

# NEWS TODAY

## India Justice Report Highlights Chronic Under-Resourcing of India's Justice Institutions

The report highlights **structural inefficiencies across four pillars of the justice system**, that may worsen inequalities in access to justice

### Key Structural Issues Highlighted

- **Police**
  - ⊖ **Understaffed:** There is **23% vacancy in the police force and over 50% vacancy among the forensic staff** across the country.
  - ⊖ **Suboptimal Women Representation:** Nationally, there are **only 8% women officers** in senior positions and **no states/UTs** meet their **reserved quotas for women** in the police.
    - ◆ **The national benchmark is 33%** as advised by the central government in 2009.
- **Judiciary**
  - ⊖ **Low Judge-to-Population Ratio:** There are **15 judges per 10 lakh population** against the desired **50 judges per 10 lakh population** (recommended by the 1987 Law Commission of India).
  - ⊖ **Lack of Diversity:**
    - ◆ **Women:** They constitute **38% of judges in the lower judiciary** and **only 14% in high courts**.
    - ◆ **Other Vulnerable Sections:** Only Karnataka meets SC, ST, and OBC quotas in the judiciary.
- **Prisons**
  - ⊖ **Understaffed:** **30%** of the prison staff positions were **vacant** nationally.
  - ⊖ **Overcrowded:** **Prison occupancy** has risen to **131%** with the share of **undertrials at 76%**.
- **Legal Aid:**
  - ⊖ **Declining Volunteer Participation:** Number of Para Legal Volunteers has **decreased by 38%**.

To strengthen India's justice system, there is a **need for tangible incentives**. For example, **states should be rewarded** for demonstrating improvements in **judicial vacancies, police training, or prison rehabilitation programs** for long-term sustainability across the country.

## Startup selected under NQM launches one of India's most powerful quantum computers

QpiAI (startup selected under **National Quantum Mission (NQM)**) launched **25 qubit superconducting quantum computer (Qpi-AI-Indus)** on occasion of **World Quantum Day (April 14th)**.

- It is first **full-stack quantum computing system** in country and combines advanced quantum hardware, scalable control, and **optimized software for hybrid computing**.

### About Quantum Computers and its Principles:

- It leverages **principles of quantum mechanics** to solve complex problems **beyond the reach of classical computers**.
- **In quantum computing**, information is **processed using qubits**, which are quantum counterparts of classical bits.
  - ⊖ Unlike bits, which can only be in one of **two states (0 or 1)**, qubits can exist in a **superposition of both states simultaneously**.
- **Key Principles:**
  - ⊖ **Entanglement:** Quantum particles become interconnected; measuring one instantly defines the other's state, regardless of distance.
  - ⊖ **Superposition:** A quantum system can exist in multiple states simultaneously.
  - ⊖ **Interference:** Combines quantum states to amplify correct results and suppress errors.

### Significance of Quantum computers for India

- **Global Leadership:** Positions India alongside U.S., China, and France in quantum tech advancement.
- **Secure Communication:** Develops quantum networks for unbreakable, high-bandwidth communication.
- **Drug & Chemical Research:** Precise molecular modeling for faster and more effective drug and compound development.
- **AI & Machine Learning:** Faster optimization and processing of complex, unstructured data at scale.
- **Manufacturing:** Improved prototyping, design accuracy, and reduced testing costs.



## World Health Organization (WHO) Member States conclude negotiations on draft Pandemic Agreement

This draft proposal was finalized by **Intergovernmental Negotiating Body (INB)**, which was established by World Health Assembly in 2021.

- INB was **tasked with drafting and negotiating** a convention aimed at strengthening global pandemic prevention, preparedness, and response.
- It is now **set to be submitted to the World Health Assembly in May** for consideration.

### About WHO Pandemic Agreement

- Objective:** To prevent, prepare for and respond to pandemics.
- Key provisions of Treaty:**
  - Pandemic prevention and surveillance:** Conduct risk assessments of emerging pathogens.
  - One Health approach:** Recognizing interconnection between people, animals, plants, and their shared environment.
  - Transfer of technology and related knowledge:** Make available licenses on a transparent basis and for benefit of developing countries.
  - Access and benefit sharing:** Establish WHO Pathogen Access and Benefit-Sharing System.

### Need for WHO pandemic agreement

- Defences against new pathogens:** E.g. Uncoordinated responses during COVID-19 showed need of a global framework.
- Global collaboration:** To ensure that all sectors of society are better prepared and protected.
- Ensure equity:** In access to tools needed to prevent pandemics e.g. vaccines, personal protective equipment etc.
- Support Sustainable Finance:** By mobilizing and allocating funding for preparedness, response, and health system strengthening.

### Existing framework to deal with pandemic

- International Health Regulations (IHR) (2005):**
  - Overarching legal framework that **defines countries' rights and obligations in handling public health events and emergencies.**
  - Members:** Comprises all 194 WHO Member States plus Liechtenstein and the Holy See.
  - IHR were **first adopted in 1969** and focused on only six infectious diseases. They have been **revised numerous times to eventually cover almost all trans-border public health risks** (biological, chemical, radiological, etc).

## Supreme Court (SC) Issues Issue Guidelines to Address Child Trafficking

In *Pinki v. State of Uttar Pradesh*, the SC directed all High Courts to ensure that **child trafficking trials are completed within 6 months** and to report progress.

- The Court also highlighted the **low conviction rate** in such cases, caused by: Easy bail for traffickers, Hostile witnesses, Delays in trial, etc.

### Other Key Direction by SC to Address the Issue

- Reporting:**
  - Treat **missing children's cases as abduction or trafficking** unless proven otherwise.
  - Ensure **mandatory reporting** of all human trafficking cases by police or **Anti-Human Trafficking Units (AHTUs)**.
- Strengthen Child Protection Systems**
  - Create a **state-level Anti-Human Trafficking Bureau** in each state capital.
  - Set up and improve **Child Welfare Committees** in every district.
  - Ensure **regular inspections of hazardous industries** and take strict action against violators.
  - Establish **child-friendly courts** to support child victims, as seen in **Telangana and West Bengal**.
- Other measures**
  - Improve Victim Support
  - Promote community policing
  - Improve coordination with NGOs for rescue, rehabilitation, and awareness efforts.

CHILD TRAFFICKING	
<p><b>DEFINITION</b></p> <p>Child trafficking refers to "recruitment, transportation, transfer, harbouring or receipt of a child for labour, begging, and sexual and other exploitation."</p> <p><b>Key Factors:</b></p> <ul style="list-style-type: none"> <li>Poverty</li> <li>Child marriages</li> <li>Disasters induced displacement</li> </ul>	<p><b>CURRENT STATUS</b></p> <p>According to the NCRB 2022 report, <b>eight children</b> were trafficked every day in India in 2021.</p>
<p><b>CONSTITUTIONAL PROVISION</b></p> <p>Article 23 prohibits trafficking in human beings and forced labour</p>	
<p><b>GLOBAL CONVENTIONS</b></p> <p>India is a member of:</p> <ul style="list-style-type: none"> <li>UN Convention on the Rights of the Child (CRC), 1989</li> <li>Hague Convention on Protection of Children and Cooperation in Inter-country Adoption, 1993</li> </ul>	

### Measures Taken to Prohibit Child Trafficking

- Juvenile Justice Act (2015):** Protects and rehabilitates trafficked or vulnerable children.
- POCSO Act (2012):** Protects children from sexual abuse with child-friendly procedures.
- Child and Adolescent Labour (Prohibition and Regulation) [CALPR] Act, 1986:** Bans employment of children under 14 years and Bans hazardous work for adolescents aged 14–18.
- National Child Labour Project (NCLP):** Rehabilitates child labourers through district-level programs.
- PENCIL Portal:** Ensures proper enforcement of the CALPR Act and NCLP Scheme.

## In retaliation to US tariffs, China restricts exports of Rare Earth Elements (REEs)

Given China's dominance and significance of REEs in modern electronics and semiconductor industries, export restrictions are being seen as '**weaponization of trade**' by China.

### What are REEs?

- REEs are a **set of 17 lustrous, silvery-white, soft heavy metals** in periodic table, e.g., Cerium (Ce), Yttrium (Y), Europium (Eu), etc.
  - ⊖ Though **found abundantly in earth**, they are difficult to extract as they are **not found in concentrated form**.
- **Application:** In Defence (radars), electronics (computers), industrial catalyst, metal alloys and clean energy technologies such as solar panels, wind turbines, etc.

### Global Distribution of REEs

- **Top Countries (Reserves):** China (44 MT), Vietnam, Brazil, Russia and India (6.9 MT).
  - ⊖ **China dominates with more than 2/3rd of global production and controls more than 85% of the global supply chain** due to **technical capabilities to process and extract REEs**.

### What can be consequences of China's export control?

- **Disruption of Global Supply Chains:** Immediate supply shortages for industries relying on these materials, e.g., Electric vehicles, **Electronics** etc.
- **Impact on Defense Industries:** REEs like **dysprosium and yttrium** are used to make critical components in fighter jets, missiles, drones etc.

### India's steps to reduce dependence on China for REEs

- **Exploiting Domestic Rare Earth Reserves:** E.g. Public sector undertaking **Indian Rare Earths Limited (IREL)** plans to **expand its REE production by 400% by 2032**.
- **Collaborations and Technology Development:** E.g. India and US have signed **TRUST initiative** in Feb, 2025 following **Minerals Security Partnership (MSP) of 2023** for cooperation in REEs.
- **Amendment of Mining Laws:** Indian government has made amendments to boost private sector participation.

## Also in News



### Open Acreage Licensing Policy (OALP)

Ministry of Petroleum and Natural Gas has awarded 28 blocks under OALP Round-IX

#### About OALP

- It was introduced **under the Hydrocarbon Exploration and Licensing Policy (HELP)**
  - ⊖ HELP was unveiled in **2016, replacing the New Exploration Licensing Policy (NELP)**.
- OALP mechanism Allows the **investors to carve out blocks of their choice** by assessing Exploration and Production (E&P) data.
  - ⊖ **National Data Repository (NDR)**, an integrated data repository of E&P data of Indian sedimentary basins, facilitates the implementation of OALP



### Long Period Average (LPA)

As per IMD, 2025 **southwest monsoon seasonal (June to September)** rainfall is likely to remain above normal at **105% of LPA with a margin of ±5%**.

#### What is Long Period Average (LPA) of rainfall?

- It is the **rainfall recorded over a particular region for a given interval** (like month or season) averaged **over a long period like 30-years, 50-years etc.**
  - ⊖ **Current LPA of southwest monsoon** season over country as a whole **for period 1971-2020** is 87 cm.
- It acts as a **benchmark while forecasting quantitative rainfall** for that region for a specific month or season.



### Bombay Stock Exchange (BSE)

The year 2025 marks the **150 years of the Bombay Stock Exchange (BSE)**.

#### About BSE

- Established as '**The Native Share & Stock Brokers' Association**' in **1875**, it is **Asia's first & world's fastest Stock Exchange**.
  - ⊖ In 2017, BSE became **1st listed stock exchange of India**.
- **Role:** BSE provides an efficient and transparent market for trading in **equity, currencies, debt instruments, derivatives, mutual funds**.
- **Regulated by:** Securities Exchange Board of India (SEBI).
  - ⊖ SEBI is a **statutory body under SEBI Act, 1992**.



### Countercyclical Capital Buffer (CCyB)

RBI has decided **not to activate the CCyB**.

- This will **ensure uninterrupted credit flow** to key sectors and avoid a **slowdown in GDP growth**.

#### About CCyB

- **Genesis:** Introduced by RBI in 2015 under **Basel III**, but **never used** so far.
- **Mandate:** Banks must **build extra capital during good times** to support credit during downturns.
- **Goal:** Prevent **excessive lending** during booms and reduce **systemic financial risks**.
- **Trigger for Usage:** RBI's framework envisages the **credit-to-GDP gap** as the **main indicator**.
  - ⊖ other supplementary indicators may also be used.



### Operation Chakra-V

CBI Launched Operation Chakra-V against **Transnational Organized Cybercrime/Digital Arrests**.

- Earlier Operation Chakra-IV was initiated by CBI to **combat organized cyber enabled financial crime** networks through a globally coordinated law enforcement response **leveraging INTERPOL channels**.

**What is a 'Digital Arrest'?**

- It is a new form of **cybercrime** where **scammers impersonate law enforcement** over an audio or video call to **trick people into giving personal information** or **paying money in lieu of bail or bribe**.



### Surat Emission Trading Scheme (ETS)

A recent study shows Surat ETS reduced pollution by 20–30% and cut compliance costs for industries.

**About Surat ETS**

- Overview: Launched in Gujarat's Surat in 2019, it is the **world's first-ever market** for trading in particulate matter emissions.
- **Objective:** To curb air pollution
- **Working Mechanism (cap-and-trade system):**
  - ⊖ Each plant is given a limit on how much it can pollute.
  - ⊖ Those that **stay within the limit can sell their unused permits** to others that exceed theirs.
  - ⊖ This approach has been used **in Europe for greenhouse gases** and **in China** for carbon emissions.
- **Trading:** Industries trade permits on a platform by **NeML (National Commodities and Derivatives Exchange e-Markets)**.



### real-time LAMP (rt-LAMP)

Researchers have tested the **real-time LAMP (Loop Mediated Isothermal Amplification)** or **rt-LAMP** method for **early and accurate diagnosis of tuberculosis (TB)**.

**About rt-LAMP**

- It is an **open platform system** for TB diagnosis.
- It is achieved by repurposing existing **RT-PCR** machine.
  - ⊖ **RT-PCR is a laboratory method** used to make many copies of a specific genetic sequence for analysis.
- It uses **six primers** (short DNA pieces), while RT-PCR uses only two.
  - ⊖ Therefore, **rt-LAMP giving positive results in just 10–20 minutes**.



### Exercise 'Dustlik'

6th edition of **Exercise Dustlik** started in **Pune, Maharashtra**.

- It is a **yearly Joint military Exercise** event conducted **alternatively in India and Uzbekistan**.



### Tensor Processing Unit (TPU)

Google recently launched its 7th-generation TPU, called Ironwood, designed to enhance performance of AI models.

**About TPU**

- **Specialised processor or Application-Specific Integrated Circuit (ASIC)** developed by Google in 2015, specifically optimized for machine learning and AI tasks.
- TPUs are designed to **handle tensor operations** (Core data structures used in ML models).
- **Advantages of TPUs:**

- ⊖ **Optimized for AI Workloads:** Built specifically for machine learning, TPUs outperform **CPUs and GPUs** in AI tasks
- ⊖ **Faster Training:** TPUs can **train complex neural networks** in hours.

**About Central Processing Unit (CPU) and Graphics Processing Unit (GPU):**

- **CPU:** General-purpose processor to **handle various tasks**.
  - ⊖ CPUs can contain two to 16 cores. Ability to multitask is **determined by number of cores in hardware**.
- **GPU:** Specialized processor designed to **perform multiple tasks concurrently/parallelly** rather than **sequentially** (like in a CPU).

