

DAILY CURRENT AFFAIRS (4 September 2024)

TOPICS COVERED

1. 9 Maoists, including 6 women, killed in Dantewada operation (GS Paper-III: Internal Security)
2. Bengal passes Bill that moots death for rape (GS Paper-II: Judicial System)
3. 4.15 lakh people affected by floods in A.P.
4. World Bank hikes India's economic growth forecast to 7% for 2024-25 (GS Paper-II: International Organization)
5. Nagaland tribe seeks rectification in Assam boundary map (GS Paper-II: Reorganization of states)
6. Badlapur case: Bombay HC emphasises on sensitising boys to create safe spaces for girls (GS Paper-I: Society)
7. Centre gives nod to defence proposals worth ₹1.44 lakh cr.
8. Could quakes explain why gold nuggets are found in quartz veins? (GS Paper-III: Basic Science)
9. From Bharati to Karunanidhi (GS Paper-III: Basic Science)
10. Why is Google accused of being an illegal monopoly? (GS Paper-II: Governance/ GS Paper-III: Anti-Competition Law)
11. The harm principle: how John Mill's theory defers the extent of liberty (GS Paper-II: Polity)
12. Summit reveals how the artificial landing leg had an impact
13. Deepthi runs to a bronze in women's 400m T20

9 Maoists, including 6 women, killed in Dantewada operation

Arms and ammunition recovered in search operation by CRPF, District Reserve Guards, and Bastar Fighters; all deceased were identified as members of West Bastar and Darbha Division Committee and PLGA Company No. 02, say police

GS Paper III: Internal Security

Shubhomoy Sikdar
RAIPUR

Nine Maoists, six of them women, were killed by security forces in an anti-Naxal operation in the forests along the boundary of Dantewada and Bijapur districts in Chhattisgarh on Tuesday, according to the police.

With these deaths, the tally of alleged Maoists killed by security forces this year has crossed 150.

Dantewada Superintendent of Police Gaurav Rai said the operation was carried out by a joint team of District Reserve Guards, Bastar Fighters, and the Central Reserve Police Force.

They had received a tip-off about the presence of Maoists belonging to the PLGA Company No. 2 and

The crackdown

Chhattisgarh, a region greatly affected by left wing extremism, has seen a surge of counter-insurgency operations this year. Some major operations:

April 16: 29 Maoists, including a senior rebel leader, killed in Kanker (North Bastar)

April 10: 12 Maoists killed in Bijapur

April 2: 13 killed in Bijapur

153 Maoists killed in anti-Naxal operations so far this year; this figure is much higher than the 46 deaths in 2021, 30 in 2022, and 29 in 2023



Dantewada is where the encounter took place on Tuesday

the West Bastar and Darbha Division, in the hilly forested area under Kirandul police station of Dantewada district.

"During the search, there was continuous firing between the police party and the Maoists, seven to eight times, starting around 10.30 a.m.," Mr. Rai

said. Around 1.15 p.m., the police confirmed that nine alleged Maoists had been killed.

A large quantity of arms and ammunition, including one self-loading rifle, one .303 rifle, 12-bore rifle, .315-bore rifle, barrel grenade launchers, Naxalite material, and items of daily

use were also recovered, the police said, adding that the search operation was continuing.

Around 6 p.m., another bulletin was issued with no further increase in the casualty figures.

Prima facie, all the deceased have been identified as members of the West Bastar and Darbha Division Committee and PLGA Company No. 02, said Mr. Rai, adding that all members of the security forces were safe. "In view of the possibility of many other Maoists being killed/injured during the encounter, additional re-inforcement teams are searching the area around the encounter site," he said.

Last week too, security forces had gunned down three women Maoists in the conflict zone of Bastar,

signalling the continuation of the anti-Maoist drive – started late last year – even into the conventionally slower monsoon season.

'Better coordination'

So far in 2024, 153 Naxalite bodies have been recovered, 669 arrested, and 656 Naxalites have surrendered, according to Sundarraj, the Inspector General of Police for the Bastar Range, who attributed the numbers to better coordination and strategy by the local district police force, DRG, and central paramilitary forces.

In a recent visit to Chhattisgarh, the State worst affected by left-wing extremism, Union Home Minister Amit Shah had said that Naxalism would be eliminated by March 2026.

9 Maoists, including 6 women, killed in Dantewada operation (4 September)

Arms and ammunition recovered in search operation by CRPF, District Reserve Guards, and Bastar Fighters; all deceased were identified as members of West Bastar and Darbha Division Committee and PLGA Company No. 02, say police

- Nine Maoists, including six women, were killed by security forces in an anti-Naxal operation in the forests between Dantewada and Bijapur districts in Chhattisgarh.
- This brings the total number of alleged Maoists killed by security forces in 2024 to over 150.
- The operation was conducted by a joint team of District Reserve Guards, Bastar Fighters, and the Central Reserve Police Force.
- The forces acted on a tip-off about the presence of Maoists in the area.
- The encounter with the Maoists began around 10:30 a.m. and ended at 1:15 p.m. with the death of nine Maoists.
- A large quantity of arms, ammunition, and other Naxalite materials were recovered from the site.
- All the deceased have been identified as members of the West Bastar and Darbha Division Committee and PLGA Company No. 02.
- No security forces were harmed in the operation.
- Additional forces are searching the area, as more Maoists might have been killed or injured.
- Last week, security forces also killed three women Maoists in Bastar, indicating the ongoing anti-Naxal operations.
- In 2024, 153 Naxalites have been killed, 669 arrested, and 656 have surrendered due to improved coordination between local police and paramilitary forces.
- Union Home Minister Amit Shah stated that Naxalism would be eliminated by March 2026.

Bengal passes Bill that moots death for rape (4 September)

- The West Bengal Assembly passed the **Aparajita Women and Child (West Bengal Criminal Laws Amendment) Bill, 2024** unanimously by voice vote.
- Both the Trinamool Congress and BJP supported the Bill.
- The Bill includes provisions **for harsher punishments for rape, gang rape, rape that causes death or leaves the victim in a vegetative state, rape by police officers or public servants, and repeat offenders.**
- The Bill seeks to amend relevant sections of the Bharatiya Nyaya Sanhita (BNS).
- It mandates that investigations into rape cases be completed within 21 days.
- The Bill was introduced following the rape and murder of a doctor at **R.G. Kar Medical College and Hospital** in Kolkata, which caused widespread outrage.
- Chief Minister Mamata Banerjee described the Bill as a "historic and model" legislation.
- The Opposition, led by Suwendu Adhikari, supported the Bill and called for its immediate implementation.
- Mamata Banerjee highlighted that the Bill focuses on **increased punishment, speedy investigation, and quick justice**, particularly for cases of sexual assault under the BNS and POCSO Act.

4.15 lakh people affected by floods in A.P. (4 September)

- The Indian Navy rescued 22 people stranded in flood-affected areas of Andhra Pradesh.
- The Navy air-dropped over 1,000 kg of food to those affected by the floods.
- The Eastern Naval Command (ENC) in Visakhapatnam deployed naval aircraft, flood relief teams, and diving teams to assist in the humanitarian and disaster relief efforts.
- Four helicopters were deployed by the Navy for search and rescue operations.

World Bank hikes India's economic growth forecast to 7% for 2024-25 (4 September)

- The World Bank has increased its growth forecast for the Indian economy to 7% for the current fiscal year, up from the earlier estimate of 6.6%.
- The report titled "India Development Update: India's Trade Opportunities in a Changing Global Context" highlights India's strong growth despite global challenges.
- This growth projection aligns with the forecasts of the International Monetary Fund (IMF) and the Asian Development Bank (ADB), both also predicting 7% growth for the fiscal year ending March 2025.
- India's growth in FY 23/24 was 8.2%, driven by public infrastructure investment and increased household investments in real estate.
- The manufacturing sector grew by 9.9%, and the services sector remained strong, offsetting weaker performance in agriculture.

- Urban unemployment has gradually improved, particularly for female workers, with their unemployment rate falling to 8.5%. However, urban youth unemployment remains high at 17%.
- India's growth prospects and declining inflation are expected to help reduce extreme poverty.
- The World Bank suggests India can further boost growth by expanding its global trade, especially in sectors like textiles, apparel, footwear, electronics, and green technology, in addition to its strengths in IT, business services, and pharmaceuticals.

World Bank

- **Establishment:** The World Bank was established in 1944 during the Bretton Woods Conference, alongside the IMF.
- **Headquarters:** Washington, D.C., USA.
- **Membership:** 189 member countries.
- **Primary Focus:** The World Bank's main aim is to provide financial and technical assistance to developing countries for development projects (such as roads, schools, and infrastructure) that are expected to improve the economic prospects and quality of life for people in those countries.

Structure:

The World Bank Group consists of five institutions:

1. **International Bank for Reconstruction and Development (IBRD):** Provides loans to middle-income and creditworthy low-income countries.
2. **International Development Association (IDA):** Offers concessional loans and grants to the world's poorest countries.
3. **International Finance Corporation (IFC):** Provides loans, equity, and advisory services to stimulate private sector investment in developing countries.
4. **Multilateral Investment Guarantee Agency (MIGA):** Offers political risk insurance and credit enhancement to investors and lenders to facilitate foreign direct investment in developing countries.
5. **International Centre for Settlement of Investment Disputes (ICSID):** Provides facilities for conciliation and arbitration of international investment disputes.

- **Funding:** The World Bank raises most of its funds on the world's financial markets and is one of the largest borrowers.
- **Projects:** It finances various projects, from infrastructure to health, education, agriculture, and environmental protection.
- **Recent Initiatives:** The World Bank has been actively involved in COVID-19 recovery projects, climate change initiatives, and global poverty reduction efforts.

Recent Updates:

- **Pandemic Response:** The World Bank committed billions of dollars to help countries combat the economic impacts of the COVID-19 pandemic, including vaccine procurement and distribution.
- **Climate Action Plan:** In June 2021, the World Bank launched its Climate Change Action Plan, which emphasizes the need for increased climate finance and sustainable investments.

International Monetary Fund (IMF)

- **Establishment:** Also created in 1944 at the Bretton Woods Conference.
- **Headquarters:** Washington, D.C., USA.
- **Membership:** 190 member countries.
- **Primary Focus:** The IMF's primary goal is to ensure the stability of the international monetary system—the system of exchange rates and international payments that enables countries to transact with each other.

Functions:

- **Surveillance:** The IMF monitors the global economy and the economic and financial policies of its member countries.
- **Lending:** Provides financial support to member countries facing balance of payments problems, under specific conditions designed to restore economic stability and growth.
- **Capacity Development:** Offers technical assistance and training to member countries to help improve their economic management.
- **Special Drawing Rights (SDRs):** The IMF's unit of account, SDRs are an international type of monetary reserve currency created by the IMF to supplement its member countries' official reserves.
- **Quota System:** Each member's financial commitment to the IMF is determined by its quota, which is based on the country's size in the world economy.
- **Recent Activities:** IMF has been providing emergency financing to countries severely impacted by the COVID-19 pandemic.

Recent Updates:

- **Global Economic Outlook:** The IMF regularly publishes reports on the global economy, providing key insights into growth projections, risks, and policy recommendations.
- **Pandemic Support:** The IMF provided emergency financial assistance to 85 countries during the COVID-19 pandemic, totaling over \$110 billion.

Asian Development Bank (ADB)

- **Establishment:** Founded in 1966.
- **Headquarters:** Manila, Philippines.
- **Membership:** 68 members, including 49 from the Asia-Pacific region.

- **Primary Focus:** The ADB aims to promote social and economic development in Asia through loans, technical assistance, grants, and equity investments to its member countries.

Functions:

- **Lending:** Provides loans for development projects and programs aimed at reducing poverty and fostering sustainable economic growth.
- **Technical Assistance:** Offers expertise to help developing member countries in areas like infrastructure development, health, and education.
- **Private Sector Operations:** Supports private sector projects that drive economic growth and create jobs.
- **Equity Investments:** Invests in private enterprises to stimulate economic development.
- **Core Areas:** ADB focuses on key areas such as infrastructure, environment, regional integration, and financial sector development.
- **Funding:** ADB raises funds through bond issues on the world's capital markets and through contributions from member countries.
- **Recent Activities:** ADB has been heavily involved in financing renewable energy projects, sustainable development goals, and post-pandemic recovery.

Recent Updates:

- **COVID-19 Response:** ADB announced a \$20 billion package in April 2020 to help its developing member countries deal with the economic fallout from the pandemic.
- **Climate Financing:** ADB pledged to increase its climate financing to \$100 billion from 2019 to 2030 to support countries in their climate action efforts.

- **Andorra** is the only country that is a member of the International Monetary Fund (IMF) but not a member of the World Bank. This is a unique situation in the global financial system.
- **IMF Membership:** Andorra became the 190th member of the IMF in October 2020.
- Its capital, Andorra la Vella, is the highest capital city in Europe.



Nagaland tribe seeks rectification in Assam boundary map (4 September)

They said two villages of Nagaland established over 60 years ago have been shown in Assam

- The Konyak Union, the main organization of the **Konyak community**, has asked the Nagaland government to correct an **incorrect boundary line on Google Maps between Nagaland's Mon district and Assam's Charaideo district**.
- The union says the boundary on Google Maps is inaccurately shown, extending into Mon district and aligning more with Assam.
- The map wrongly shows 80-85% of Tizit town in Mon district, including government offices and public spaces, as being within Assam.
- Two Nagaland villages, Hota-Hoti and Tekun, which were established over 60 years ago, are also shown as being in Assam.
- The union reminded that **Nagaland was officially created in December 1963** by splitting off parts of Assam, and that the historical boundaries between the Ahoms of Assam and the Konyak Nagas of Mon district were clear.
- Despite these clear historical boundaries, the official recognition of these borders is still unresolved and is being decided by the Supreme Court.
- The union is concerned that the incorrect representation on Google Maps could lead to errors in official documents and potential conflicts between Nagaland and Assam.
- They have asked the Chief Minister, Neiphiu Rio, to help correct these inaccuracies quickly and stated that they should not be held responsible for any problems caused by the incorrect boundary line on Google Maps.

Konyak Community:

- The Konyak tribe, also known as the **Konyak Nagas**, is one of the major tribes inhabiting the Mon district of Nagaland, India.
- They are part of the larger Naga family of tribes and share cultural similarities with other Naga groups.

Key Facts and Data:

- **Population:** Approximately 70,000 people (according to the 2011 Census).
- **Language:** Konyak, a **Tibeto-Burman language**.
- **Religion:** Traditional **animism**, though Christianity has made significant inroads in recent decades.
- **Lifestyle:** Traditionally, the Konyak people were agriculturalists, relying primarily on subsistence farming. However, modern times have seen a shift towards more diversified livelihoods, including tourism and small-scale industries.

Important Dates and Events:

- **19th Century:** The Konyak people came into contact with British colonial authorities.
- **Early 20th Century:** The Konyak tribe engaged in resistance against British rule, leading to conflicts and clashes.

- **1960s:** The Konyak people participated in the Naga nationalist movement, seeking independence from India.
- **1970s:** A peace agreement was signed between the Indian government and the **Naga National Council (NNC)**, leading to a ceasefire in the region.
- **1997:** The Konyak Union, a regional political organization, was formed to represent the interests of the Konyak people.

Chamundi Hills:

- **Chamundi Hills** is a prominent hill range located about **13 kilometers east of Mysore, Karnataka, India**.
- Renowned for its religious significance and natural beauty, the hills are home to the revered **Sri Chamundeshwari Temple, dedicated to Goddess Chamundi, the patron deity of the Mysore royal family**.
- **Other attractions:** Nandi statue, panoramic views of Mysore city
- **Ancient temple:** The Sri Chamundeshwari Temple is believed to date back to the 12th century.
- **Cultural heritage:** The hills are rich in cultural heritage, with a blend of Hindu, Jain, and Buddhist influences.

Badlapur case: Bombay HC emphasises on sensitising boys to create safe spaces for girls (4 September)

- The Bombay High Court discussed the Badlapur sexual assault case in a public interest litigation (PIL).
- The court emphasized that the State of Maharashtra must educate boys from a young age to create a safe environment for girls.
- A State committee is responsible for suggesting and implementing measures to address sexual assault on children and similar crimes.
- The court urged the **State to focus on educating boys, modifying the slogan 'Beti Padhao, Beti Bachao' (Educate daughter, protect daughter) to 'Beta Padhao aur Beti Bachao' (Educate son, protect daughter)**.
- The police were advised not to rush the investigation due to public pressure, and to ensure a thorough and proper investigation.
- The court stressed the importance of sensitizing doctors, including private ones, **about their duty to examine rape victims under the Protection of Children from Sexual Offences (POCSO) Act without turning them away**.
- The court appointed a committee led by retired Justices Sadhana Jadhav and Shalini Phansalkar Joshi to make recommendations for better implementation of the POCSO Act in schools. The committee also includes former IPS officer Meeran Borwankar and a former school principal.

Centre gives nod to defence proposals worth ₹1.44 lakh cr. (4 September)

DAC grants approval for procurement of seven stealth frigates, future-ready combat vehicles to replace the main battle tanks, air defence fire control radars, Dornier aircraft, and patrol vessels

- The Defence Acquisition Council (DAC), led by Defence Minister Rajnath Singh, approved the Acceptance of Necessity (AoN) for 10 major defense procurement projects totaling ₹1,44,716 crore.
- The approved projects include:
 - Seven stealth frigates under Project-17B.
 - Future-ready combat vehicles (FRCV) to replace the Army's main battle tanks.
 - Air defense fire control radars (FCR).
 - Dornier-228 aircraft.
 - Next-generation fast patrol and offshore patrol vessels.
- 99% of the funding for these projects will come from Indian sources, under Buy (Indian) and Buy (Indian-Indigenously Designed Developed and Manufactured) categories.
- The FRCV is intended to be a state-of-the-art main battle tank with advanced features for mobility, protection, and firepower.
- There have been previous attempts at the FRCV project which failed, but this new initiative aims to replace the Army's aging T-72 and T-90 tanks.
- Seven advanced stealth frigates will be built by public sector shipyards Garden Reach Shipbuilders and Engineers (GRSE) and Mazagon Dock Shipbuilders Ltd. (MDL).
- Air defense FCRs will be procured to detect, track, and engage aerial threats.
- A proposal for a Forward Repair Team (Tracked) was approved to perform on-site repairs during mechanized operations.
- Three AoNs were given to enhance the capabilities of the Indian Coast Guard, including:
 - Dornier-228 aircraft.
 - Next-generation fast patrol vessels designed for rough weather.
 - Next-generation offshore patrol vessels with advanced technology for long-range operations.

Could earthquakes explain why gold nuggets are found in quartz veins?

Researchers have been wondering why most gold nuggets mined in human history were found in orogenic quartz veins. A new study says the quartz itself maybe the key, especially the fact that it is the most common piezoelectric mineral on the planet, with some help from seismic waves

IGS Paper III: Basic Science

Sometimes a scientific study comes along that reminds us not all the natural mysteries of this world demand highly specialised knowledge or million-dollar experiments to solve. Instead, they reveal something new by using ideas we were familiar with by high school. Doing this science in this day and age is still limited by access to specific instruments and locations and of course time. Not everyone can do it – but that shouldn't stop us from being wowed by it.

One such study was published in *Nature Geoscience* on September 2, offering to explain why gold nuggets accumulate in quartz veins found in mountainous areas – a mystery for which scientists currently lack a single, convincing explanation.

It opens thus: “Ore deposits represent natural enrichments of elements compared with their normal distribution in Earth's crust. Gold deposits stand out by having the highest degree of enrichment, by factors of 1,000 to 10,000 required to make economic deposits ... compared with base metals, such as copper, that require ~200x enrichment. Gold nuggets represent the most extreme examples of this gold enrichment. Most nuggets originate from the quartz veins formed in orogenic gold systems found around the world. These systems have had exceptional economic importance throughout human history, representing up to 75% of all gold ever mined.”

(‘Orogenic’ means a large-scale geological process that creates mountains, such as the interaction of the Indian tectonic plate with the Eurasian plate to create the Himalaya.)

Nuggets in quartz veins

For the study, the researchers – all from research institutes in Australia – were curious why most gold nuggets mined in human history were found in orogenic quartz veins.

Scientists know gold isn't very soluble in fluids. If gold deposits form when the metal condenses out of water in certain locations, we'd need 10 million litres of water just to have 10 kg of gold. So this theory doesn't present the full picture. Another idea scientists have had is that water could contain more dissolved gold if the gold is present as nanoparticles, but yet others have said there's no way to explain why a very large quantity of nanoparticles would get out of water at the specific places where miners have found nuggets.

Even others have wondered whether the orogenic nugget veins could be



A nugget of gold on public display at the Carnegie Museum of Natural History, in Pittsburgh, U.S., on November 17, 2012. JAMES ST. JOHN

formed the same way epithermal vein deposits – which occur up to 1.5 km underground – are formed: when hot, mineral-rich fluids cool, depositing gold, silver, copper, and/or some other metals on the rocks around them. There's a problem here, too, per the paper: “This mechanism leaves a clear textural and geochemical signature that cannot be applied to most orogenic deposits.”

Where are the large nuggets coming from, then?

It seems the quartz itself might be the answer. Quartz is a piezoelectric crystal: when it is squeezed or its shape is mechanically distorted in some way, it develops a voltage. The electric field created distorts the electronic properties of the crystal such that charged particles – like electrons – flow from the crystal to an aqueous solution on its surface or vice versa. And if the quartz crystal is continuously distorted back and forth, these charged particles can also keep flowing back and forth.

“This exchange is referred to as piezocatalysis and can drive electrochemical reactions at the material-solution interface,” the paper read.

Squeezing the reaction out

The researchers cut and prepared six slabs of quartz, placed them inside fluids containing small amounts of dissolved gold, and switched on a linear actuator that strained the slabs at a frequency of 20 Hz. (Small earthquakes produce seismic waves in the 5-60 Hz range.) They also prepared six other slabs the same way but didn't strain them; they formed a control group against which the team

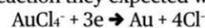


Most nuggets originate from quartz veins formed in orogenic gold systems around the world. These systems have had exceptional economic importance throughout human history, representing up to 75% of all gold ever mined

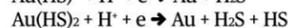
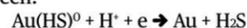
could compare the effects of the strain. The team's goal: to check if piezocatalytic chemical reactions could cause gold to be deposited from the solution to the slabs' surface.

The solution consisted of chloroauric acid dissolved in a water-salt solvent, where the gold is present as the AuCl₄⁻ anion. According to the researchers, while the “dominant” gold-bearing compounds in orogenic quartz-vein fluids are Au(HS)₂⁻ and Au(HS)⁰, a reaction that causes AuCl₄⁻ to gain electrons will also cause the hydrosulphide ions to gain electrons because AuCl₄⁻ is the keenest of all three gold-bearing compounds to lose electrons.

Et voila! An hour after they turned on the actuator, they spotted several small gold deposits on the quartz slabs and none on the control slabs. The chemical reaction they expected was:



The corresponding reactions with the hydrosulphide compounds would've been:



Thus they had an answer to the question about the origins of orogenic quartz-vein gold nuggets: a seismic wave

released during an earthquake and/or its aftershock squeezes natural quartz crystals, leads to piezocatalytic reactions with gold-bearing solutions nearby, and some gold is deposited on the crystals' surfaces. As this happens thousands and thousands of times, more and more gold finds itself in the quartz veins until, one day, there are large gold nuggets.

Gold leads to more gold

According to the researchers, their idea is held in good stead by two other details. One: Gold is also a very good conductor of electricity, which means if some gold is deposited in some place for the first time, piezocatalysis will cause even more gold to be deposited there in future, which the researchers have written could explain why nuggets are so highly localised. And two, according to the paper:

“Additionally, this provides interpretation for highly interconnected networks of gold along fractures within quartz veins; the fractures are repeatedly reactivated as fluid pathways, and since piezoelectric voltages are coupled with stress, the maximum achievable voltages occur during brittle failure. Since piezoelectric voltages are instantaneous and leave behind no visible tracer, this can rationalise why gold nuggets commonly appear to be ‘floating’ in quartz veins with no obvious chemical or physical trap.”

Take quartz, dip in aqueous solutions of gold, and hit them with earthquakes for millennia. Making big gold deposits is almost like microwaving cup noodles. Kind of. Importantly, understanding how only demanded knowledge of high-school physics and chemistry.

THE GIST

Quartz is a piezoelectric crystal; when it is squeezed or its shape is mechanically distorted in some way, it develops a voltage

An electric field distorts the electronic properties of quartz, causing electrons to flow from the crystal to an aqueous solution on its surface or vice versa

A seismic wave leads to piezocatalytic reactions with gold-bearing solutions, and gold is deposited on the crystals. This process, repeated thousands of times, creates large gold nuggets

Could earthquakes explain why gold nuggets are found in quartz veins? (4 September)

Researchers have been wondering why most gold nuggets mined in human history were found in orogenic quartz veins. A new study says the quartz itself maybe the key, especially the fact that it is the most common piezoelectric mineral on the planet, with some help from seismic waves

- Some scientific studies use simple, familiar concepts to solve natural mysteries, rather than requiring complex experiments or expensive tools.
- A recent study published in Nature Geoscience on September 2 explores why gold nuggets are found in quartz veins in mountainous areas.
- This study addresses a mystery about why gold is so concentrated in these deposits compared to other elements.
- Gold deposits are extremely enriched compared to their normal distribution in the Earth's crust, with enrichment factors 1,000 to 10,000 times higher than base metals like copper.
- Gold nuggets, which are the most concentrated form of gold, mostly come from quartz veins in orogenic gold systems.
- Orogenic gold systems are linked to large-scale geological processes that form mountains, such as the collision of tectonic plates.
- These systems have been crucial for gold mining, representing up to 75% of all gold ever extracted.

Nuggets in quartz veins

- Researchers from Australian institutes studied why gold nuggets are mainly found in quartz veins in mountainous areas.
- Gold is not very soluble in fluids, so forming gold deposits through condensation from water would require an enormous amount of water (10 million liters for just 10 kg of gold).
- Another theory suggests that gold might be present as nanoparticles in water, but it's unclear why so many nanoparticles would deposit exactly where nuggets are found.
- Some have compared the formation of orogenic nugget veins to epithermal vein deposits, which form when hot, mineral-rich fluids cool and deposit metals. However, this doesn't match most orogenic deposits' characteristics.
- The study proposes that quartz itself might explain the large nuggets.
- Quartz is a piezoelectric crystal, meaning it generates an electric field when mechanically distorted, such as being squeezed.
- This electric field can cause charged particles like electrons to move between the quartz crystal and an aqueous solution.
- This process, called piezocatalysis, might drive electrochemical reactions at the quartz-solution interface, potentially explaining the formation of large gold nuggets.

Squeezing the reaction out

- Researchers tested if piezocatalytic reactions could cause gold to deposit on quartz.
- They cut and prepared six quartz slabs and placed them in fluids with small amounts of dissolved gold.
- They used a linear actuator to strain the slabs at a frequency of 20 Hz, similar to seismic waves from small earthquakes.
- They also prepared a control group of six slabs without straining them for comparison.
- The goal was to see if straining the quartz slabs would cause gold to deposit on their surface.
- The solution used contained chloroauric acid with gold as AuCl_4^- ions.
- When AuCl_4^- ions gain electrons, they react with other gold-bearing compounds, leading to gold deposition.
- After an hour of straining, they found small gold deposits on the strained slabs but not on the control slabs.
- The expected chemical reactions showed that gold deposits form when piezocatalytic reactions occur.
- This suggests that seismic activity, such as earthquakes, strains quartz crystals, triggering these reactions and causing gold to deposit on the quartz over time, leading to the formation of large gold nuggets.

Gold leads to more gold

- Gold is a good conductor of electricity, so once gold starts depositing in a spot, more gold will continue to deposit there.
- This explains why gold nuggets are often found in specific, localized areas.
- Gold is found in interconnected networks along fractures in quartz veins because these fractures are repeatedly activated as fluid pathways.
- Piezocatalytic reactions create high voltages during stress, especially during brittle failures, leading to gold deposition.
- The voltages from piezocatalysis are instantaneous and don't leave visible traces, which explains why gold nuggets can appear to be "floating" in quartz without obvious physical or chemical traps.
- The researchers suggest that the process of creating large gold deposits is similar to how microwaving food works—simple once you understand the basic principles.



Gustavo Baila, an oceanographer at the Federal University of Rio Grande, holds a green sea turtle in Guanabara Bay in Rio de Janeiro on August 29. These turtles are regaining their health after struggling for years with a disease that hampered their movement and sight and ultimately led to their deaths. Scientists said the revival comes after authorities cleaned up the water. REUTERS

Major Language Groupings:

- **Language families** are groups of languages that share a common ancestor and are related to each other through historical evolution. These families are often classified based on similarities in vocabulary, grammar, and phonology.

Indo-European

- **Largest language family in the world.**
- Includes languages like English, Spanish, Russian, Hindi, German, French, Italian, and many others.
- Originated in ancient Europe and spread to various parts of the globe through migrations and conquests.
- Further divided into branches such as Indo-Aryan, Germanic, Romance, Slavic, and Celtic.
- **Number of languages:** Over 450
- **Geographic distribution:** Europe, Asia, North America, South America, Australia
- **Examples:** English, Spanish, Russian, Hindi, German, French, Italian, Greek, Persian, Sanskrit

Sino-Tibetan

- **Second-largest language family in terms of speakers.**
- Includes languages like Mandarin Chinese, Tibetan, Burmese, and many others.
- Primarily spoken in East and Southeast Asia.
- Characterized by their complex writing systems, often using logographic characters.
- **Number of languages:** Over 400
- **Geographic distribution:** East Asia, Southeast Asia
- **Examples:** Mandarin Chinese, Tibetan, Burmese, Cantonese, Vietnamese

Niger-Congo

- **Largest language family in Africa.**
- Includes languages like Yoruba, Swahili, Igbo, and many others.
- Known for its diversity and the presence of many smaller language families within it.
- **Number of languages:** Over 1,500
- **Geographic distribution:** Africa
- **Examples:** Yoruba, Swahili, Igbo, Zulu, Hausa

Austronesian

- **Widely distributed across Southeast Asia, Oceania, and Madagascar.**
- Includes languages like Malay, Tagalog, Indonesian, and many others.
- Known for their linguistic diversity and cultural influence.
- **Number of languages:** Over 1,200
- **Geographic distribution:** Southeast Asia, Oceania, Madagascar
- **Examples:** Malay, Tagalog, Indonesian, Javanese, Maori

Dravidian

- **Predominantly spoken in South India and Sri Lanka.**
- Includes languages like Tamil, Telugu, Kannada, and Malayalam.

- Characterized by their unique linguistic features and ancient history.
- **Number of languages:** Over 70
- **Geographic distribution:** South India, Sri Lanka
- **Examples:** Tamil, Telugu, Kannada, Malayalam

Afroasiatic

- **Found in Africa and the Middle East.**
- Includes languages like Arabic, Amharic, and Berber.
- Known for their rich cultural and historical significance.
- **Geographic distribution:** Africa, Middle East
- **Examples:** Arabic, Amharic, Berber, Egyptian Coptic

Other Notable Language Families:

- **Altaic:** Proposed language family including Turkic, Mongolic, and Tungusic languages.
- **Austroasiatic:** Found in Southeast Asia and parts of India.
- **Tai-Kadai:** Found in Southeast Asia.
- **Munda:** Found in South Asia.
- **Papuan:** Found in New Guinea and surrounding islands.

A discourse on AI governance that India must shape (4 September)

- The Summit of the Future, held on September 22-23, 2024, is a crucial event for global diplomacy focused on Artificial Intelligence (AI).
- The summit aims to advance the Global Digital Compact (GDC), a framework that addresses the digital divide, promotes Sustainable Development Goals (SDGs), and ensures a secure and inclusive digital environment.
- The GDC seeks to strengthen international governance of emerging technologies like AI, ensuring they align with fundamental rights and values.
- As digital technologies influence societal and geopolitical landscapes, it's important for India to actively participate in shaping international AI governance.
- The UN General Assembly recently adopted two key resolutions on AI, led by the United States and China.
- The U.S.-led resolution, titled "Safe, Secure and Trustworthy AI for Sustainable Development," promotes a harmonized approach to AI governance, focusing on shared ethical principles, data protection, and transparency standards.
- The U.S. aims to dominate AI technology and influence its global development through this resolution.
- The China-led resolution, titled "Enhancing Cooperation on Capacity Building of AI," emphasizes equitable benefits from AI, bridging the digital divide, and fostering an open, non-discriminatory business environment.
- China's resolution prioritizes inclusivity and equitable development, positioning China as a key player in global trade and technology standards.
- These resolutions reflect the growing geopolitical competition between the U.S. and China in the realm of digital governance.
- The UN is becoming a key forum for setting global standards on AI, which is important due to AI's impact on markets and societies.
- The UN provides an inclusive platform to address challenges, balance different national interests, and promote international cooperation on AI.
- India has a strong and long-standing involvement with the UN, as well as strategic roles in the G-20 and the Global Partnership on Artificial Intelligence (GPAI).
- India can use this opportunity to ensure that the Global Digital Compact (GDC) aligns with its development goals, ethical standards, and the interests of the Global South.
- India has a significant historical influence at the UN, particularly in advocating for the interests of the Global South.
- India's role in international climate negotiations has been notable, where it consistently promoted equity and climate justice as foundations for global climate action.
- Following the 1989 UNGA Resolution 44/207, India became a key player in climate negotiations, emphasizing the principle of Common but Differentiated Responsibilities (CBDR).
- India ensured that developing countries like itself were not held to obligations that conflicted with their developmental goals, advocating for technology transfer and financial support from developed nations.
- India played a critical role in forming alliances of developing countries to ensure their perspectives were included in global climate negotiations.
- India helped create the Green Group, an alliance of 72 developing countries, to counter stringent demands from developed nations.
- India also worked with Brazil, South Africa, and China to form the BASIC Group, which focused on protecting developmental and poverty reduction objectives in the 2000s.
- India continues to be active in international agreements, including the Paris Agreement and the Dubai Summit, advocating for fair terms that consider the needs and capabilities of developing countries.

- India's experience in leading negotiations for the Global South makes it a key player in AI debates.
- As a Global South country, India faces challenges in AI innovation, such as limited advanced computing infrastructure, quality data, and capital.
- Similar to its approach in climate agreements, India should advocate for equity, accessibility, and fairness in AI governance.
- India has already succeeded in highlighting these issues in international platforms like the G-20 and the Global Partnership on Artificial Intelligence (GPAI).
- Under India's leadership, the G-20 and GPAI have stressed the importance of fair access to AI resources, equitable sharing of AI benefits, and international cooperation.
- It's important for India to voice these concerns at the UN, which has global legitimacy and a strong framework based on the rule of law, human rights, and Sustainable Development Goals (SDGs).
- India excels at building coalitions that prioritize Global South interests and can use the UN platform to amplify its efforts.
- India should advocate for equitable access to AI technology, capacity building, and knowledge sharing so that all countries can benefit from AI.
- India can redefine the multi-stakeholder model to be more inclusive, ensuring that voices from the Global South, including marginalized and under-represented groups, are heard.
- This includes creating a platform for smaller NGOs, small and medium enterprises, and others who usually lack the resources to participate in global discussions.
- India should also push for AI governance that respects human rights, aligns with international laws, and ensures AI systems are inclusive, fair, and representative of diverse global perspectives.

Address the challenges

- India's push for a fair and inclusive AI governance framework is crucial because the U.S. and China are shaping AI policies to suit their own strategic interests.
- The focus of the U.S. and China may ignore the unique needs and perspectives of developing countries in the Global South.
- There is a significant gap between developed and developing countries in AI advancements.
- Developed countries have ample resources, while developing countries often lack basic infrastructure, internet access, and electricity, which are essential for AI development.
- Addressing these challenges requires an understanding of local contexts, which might be missed by those unfamiliar with these specific situations.
- Without this understanding, global AI policies might fail to address the core issues faced by developing countries.
- Ineffective policies can limit the success of global AI governance efforts and worsen existing inequalities.
- India has a history of advocating for the Global South and has experience dealing with these challenges.
- This positions India well to lead discussions on creating inclusive and fair AI governance.
- By actively engaging, India can promote its own interests and help build a balanced and sustainable digital future for all.

Copyright in India:

- Copyright in India is governed by the **Copyright Act, 1957**, as amended. It protects original literary, artistic, and dramatic works, as well as cinematograph films and sound recordings.
- The Act aims to balance the rights of copyright owners with the public's interest in access to information and culture.

Provisions of the Copyright Act, 1957:

- **Original Works:** Copyright protection extends to original literary, artistic, and dramatic works, including books, poems, plays, musical compositions, sculptures, paintings, photographs, films, and sound recordings.
- **Author's Rights:** The author of a copyrighted work enjoys the exclusive rights to reproduce, publish, perform, broadcast, and adapt the work.
- **Economic Rights:** Copyright owners can license or assign their economic rights to others, allowing them to exploit the work commercially.
- **Moral Rights:** Authors also have moral rights, including the right to be identified as the author and the right to object to derogatory treatment of their work.
- **Term of Copyright:** The term of copyright in India is **generally the life of the author plus 60 years**. For anonymous or pseudonymous works, the term is 60 years from the date of first publication.
- **Fair Use:** The Copyright Act allows for fair use of copyrighted material for purposes such as criticism, review, teaching, research, or reporting news.
- **Infringement:** Copyright infringement occurs when someone unauthorizedly exercises any of the exclusive rights of the copyright owner.

Recent Updates:

- **Copyright Amendment Act, 2012:** This amendment introduced several changes, including a new copyright term for anonymous or pseudonymous works, increased penalties for copyright infringement, and provisions for orphan works.
- **Digital Copyright:** The Indian government has been taking steps to address copyright issues in the digital age, including measures to combat online piracy and protect the rights of creators in the digital marketplace.
- **International Copyright Treaties:** India is a signatory to several international copyright treaties, such as the **Berne Convention and the Universal Copyright Convention**.

United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol:

- **United Nations Framework Convention on Climate Change (UNFCCC)**
- The UNFCCC is an international treaty adopted in 1992 at the Earth Summit in Rio de Janeiro, Brazil.
- It aims to stabilize greenhouse gas emissions at a level that prevents dangerous human interference with the Earth's climate system.
- The treaty entered into force in 1995 and has been ratified by almost all countries in the world.

Provisions:

- **Ultimate objective:** To achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system.
- **Common but differentiated responsibilities:** Recognizes that developed countries have historical responsibility for climate change and should take the lead in reducing emissions.
- **Flexibility mechanisms:** Provides flexibility mechanisms such as the Clean Development Mechanism (CDM) and Emissions Trading to allow countries to meet their emission reduction targets in a cost-effective manner.
- **Adaptation:** Addresses the need for developing countries to adapt to the impacts of climate change.

Important Dates:

- **1992:** UNFCCC adopted at the Earth Summit in Rio de Janeiro
- **1995:** UNFCCC enters into force
- **1997:** Kyoto Protocol adopted in Kyoto, Japan

Kyoto Protocol

- The Kyoto Protocol is a **legally binding international agreement** that **sets emission reduction targets for developed countries**.
- It was adopted in 1997 and entered into force in 2005.
- The **Kyoto Protocol is a key component of the UNFCCC** and represents a significant step towards addressing climate change.

Key Provisions:

- **Emission reduction targets:** Sets legally binding emission reduction targets for developed countries.
- **Flexibility mechanisms:** Includes the **Clean Development Mechanism (CDM), Joint Implementation (JI), and Emissions Trading** to allow countries to meet their targets in a cost-effective manner.
- **Commitment periods:** The Kyoto Protocol has been implemented in two commitment periods: 2008-2012 and 2013-2020.

Important Dates:

- **1997:** Kyoto Protocol adopted in Kyoto, Japan
- **2005:** Kyoto Protocol enters into force
- **2012:** Doha Amendment adopted to extend the Kyoto Protocol until 2020

Recent Updates:

- **Paris Agreement:** In 2015, the Paris Agreement was adopted as a successor to the Kyoto Protocol. It establishes a global framework to combat climate change and aims to keep global temperature rise well below 2 degrees Celsius.

Global Partnership on Artificial Intelligence (GPAI)

- GPAI is a multi-stakeholder initiative **established in 2020 to promote the responsible development and use of artificial intelligence (AI)**.
- It brings together governments, international organizations, industry, academia, and civil society to work collaboratively on AI-related issues.

Objectives:

- **Human-centric AI:** Ensure AI development and use aligns with human values, rights, and well-being.
- **International cooperation:** Foster collaboration to address global challenges related to AI.
- **Bridge theory and practice:** Support research and applied activities on AI.
- **Ethical guidelines:** Develop principles and guidelines for responsible AI.

Working Groups:

- **Responsible AI:** Addresses ethical, legal, and social implications.
- **Data Governance:** Focuses on data privacy, security, and sharing.
- **AI for Humanity:** Explores applications for societal benefit.
- **International Cooperation:** Promotes collaboration and knowledge exchange.

Recent Updates:

- **India's Leadership:** India chaired GPAI in 2024, hosting the annual summit in New Delhi.
- **Focus on Emerging Technologies:** GPAI has expanded its focus to include generative AI and large language models.
- **Collaboration with Other Organizations:** GPAI has collaborated with organizations like the OECD and G20.

Impact:

- GPAI has driven international discussions on AI governance and ethics. It has published reports, recommendations, and guidelines, fostering collaboration and knowledge exchange.

Take on the challenge of rising income inequality (4 September) (GS Paper III: Inequality)

- Addressing income inequality is a global challenge that requires multiple strategies to create a fairer society.
- **Progressive taxation is necessary to redistribute wealth** from the rich to the marginalized, using tax money to improve health, education, skills, the environment, and job creation.
- Providing access to **quality education, skill development, and lifelong learning** is crucial to enhance employability and increase earnings.
- **Fair labor laws are essential to protect workers' rights, ensure minimum wages, prevent child labor, and allow collective bargaining** so that all workers benefit from economic growth.
- Investment in infrastructure, such as the **environment, water, sanitation, energy, housing, and transportation**, is needed to reduce regional disparities and promote inclusion and sustainability.
- The super-rich can contribute significantly to public welfare, as seen in the **"Giving Pledge" campaign by Bill Gates and Warren Buffett, where over 235 wealthy individuals in 28 countries have pledged \$600 billion for public good.**
- Many advanced countries **have inheritance taxes (e.g., Japan 55%, South Korea 50%, France 45%, U.S. 40%) that apply to the super-rich and large asset transfers**, which have been proposed in India as well.
- The World Inequality Lab reports that in India, the top 1% holds a significant share of national income, making India more unequal today than during British rule, raising concerns about the acceptability of such inequality.

About inclusion and equity

- This is not about increasing or introducing new taxes for different income groups but about finding resources to lift millions out of poverty and joblessness.
- The goal is to do this in a way that **encourages production, efficiency, quality, consumption, inclusion, sustainability, dignity, and justice.**
- India has already lifted millions out of poverty, but more needs to be done with bold and innovative initiatives.
- The focus should be on moving from "economies of scope and scale" to an "economy of purpose" that prioritizes inclusion, equity, and sustainability.
- Strategies should be debated and analyzed, not based on fear or misinformation, to ensure growth with justice and hope.
- Globalization and market liberalization should be seen as strategies requiring vigilance and adjustment, not as quick fixes.
- Global events like market turmoil, the COVID-19 pandemic, and wars remind us that globalization has its costs.
- The **Gandhian model of development**, which emphasizes **decentralization, local needs, local resources, and small-scale production, is important in a hyper-connected world.**
- **Investment in small and medium-sized enterprises (SMEs) and local innovations** is crucial to scale for global markets.
- **Banks should change their preference for large loans** to big companies and focus on supporting SMEs with digital technology.
- **India has 800 districts**, each with unique resources and talents, which could become 800 production centers connected by digital platforms for supply chains and markets.
- Future jobs, even in an AI-driven world, will come from sectors like food, education, health services, tourism, and manufacturing.
- Young Indian talent is a valuable workforce globally, and the focus should be on human and technology development through decentralization and digital networking.
- The future economic model should deliver on inclusion, basic needs, conservation, and non-violence, with a shift towards a lifestyle that values happiness from "sharing and caring" rather than excessive consumption.

Demolition squad (4 September)

Courts cannot be oblivious to the communal symbolism of the bulldozer

- The Supreme Court of India has raised concerns about the legality of demolishing houses belonging to alleged offenders.
- These demolitions, often targeting Muslim homes, are being used as a form of punishment in BJP-ruled states.
- The Court emphasized that the law does not allow demolishing someone's home just because they are accused of a crime, even if they are convicted.
- The judiciary recognizes that the use of bulldozers has become a **symbol of collective punishment by authorities.**
- Houses of suspects have been demolished without considering that other family members may be innocent.
- While local laws do allow the removal of encroachments and unauthorized constructions, the Court aims to establish uniform guidelines across India for such actions.

- These guidelines will likely include how to identify unauthorized structures, issue notices, and ensure a fair hearing before any demolition takes place.
- The Supreme Court should be cautious when setting guidelines to avoid suggesting that the link between communal violence and subsequent demolitions can be ignored or manipulated.
- In some cases, backdated eviction notices are used to justify demolitions, revealing a political and communal motive behind the actions.
- Digitalizing eviction notices could prevent the issue of backdated notices, but it may not be feasible everywhere in the country.
- The Court needs to consider whether claiming that only encroachments are being demolished is sufficient to justify the violation of the rule of law and lack of due process in recent cases in states like Uttar Pradesh, Madhya Pradesh, Haryana, and Delhi.
- It is becoming clear that the ruling party in these states may be using these demolitions to gain political advantage by appearing tough on anti-social elements, while disguising the communal nature of the actions as anti-encroachment efforts.

Hollow middle (4 September)

The growing anti-establishment mood in Germany is worrisome

- Recent regional elections in Thuringia and Saxony, Germany, show the rise of the far-right party **Alternative for Germany (AfD)**.
- The AfD, which has **neo-Nazi roots** and is classified as "extremist" by domestic intelligence, gained the most votes in Thuringia (32.8%) and finished second in Saxony (30.6%).
- The Reason and Justice Alliance (BSW), a leftist nationalist-populist party, also gained significant support, finishing third in both states.
- These results reflect growing anti-establishment sentiment in Germany.
- **Chancellor Olaf Scholz's Socialists** and his coalition partners, the Greens and the Free Democratic Party, performed poorly.
- The conservative Christian Democrats were the only establishment party that did well.
- Despite its success, the AfD is unlikely to form a government due to other parties' refusal to join a coalition with it.
- The AfD's rise has already influenced German politics, pushing it toward the right.
- The AfD could become more influential if it continues to gain popularity.
- The establishment parties need to address popular concerns, such as the war in Ukraine and economic challenges, to curb the rise of the far-right.

From Bharati to Karunanidhi

GS Paper III: Basic Science

To mark the birth centenary of former Chief Minister and Muthamil Arignar (Tamil scholar) M. Karunanidhi, the Tamil Nadu government has nationalised his entire literary output. Nationalisation is a curious practice of literary paternalism unique to Tamil Nadu. **This means that Karunanidhi's works will no longer be under a copyright regime. They will be in the public domain, and anyone can publish or translate his works in any form.** Literary works are governed by copyright laws. Copyright is a property right that vests in an author, and after their death, passes on to their legal heirs for 60 calendar years.



A.R. Venkatachalapathy

Author of 'Who Owns That Song?: The Battle for Subramania Bharati's Copyright'

one-upmanship. In 1994, when her Dravidian credentials were under attack, the then Chief Minister, Jayalalithaa, nationalised the writings of the DMK founder, C.N. Annadurai. In a glittering function, ₹75 lakh was handed over to his wife Rani Annadurai as compensation.

The floodgates were now open. A stream of writers was freed from copyright. **The works of 179 writers have been nationalised by the government so far. Nearly ₹15 crore of public money has been disbursed to their legal heirs.**

What was originally conceived of as an honour for exceptional cultural figures has now been emptied of all significance. Today, the most knowledgeable literary historians may find it difficult to

clamour to nationalise their works. Their families queue up at Fort St George, the seat of power, expecting a largesse. Vested interests have often tried to influence the government's decision. At least in three cases – Kannadasan, Mu. Varadarajan and Sundara Ramaswamy – the government announced nationalisation without obtaining prior consent from the families and had to rescind its decision following their objections.

Effects on publishing industry
No doubt, nationalisation has democratised literature and aided genuine scholarly work. But its deleterious effects far outstrip its benefits. The huge pile up of Kalki's Ponnivin Selvan at book

From Bharati to Karunanidhi (4 September)

- The Tamil Nadu government has made the literary works of M. Karunanidhi public, meaning they are no longer under copyright.
- This practice allows anyone to publish or translate his works without restrictions.
- **Copyright usually lasts for the lifetime of the author plus 60 years.**

- Tamil Nadu has a unique practice where literary works are nationalized after the author's death, which began with poet Subramania Bharati.
- Bharati's works were initially sold off, which led to public outrage and the Madras government acquiring and releasing his works for public use in 1949.
- This intervention was seen as an honor to Bharati, unlike similar interventions for other notable figures like Gandhi or Nehru.
- In the 1980s, Karunanidhi also nationalized the works of Bharathidasan.
- In 1994, Jayalithaa nationalized the writings of C.N. Annadurai, the founder of DMK, as a political move and provided compensation to his wife.
- The Tamil Nadu government has nationalized the works of 179 writers, freeing them from copyright.
- The government has spent nearly ₹15 crore in compensation to the legal heirs of these writers.
- The original intention of honoring notable cultural figures has diminished over time.
- Many of the 179 nationalized writers are not well-known to literary historians today.
- The Tamil publishing industry has limited understanding of copyright issues, leading to complications.
- Moral rights of nationalized authors and compensation issues have caused problems.
- Publishers who legally acquired rights have sometimes suffered losses due to nationalization.
- In some cases, the government nationalized works even after copyright had expired or while authors were still alive.
- There has been inconsistency in how monetary compensation is awarded, with some viewing it as patronage.
- When a writer dies, there is often pressure to nationalize their works, with families expecting compensation.
- In some instances, the government has announced nationalization without family consent and had to reverse the decision.

Effects on publishing industry

- Nationalization has made literature more accessible and supported scholarly work.
- However, its negative effects have become more significant than its benefits.
- For example, books like Kalki's Ponnaiyan Selvan are often seen in large quantities at book fairs, indicating a surplus.
- Predatory publishers have exploited this surplus by selling large volumes of nationalized books to state-funded public libraries through dishonest practices.
- Well-known works and classics have been misused, with changes to titles and authorship.
- The Madras High Court has ordered an investigation due to these problems.
- The nationalization process that began with Bharati has now included Karunanidhi's works.
- Chief Minister M.K. Stalin has both put Karunanidhi's works in the public domain and waived compensation as a personal gesture.

- The practice of nationalizing literary works should be reconsidered, and alternative methods for supporting literature and writers should be explored.

Did corporate tax cuts increase wages?

Tax cuts on profits do have immediate effects on income distribution. A reduction in profit taxes boosts the profits on already invested capital without necessarily increasing future investment, thus benefiting private capital while showing little to no benefits for wage-earners

ECONOMIC NOTES

Rahul Menon

In the years prior to the pandemic, two of the largest economies in the world – the U.S. and India – cut corporate tax rates in an attempt to stimulate growth. While the pandemic caused an unprecedented shock to the economy, enough time has passed for us to evaluate the effects of these tax cuts.

The effects of tax cuts in the U.S.

The Tax Cuts and Jobs Act was signed into law by former President Donald Trump on December 22, 2017, and went into effect from January 1, 2018.

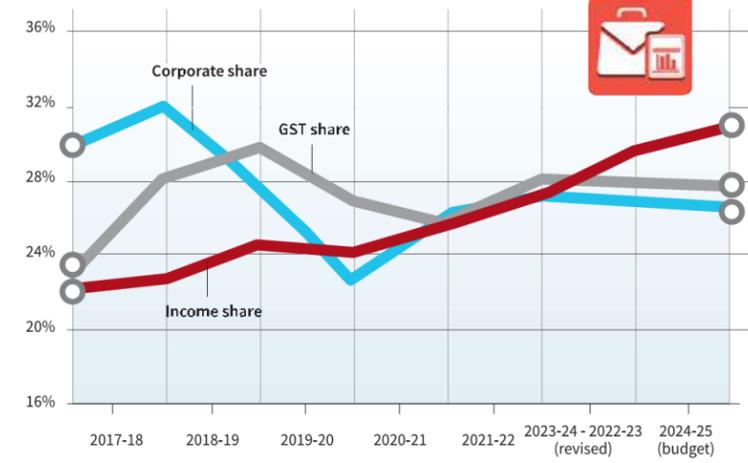
While the act affected personal and corporate taxes, one of the most significant provisions was the reduction of the top tax rate on corporate income from 35 to 21%. Proponents of the measure held that the move would ensure that companies invest more, leading to an increase in growth and employment. The new investment would also cause an upgradation in technology and productivity, leading to an increase in wages as well.

In a recent publication titled 'Lessons from the Biggest Business Tax Cut in U.S. History' (published in the Summer 2024 edition of the *Journal of Economic Perspectives*), economists Gabriel Chodorow-Reich, Owen Zidar and Eric Zwick examine the effects of the tax cut. They find that the cuts did have a positive impact on investment, with a range of studies estimating an increase in investment of around 8 to 14%.

Furthermore, studies suggest that based on investment trends, there would likely have been a fall in investment if the tax cuts were not passed. This is not to say that the tax cuts were an unambiguously positive outcome. This is a relatively small increase in investment, implying a long-run increase in GDP of only 0.9%, and an increase in annual wages of less than \$1,000 per

Fig 1: The share of different tax sources

According to the budget estimates of 2024-25, the share of corporate taxes has fallen to 26.5%, below that of GST (27.65%) and income taxes (30.91%)



worker. This is in stark contrast to the claims of an increase in wages of around \$4,000 to \$9,000 dollars advanced by the Council of Economic Advisors in favour of the move. Furthermore, the reduction in tax rates imply a long-run reduction in tax revenue of almost 41%. The fiscal health of the U.S. economy has been impaired at the cost of higher profits and a marginal increase in wages.

On tax cuts in India

Tax rates for corporates were cut in September 2019 in India, with the rate for existing companies reducing from 30 to 22%, and that of new companies from 25 to 15%. This resulted in a tax revenue loss of around 1 lakh crore in 2020-21. This tax could nevertheless prove to be of net benefit to the economy if it resulted in an increase in employment and investment.

The pandemic led to severe dislocations in the labour market, leading to high unemployment. Unemployment has reduced since then, with labour force

participation rates rising, particularly that of women. However, the corporate sector has had little to do with this increase. Much of the increase in employment has come in the form of insecure work, with unpaid family work showing significant increases in the rural sector. According to the PLFS, the share of workers with regular wage employment at the all-India level has fallen from 22.8% in 2017-18 to 20.9% in 2022-23. Furthermore, when comparing the periods July-September 2017 and July-September 2022, the average nominal monthly earnings of rural and urban regular wage workers displays a CAGR (compounded annual growth rate) of 4.53% and 5.75% respectively, which is barely above the rate of inflation. In real terms, rural wages for regular employment have reduced, with relative stagnation for urban wages.

This is not to say that there has been no growth; corporate tax collections have shown healthy growth since the pandemic. However, it has had little to no

effect on employment or wages. Tech companies in India have recently made the news for laying off workers, rather than expanding hiring.

Furthermore, tax cuts have led to a shifting of the burden of tax collections from corporates to individuals.

Figure 1 shows the share of three major sources of taxes – corporate taxes, income taxes and GST – in gross tax revenues of the Centre. In 2017-18, corporate taxes were almost 32% of gross tax revenues. It has fallen since then while the share of income taxes rose.

According to the budget estimates of 2024-25, the share of corporate taxes has fallen to 26.5%, below that of GST (27.65%) and income taxes (30.91%).

This may explain the move of the Centre to remove indexation benefits and tax long-term capital gains, as it tries to find new sources of revenue to offset the falling share of corporate taxes.

What next?

Tax cuts would not necessarily boost investment if capital believes that the prospect of future profits are uncertain. In an economy recovering from the pandemic and from supply-related disruptions, tax cuts have exercised only marginal effects on private investment.

Tax cuts on profits do have immediate effects on income distribution. A reduction in profit taxes boosts the profits on already invested capital without increasing future investment, thus benefiting private capital while showing little to no benefits for wage-earners (who would gain only if investment raised employment, productivity and wages sufficiently).

Chodorow-Reich et al make the point that a suitable policy strategy would be to have high taxes on existing profits and increased incentives promoting future investment. These tax cuts have shown the difficulty of policy-making in an uncertain world.

Rahul Menon is Associate Professor in the Jindal School of Government and Public Policy at O.P. Jindal Global University.

THE GIST

The Tax Cuts and Jobs Act was signed into law by President Donald Trump on December 22, 2017, and went into effect from January 1, 2018. One of the most significant provisions was the reduction of the top tax rate on corporate income from 35 to 21%.

Tax rates for corporates were cut in September 2019 in India, with the rate for existing companies reducing from 30 to 22%, and that of new companies from 25 to 15%. This resulted in a tax revenue loss of around 1 lakh crore in 2020-21.

Furthermore, tax cuts have led to a shifting of the burden of tax collections from corporates to individuals.

Why is Google accused of being an illegal monopoly?

Why did the U.S. Department of Justice accuse Google of having an unfair advantage?

GS Paper II: Governance
GS Paper III: Anti-Competition Law

Google, the leading American technology company best known for its popular search engine, has lost a Court case filed against it by the U.S. Department of Justice in 2020 accusing the company of being an illegal monopoly. A U.S. District judge ruled earlier this month that the company indeed misused its dominant position in the market to block competitors from freely offering their services in the market.

Why was Google accused?

Google comes set up as the default search engine in most new phones, laptops and other electronic devices in the market. The company even pays billions of dollars each year, as a share from its advertisement revenues, to device manufacturers such as Apple, Samsung etc. to be featured as the default search engine in their devices. In fact, Google

paid as much as \$20 billion in 2022 to Apple to be featured as the default search on Safari, Apple's default browser. Google has also paid web browser providers such as Mozilla to be featured as the default search engine in their browsers. This practice is advantageous to Google and unfair towards other search engine providers as users could end up sticking to the default search engine in their new devices rather than make the effort required to try out better search engines.

Is Google really a monopoly?

The sheer size of Google, which is the leading search engine in the world with a market share of over 90%, has led many to argue that the company is a monopoly that abuses its dominant market power. Such a dominant position, it is believed, allows Google to dictate terms when it deals with people who want to do business with it or even use its services.

Some also note that a big technology company like Google would have far more influence on regulators and the law in

general than smaller companies.

Others, including interestingly the judge who ruled against Google in this case, however, have argued that a large market share alone does not make a company a harmful or illegal monopoly. They note that even though it may be very hard to compete against a behemoth like Google due to certain advantages the company naturally enjoys as the market leader, the fact remains that there are still no legal barriers against entry into the market of competitors who want to compete against Google by offering a better product. Further, there is also no guarantee that Google's absolute dominance of the search engine market will last forever. Microsoft's significant dominance of the search engine market came to an end with the advent of Google. The same thing could happen to Google if a competitor offers a better product, they argue. It is also believed that the threat of entry of competitors with better products will keep Google on its toes and limit the extent to which the company can abuse

its market power.

Supporters of Google also note that there is nothing wrong with Google sharing ad revenues with device manufacturers such as Apple and Samsung. In their view, the practice of paying to be featured as the default search engine is no different from a company buying key real estate space to gain better visibility. Further, Google's competitors are also free to pay for such privileges. Finally, Google itself has argued that its position as the market leader is not simply due to its ability to pay to be the default search engine but rather due to the superiority of its service.

What lies ahead?

Court proceedings on action against Google are expected to begin next month. The Court could order Google to stop sharing ad revenues with companies like Apple to be featured as the default search engine on their devices. It may also mandate that users should be given the choice to pick the default search engine in their browsers. Another possible action by the Court could be to force Google to share information that it holds about user searches, which is believed to be a major reason for Google's superior performance, helping competitors catch up. And while the chances are remote, the Court may also order that Google be broken up into multiple companies so that there is no single dominant player in the market. Finally, Google may decide to appeal against the Court's order.

THE GIST

Google, the leading American technology company best known for its popular search engine, has lost a Court case filed against it by the U.S. Department of Justice in 2020 accusing the company of being an illegal monopoly.

Google pays billions of dollars each year, as a share from its advertisement revenues, to device manufacturers such as Apple, Samsung etc. to be featured as the default search engine in their devices.

Supporters of Google note that there is nothing wrong with Google sharing ad revenues with device manufacturers such as Apple and Samsung. In their view, the practice of paying to be featured as the default search engine is no different from a company buying key real estate space to gain better visibility.

Why is Google accused of being an illegal monopoly? (4 September)

Why did the U.S. Department of Justice accuse Google of having an unfair advantage?

- Google lost a court case against the U.S. Department of Justice, which accused it of being an illegal monopoly.
- The court found that Google used its dominant position to block competitors from offering their services.
- Google is often set as the default search engine on many devices and pays large sums to device manufacturers (like Apple and Samsung) to be the default search option.
- In 2022, Google paid Apple \$20 billion to be the default search engine on Safari.
- Google also pays web browser providers, such as Mozilla, to be the default search engine on their browsers.
- This practice benefits Google by making users more likely to stick with its search engine, rather than trying out other options.
- Google has a market share of over 90% in the search engine market, leading to claims that it is a monopoly.
- Being a dominant player, Google is believed to have significant influence over business dealings and regulatory matters.
- Some argue that having a large market share alone does not make a company a harmful or illegal monopoly.
- They believe there are no legal barriers preventing competitors from entering the market or offering better products.
- Just as Google overtook Microsoft's previous dominance, a new competitor could potentially replace Google if they offer a better product.
- The presence of potential competitors might keep Google from abusing its market power.
- Supporters of Google argue that paying for default search engine placement is similar to buying prime advertising space.
- They also note that competitors can pay for similar advantages if they choose.
- Google claims its market leadership is due to the quality of its service, not just its financial practices.

Upcoming court proceedings may address the following:

- Stopping Google from paying for default search engine placement.
- Requiring browsers to allow users to choose their default search engine.
- Mandating Google to share search data to help competitors.
- Possibly breaking up Google into smaller companies to reduce its dominance.
- Google might appeal against any court orders.

The harm principle: how John Mill's theory defines the extent of liberty

John Mill states that liberties can be restricted only when our actions cause harm. If any act that you do injures another person, you can be punished for it. But that brings us back to the fundamental question: what really constitutes harm?

GS Paper II: Polity

Radhika Santhanam

A few days ago, a minor girl was gang-raped in the Dhing area of Nagaon district, Assam, allegedly by three Muslim men. As anger over the horrific incident and against the community escalated, Chief Minister Himanta Biswa Sarma, who has called Muslims a “communal organisation” in the past, said he would not allow “Miya Muslims” to “take over all of Assam” (‘Miya Muslim’ is a derogatory term used against the minority Bengali Muslim community.) Mr. Sarma has made such remarks in the past, which have been slammed by the Opposition and termed by some people as hate speech.

The objection to Mr. Sarma's statements is twofold. First, he is a Chief Minister who took an oath saying he will bear true faith and allegiance to India's secular Constitution. Second, by making such remarks, he is denigrating an entire community and furthering an already deeply rooted bias against them, in a State which has suffered ethnic violence.

Some may argue that Mr. Sarma is exercising his right to free speech. While free speech is a fundamental right, the Constitution allows for certain “reasonable restrictions” to it. Others may argue that this is hate speech. There are many provisions in Indian law that criminalise offences characterised as hate speech. However, hate speech is not defined in the Indian legal framework.

The harm principle

In order to understand free speech and the extent to which it can be restricted or controlled either by society or government, it is worth revisiting the 19th century philosopher John Stuart Mill's seminal work, *On Liberty*. Mill's work is the bedrock of what we refer to today as libertarianism. Mill believed that true societal happiness (utilitarianism) can be achieved only when people are free to exercise their choices. He urged for

minimal state intervention in the exercise of liberties, arguing that “the only power that can be rightfully exercised over any member of a civilised community, against his will, is to prevent harm to others”. This is called the ‘harm principle’.

His point was seemingly simple and straightforward: if any act that you do physically injures another person, you can be punished for it. For example, if you walk around with a cane, you do not hurt anyone, but if you slam that cane against a person's head, that constitutes harm or assault, which can call for state intervention. To put it theoretically, Mill separated our actions into two categories: ‘self-regarding actions’ and ‘other-regarding actions’. Self-regarding actions affect only the individual and not others, while other-regarding actions affect others or society.

However, this distinction is not always clear. We can argue that all our actions affect the people around us or society at large. For instance, if a person develops a drinking problem, he may not be harming anyone else, but his excessive drinking may be causing immense stress to his family and he could be turning emotionally and physically abusive.

Mill believed that that the state or society do not have any justification in restricting self-regarding actions.

However, the state or society can control other-regarding actions. While society can control actions which may hurt others but do not violate any legal rights (by, say, ostracising an individual), the state can control other-regarding actions when there is a violation of legal rights (by imposing a punishment). In *Navtej Singh Johar vs. Union of India*, the Supreme Court of India buttressed its conclusion that the state cannot criminalise homosexuality by recalling Mill's theory.

Freedom of speech and expression

In short, Mill said liberties can be restricted only when our actions cause harm. But that brings us back to the

question: what really constitutes harm?

We could define harm as an act that makes a person worse off because of another person's actions. But this is still tricky terrain. If a family or a doctor decides that a terminally ill patient, who has been bedridden for 40 years, is better off dead, will their decision constitute a harm or will it help the patient by putting an end to her suffering and indignity?

Is harm also only physical? Nowadays, we have many debates on the harms caused by disinformation and misinformation. Mill, being a libertarian, believed that there must be complete freedom of thought and expression. He argued, “If all mankind minus one were of one opinion, and only one person were of the contrary opinion, mankind would be no more justified in silencing that one person, than he, if he had power, would be justified in silencing mankind...”

“The peculiar evil of silencing the expression of an opinion is that it is robbing the human race; posterity as well as the existing generation; those who dissent from the opinion, still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth: if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error.” Here, Mill essentially says that if we disregard an opinion as false, we will not have any challenge to our views and we may even be wrong (he cites the example of Socrates). False beliefs provide us with the opportunity to constantly defend our beliefs, making sure that they remain a living truth rather than dead dogma. It is only when our beliefs are constantly challenged that they are strengthened. And if we disregard an opinion which is actually true, then we would be deprived of knowing the truth and correcting our false views. Therefore, all opinions must be allowed to flourish.

However, Mill does acknowledge that freedom of expression could be limited

under some cases. He cites an example: “An opinion that corn-dealers are starvers of the poor, or that private property is robbery, ought to be unmolested when simply circulated through the press, but may justly incur punishment when delivered orally to an excited mob assembled before the house of a corn-dealer, or when handed about among the same mob in the form of a placard... The liberty of the individual must be thus far limited; he must not make himself a nuisance to other people.”

This seems logical when the potential harm is apparent. But what happens when Bengali Muslims are referred to as ‘Miya Muslims’ and consistently dehumanised with the potential harm not immediately clear? According to Mill's theory, it could always be argued that it is not right to completely ban it since we could be deprived of that shade of opinion. At the same time, allowing hate speech could psychologically harm a group and could even incite other groups to violence. In Rwanda, for instance, the radio station RTLM, which had allied with leaders of the government, had been inciting the ethnic majority called Hutus against the Tutsi minority, by repeatedly describing them as inyenzi (“cockroaches”) and as inzoka (“snakes”). The constant hate-mongering over time culminated in a genocide.

What happens when state actors themselves promote speech that could cause harm and agencies that are meant to keep them in check fail to do so?

Mill's case for free speech is not built on a foundation of universal rights. Rather, it is based on the belief that free discussions will correct our errors and benefit humanity in the long term. Such unhindered discussions, as we know, are often threatened by both societal and state power.

While Mill's vision of a liberal-minded world is not what we see today, his ‘harm principle’ continues to be discussed and impacts law even today.

The harm principle: how John Mill's theory defines the extent of liberty (4 September)

John Mill states that liberties can be restricted only when our actions cause harm. If any act that you do injures another person, you can be punished for it. But that brings us back to the fundamental question: what really constitutes harm?

- Recently, a minor girl was gang-raped in Assam by three men, leading to heightened anger and backlash against the Muslim community.
- Assam Chief Minister Himanta Biswa Sarma made controversial remarks about "Miya Muslims," a derogatory term for the Bengali Muslim community.
- Sarma's comments have been criticized as hate speech and are seen as undermining the secular nature of India's Constitution.
- Critics argue that as Chief Minister, Sarma should uphold secular values and not perpetuate bias against a community.
- Free speech is a fundamental right, but it can have reasonable restrictions under Indian law.
- Hate speech, while criminalized, is not clearly defined in Indian legal terms.
- Philosopher John Stuart Mill's work, *On Liberty*, discusses the extent of free speech and its limitations.

- Mill's "harm principle" suggests that the only justifiable restriction on an individual's freedom is to prevent harm to others.
- Actions that physically harm others, like assault, can be justifiably restricted by the state.
- Mill distinguishes between "self-regarding actions" (which affect only oneself) and "other-regarding actions" (which affect others or society).
- The distinction between self-regarding and other-regarding actions can be unclear.
- For example, someone with a drinking problem might not directly harm others but could cause stress and abuse within their family.
- Mill believed the state or society should not restrict self-regarding actions but can control other-regarding actions.
- Society can handle actions that harm others without legal rights through social pressure, while the state can intervene legally if there are rights violations.
- In the Navtej Singh Johar vs. Union of India case, the Supreme Court used Mill's theory to argue that criminalizing homosexuality is unjust.
- Mill argued that liberties should only be restricted if actions cause harm.
- Defining harm is complex and may involve physical, emotional, or societal impacts.
- There are debates about harm from disinformation or misinformation.
- Mill supported complete freedom of thought and expression, even if it means allowing a minority opinion against the majority.
- Mill argues that silencing an opinion harms society by preventing people from correcting false beliefs or strengthening true ones.
- If an opinion is wrong, debating it helps reinforce the truth. If the opinion is right, it helps correct errors in our thinking.
- Therefore, all opinions should be allowed to exist so that truth can be tested and strengthened.
- However, Mill acknowledges that freedom of expression can have limits.
- For example, it's fine to criticize corn-dealers in the press, but it's harmful and punishable to incite violence against them by making the same claims in front of an angry mob.
- Mill believes that individual freedom must be limited when it causes harm or nuisance to others.
- Mill's theory suggests free speech should be allowed because it helps correct errors and benefits humanity over time.
- However, the problem arises when speech, like calling Bengali Muslims "Miya Muslims," dehumanizes and potentially harms a group without immediate, clear harm.
- Allowing hate speech can cause psychological harm and incite violence, as seen in Rwanda, where hate speech led to genocide.
- The issue becomes more complex when state actors promote harmful speech, and checks and balances fail.
- Mill's argument for free speech isn't based on universal rights but on the idea that free discussion benefits society. However, this ideal is often challenged by societal and state power.
- Despite the challenges, Mill's "harm principle" remains influential in discussions about free speech and continues to impact laws today.

Sumit reveals how the artificial landing leg had an impact (4 September)

- **Sumit Antil** struggled to sleep before **defending his gold medal in the men's javelin F64 category**.

Deepthi runs to a bronze in women's 400m T20 (4 September)

- Deepthi Jeevanji won a bronze medal in the women's 400m T20 event **at her first Paralympic Games, clocking 55.82 seconds**.
- She finished behind Ukraine's Yuliia Shuliar (55.16s) and Turkey's Aysel Onder (55.23s).
- Shooter Avani Lekhara missed out on a medal, finishing fifth in the women's 50m rifle 3 positions SH1 competition with a score of 420.6.
- Germany's Natascha Hiltrop won the gold in that event with a score of 456.5.
- Bhagyashri Jadhav also finished fifth in the women's shot put F34, with a throw of 7.28 meters.
- China's Lijuan Zou won that event with a season's best throw of 9.14 meters.
- On Monday, **Nithya Sre Sivan won India's fifth medal in para badminton by defeating Indonesia's Rina Marlina 21-14, 21-6 in the women's singles SH6 third-place playoff match**.