 2.2 million bpd of production

cuts over 2025.

The decision to delay raising output was largely expected, given the crude oil price is still trending lower, albeit with increased volatility because of the conflict in the Middle East, which has seen major players Israel and Iran trade attacks on each other.

Global benchmark Brent futures ended last week at \$73.10 a barrel, having dropped as low as \$71.08 earlier in the week.

Brent opened higher in early trade in Asia on Monday, rising as much as 2.5% to \$74.94 a barrel, before easing to trade around \$74.16.

However, the contract is still down almost 10% from its most recent peak of \$81.16 on Oct. 7, and has



Down trend: The delay in output hike was expected as crude oil's price is still trending lower. REUTERS

been in a weakening phase since the high this year of \$90.92 on April 11.

The main reason for the declining oil price trend is that demand in Asia has disappointed the bullish

forecasts made earlier this year by OPEC and other forecasters.

The run of soft numbers from Asia, the top crude importing region, with LSEG Oil Research estimat-

ing October arrivals at 26.74 million bpd, down from 27.05 million bpd in September.

For the first 10 months of the year, Asia's crude imports were 26.78 million

bpd, down 200,000 bpd from the same period in 2023, according to data from LSEG.

OPEC forecasts

The weakness in Asia's imports stands in contrast with OPEC's forecasts for the region's demand growth, even though the producer body has been trimming its expectations in recent months.

OPEC's October monthly report forecast that Asia's crude oil demand growth would be 1.2 million bpd in 2024, led by 580,000 bpd in China and 270,000 bpd in India.

But the decline in Asia's imports for the first 10 months of the year makes it extremely unlikely that demand growth will be anything near OPEC's fore-

cast, and this is perhaps the key reason why crude oil prices have trended softer in recent months.

While the risks of escalation in the Middle East remain heightened, so far there has been no real threat to the region's crude oil infrastructure and exports, with the only exception being limited missile attacks on shipping in the Red Sea by Yemen's Iran-aligned Houthi militants.

There is also the risk of the potential return of Donald Trump to the U.S. presidency, which may raise tensions with Iran as well as harm the global economy through his planned imposition of tariffs on all imports to the United States, with especially punitive rates against China.

Given the backdrop of

geopolitical uncertainty and weak crude imports in Asia, the only logical step for OPEC+ was to delay increasing output.

The ideal situation for the group would be for the tensions to ratchet lower, while at the same time China's economy responds positively to Beijing's stimulus measures, and the rest of the global economy shows increasing signs of recovery.

This will lead to higher crude demand and allow for OPEC+ to unwind its production cuts. But for now the positive scenario remains an unrealised possibility, while the reality is geopolitical risks and weak demand in Asia.

(The opinions expressed are those of the author, a columnist for Reuters)

Topic → OPEC+ Crude Oil Output and Market Dynamics



Geopolitical Uncertainty

OPEC+ has delayed increasing crude oil output due to geopolitical tensions, especially in the Middle East.

Weak Demand in Asia

Demand for crude oil in Asia has not met forecasts, significantly influencing OPEC+'s decisions.

Output Delay

The planned increase of 180,000 barrels per day (bpd) has been postponed from December to January.

Oil Price Trends

Brent crude prices have decreased nearly 10% from a recent peak, closing at \$73.10 a barrel last week.

Declining Imports



Asia's crude oil imports fell to 26.78 million bpd in the first 10 months of 2023, a decrease of 200,000 bpd from the previous year.

OPEC's Forecasts

OPEC has reduced its demand growth forecast for Asia, predicting only 1.2 million bpd growth in 2024.

Potential Risks

The potential return of Donald Trump to the U.S. presidency could heighten tensions with Iran and affect the global economy.

Summary: OPEC+ has delayed increasing crude oil output due to geopolitical uncertainties and disappointing demand in Asia, leading to a decline in oil prices.

Israel notifies UN about severing ties with UNRWA

Agence France-Presse
JERUSALEM

Israel formally notified the United Nations of its decision to sever ties with the agency supporting Palestinian refugees, it said on Monday, after lawmakers voted to ban the organisation vital to the occupied territories.

The ban, which sparked global condemnation including from key Israeli backer the U.S., should come into force in late January, with the UN Security Council warning it would have severe consequences for millions of Palestinians.

Israel has accused a dozen employees of the agency, UNRWA, of participating in the October 7, 2023 attack by Hamas, the deadliest in Israeli history.

UNRWA fired nine employees in the wake of the attack that sparked the Gaza war following the accusations.

“On the instruction of Foreign Minister Israel Katz, the Ministry of foreign affairs notified the UN of the cancellation of the agreement between the State of Israel and UNRWA,” the Foreign Ministry said in a statement.

“UNRWA, the organisation whose employees participated in the October 7 massacre and many of whose employees are Hamas operatives, is part of the problem in the Gaza Strip and not part of the solution,” Mr. Katz was quoted as saying.

Hamas’s October 7 attack on Israel resulted in the deaths of 1,206 people, mostly civilians.

Israel’s retaliatory campaign has killed 43,341 people in Gaza, a majority of them civilians, according to figures from the Hamas-run territory’s Health Ministry, which the United Nations considers to be reliable.

Jonathan Fowler, an



A Palestinian carries an aid box distributed by UNRWA in Deir Al-Balah in central Gaza Strip on Monday. REUTERS

UNRWA spokesman, said the ban would probably cause the collapse of aid efforts to Gaza.

‘UNRWA or nothing’

“If this law is implemented, it would be likely to cause the collapse of the international humanitarian operation in the Gaza Strip – an operation of which UNRWA is the backbone,” Mr. Fowler said.

“It would also be likely

to cause the collapse of essential services provided by UNRWA in the West Bank and East Jerusalem, including education, healthcare, and sanitation.”

But Israel has dismissed the argument on Gaza, saying only a part of aid was being delivered into the territory by UNRWA.

“The State of Israel is committed to international law and will continue to fa-

cilitate the entrance of humanitarian aid into the Gaza Strip in a manner that does not harm the security of the citizens of Israel,” Mr. Katz said.

Residents of Nur Shams camp in the occupied West Bank were fearful for the future after an Israeli raid last week damaged the UNRWA office there.

The 13,000 inhabitants of the camp near the northern city of Tulkarem depend heavily on UNRWA.

“For us, it’s UNRWA or nothing,” Shafiq Ahmad Jad, who runs a phone shop in the camp, said.

“For the refugees... they look to UNRWA as their mother,” said Hanadi Jabr Abu Taqa, an agency official in charge of the northern West Bank. “So imagine if they lost their mother.”

A series of probes, including one led by former French Foreign Minister Catherine Colonna, found

some “neutrality related issues” at UNRWA but stressed that Israel had not provided evidence for its chief allegations. An internal probe found that nine employees “may have been involved in the armed attacks of 7 October”.

UNRWA history

UNRWA was established in 1949 after the first Arab-Israeli conflict following Israel’s creation in 1948.

The agency, which began its operations on May 1, 1950, was tasked with assisting some 7,50,000 Palestinians who had fled or been expelled from their homes during the war.

Its mandate has since been repeatedly extended in the absence of a solution for Palestinian refugees.

Since late September, Israel has broadened the focus of its war to Lebanon, where it stepped up a campaign against Hamas ally Hezbollah following nearly a year of cross-border fire.

Topic → UNRWA: United Nations Relief and Works Agency



Overview

Purpose: Provide assistance and protection to Palestinian refugees.

Established: 1949, following the Arab-Israeli war.

Current Challenges

Israel's Ban: Recently, Israel has enacted policies that aim to dismantle UNRWA operations.

Aid Restrictions: Aid limitations are leading to increased suffering among Palestinian populations.

Humanitarian Impact: Potentially devastating consequences for refugees due to reduced support.

Key Developments

Israel Ends Cooperation: Israel has formally severed ties with UNRWA, affecting aid delivery.

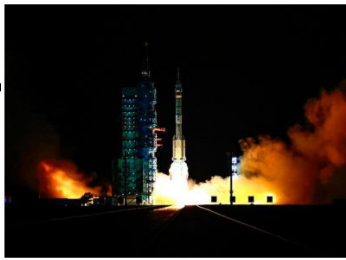
Legislation Against UNRWA: New laws may criminalize humanitarian aid efforts related to UNRWA.

UN Response: UNICEF warns of severe repercussions stemming from the ban.

Future Implications

Palestinian Refugee Welfare: The dismantling of UNRWA could lead to heightened humanitarian crises.

International Relations: The situation may escalate tensions between Israel and the international community.



A Long March-2F carrier rocket carrying three astronauts lifts off from the Jiuquan Satellite Launch Centre. FILE PHOTO

China's space station crew returns to earth after six months

Associated Press

BEIJING

Three Chinese astronauts returned to earth on Monday after a six-month stay on the Tiangong space station, part of China's effort to be a global leader in space exploration.

A parachute slowed their capsule's nighttime descent to a remote landing area in China's Inner Mongolia region. The crew emerged after touching down at 1.24 a.m.

In recent years, the country's space programme has brought back rocks from the moon and landed a rover on Mars. It aims to put a person on the moon by 2030, which would make China the second nation after the U.S. to do so.

The space station astronauts returned after welcoming a replacement three-person, one woman and two men, crew last week for the latest six-month mission.


A space agency official said in April that Tiangong had manoeuvred several times to avoid debris and had partially lost power when the solar wing's power cables were hit by debris, according to a report from the official Xinhua News Agency.


China is among the countries that have created space debris, including the reported break-up of a rocket stage in August during the launch of the first 18 satellites for a global internet service similar to Starlink, the still-growing constellation of satellites operated by Elon Musk's SpaceX.


Tiangong, which means Heavenly Palace, was completed two years ago and orbits the earth.


Topic -- CHINA ASTRONAUTS RETURN





 **Astronaut Return:** Three Chinese astronauts returned to Earth after a six-month mission on the Tiangong space station.


 **Space Exploration Goals:** China aims to be a global leader in space exploration, with plans to land a person on the moon by 2030.

 **Recent Achievements:** The Chinese space program has successfully returned lunar rocks and landed a rover on Mars in recent years.

 **Crew Replacement:** The astronauts returned after welcoming a new crew consisting of one woman and two men for another six-month mission.

 **Space Debris Challenges:** Tiangong has had to maneuver to avoid space debris and experienced partial power loss due to debris impact.

—  **Space Debris Contribution:** China has contributed to space debris, including the breakup of a rocket stage during a satellite launch for a global internet service.

 **Tiangong Overview:** The Tiangong space station, meaning "Heavenly Palace," was completed two years ago and is currently in orbit around Earth.

Summary: Three Chinese astronauts returned from a six-month mission on the Tiangong space station, highlighting China's ambitions in space exploration and challenges with space debris

Overview

Definition: The Tiangong Space Station is China's modular space station that serves for scientific research and international collaboration.

Launch Date: Launched in 2021, with ongoing expansions and crew missions.

Significance: Represents China's growing capabilities in space exploration and technology.

Key Components

Core Module: The Tianhe core module serves as the main living and working area.

Laboratory Modules:

Wentian (experimental lab for life sciences)

Mengtian (experimental lab for technology and materials)

Solar Arrays: Provide power for the station.

Missions

Shenzhou Missions:

Shenzhou-18: Recent crewed mission.

Shenzhou-19: Current crew taking charge of operations.

Crew Duration: Astronauts typically stay for six months.

Research and Experiments



Scientific Fields:

Microgravity research

Earth observation

Biotechnology

International Collaboration: Involvement with global scientific community.

Future Prospects

Expansion Plans: Additional modules and upgrades planned.

Long-term Goals: Aiming for sustained human presence in space and international partnerships.

Recent News

Crew Return: Recent news of returning astronauts after six months in space.

International Influence: China's increasing influence in the global space arena.



Maritime collaboration: An Azerbaijani Navy ship (G129) arrives to participate in a sea manoeuvre between Iran and Azerbaijan in the Caspian Sea at Anzali port. The exercise, with the slogan 'Cooperation for Peace and Friendship,' is set to take place on Tuesday. AFP



Iran's Anzali Free Trade Zone & The Caspian Sea



Target Mains -2025/26 -

**Q “AI technologies often mirror societal biases, potentially reinforcing stereotypes instead of empowering women”
Discuss**

**Connect with sir
9057921649**

**send your answer - Saurabh pandey
upsc telegram channel**
