

Ministry of Jal Shakti releases Dynamic Groundwater Resource Assessment Report 2024

Assessment was carried out annually since 2022 by Central Ground Water Board (CGWB) and States/UTs.

Key Highlights

- **Recharge:** Total annual groundwater recharge has decreased marginally from 2023 (449BCM) to 446.90 Billion Cubic Meter (BCM). Rainfall contributes to nearly 61 % in this.
- **Extraction:** Annual extractable groundwater resources have decreased marginally from 407.21 to 406.19 BCM.
 - ⊕ Overall stage of groundwater extraction has marginally increased from 59.21 % to 60.47 %.
- **Categories:**
 - ⊕ Assessment units under Safe Category have increased marginally from 2023 (73%) to 73.4 % in 2024.
 - ⊕ 3.05 % assessment units are Critical.
 - ⊕ 11.1% assessment units are Over-exploited.
 - ◆ **Concentration of Over-exploited units:** North West (Punjab, Haryana, Delhi, Western UP); **West** (Rajasthan, Gujarat); **South** (Karnataka, TN, Telangana, Andhra Pradesh).
 - ◆ **Overexploited:** Groundwater extraction exceeding annually replenishable ground water recharge.
 - ◆ **Critical:** Groundwater extraction is between 90-100 % of annual extractable resources available.
 - ◆ **Safe:** Groundwater extraction is less than 70%.

CGWB

- **Genesis:** Formed in 1970. Apex organization of Ministry of Jal Shakti dealing with ground water and related issues.
- **Mandate:** To develop technologies, implement national policies for the scientific and sustainable development GW resources etc.

Factors behind Groundwater Depletion

- **Irrigation:** Excessive groundwater use for irrigation (>60%), poor irrigation practices like flood irrigation, and cultivation of water intensive crops like rice etc.
- **Recharge:** Decreasing groundwater recharge due to loss of vegetation, spatial and temporal variation in rainfall etc.
- **Climate change:** Erratic rainfall pattern impacting groundwater recharge.

Centre amends Prison Manual Rules 2016 and Model Prisons and Correctional Services Act, 2023

Ministry of Home Affairs has amended Model Prison Manual, 2016 rules and Model Prisons and Correctional Services Act, 2023 to address caste-based discrimination within prisons across country.

- These amendments have been made in compliance with Supreme Court order on caste-based discrimination of prisoners in Sukanya Santha vs. Uol & Others Case.
 - ⊕ SC also directed that reference to habitual offenders in prison manuals should be in accordance with legislative definitions of respective State Laws.
 - ◆ **Habitual offenders** are individuals convicted and sentenced multiple times within five years for separate offenses, with sentences not reversed on appeal or review.

Prisons in India

- Prisons/ 'Persons detained therein' is a 'State' subject (Entry 4). Administration and management of prisons is responsibility of respective State Governments.
- It is governed by Prison Act 1894 and prison manuals of respective state governments.
 - ⊕ However, Model Prisons Act 2023 has replaced the Prison Act 1894.

Key Amendments

- **Prison authorities** strictly ensure that prisoners are not discriminated against, classified, or segregated based on their caste, including in allocation of duties or work within prison.
 - ⊕ Discrimination based on caste is prohibited under Article 14 (equality before law), Article 15 (prohibition of discrimination), Article 17 (abolition of untouchability), etc
- Provisions of 'Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013' shall have a binding effect in Prisons and Correctional Institutions.
 - ⊕ Manual scavenging or hazardous cleaning of a sewer or septic tank inside a prison shall not be permitted.

US Appeals Court rules against Net Neutrality

Recently, a **US Court of Appeals** ruled against the Federal Communication Commission's (US's Telecom Regulator) **attempt to enforce Net Neutrality**. This shows **divergent approaches towards Net Neutrality in the US and India**.

- **Net Neutrality** represents an idea that a maximally useful **public information network should treat all content, sites and platforms equally**.
 - ⊕ i.e., there should be **no discrimination by Internet Service Providers (ISPs) in internet traffic** based on service, application, sender, or recipient.

Net Neutrality Framework in India

- In 2018, **Department of Telecommunication (DoT)** notified **Regulatory Framework on Net Neutrality**.
 - ⊕ It incorporated principles of **non-discriminatory treatment** of content by Internet Access Services.
 - ⊕ However, it allows **certain exceptions from non-discrimination rules** for Content Delivery Networks (CDNs), IoT and Specialized Services, etc.

Debate Surrounding Net Neutrality

Arguments for	Arguments Against
<ul style="list-style-type: none"> ➤ User rights: Fundamental right to freedom of expression and non-discriminatory access to the internet. ➤ Privacy: Without net neutrality, ISPs can examine and manipulate internet traffic, potentially compromising user privacy. ➤ Innovation and entrepreneurship: Net Neutrality can ensure level-playing field for start-ups vis-à-vis deep-pocket tech-giants. 	<ul style="list-style-type: none"> ➤ Loss of revenue for ISPs: Adverse impact on investment in fibre-based infrastructure and new access technologies. ➤ Loss of level-playing field: Telecom Providers have to incur higher costs and comply with other regulatory norms for similar services like Voice. ➤ Need of selective banning of OTT Apps: Instead of complete internet shutdown, certain OTT Apps providing communication services can be selectively banned in disturbed areas, to prevent disruption of critical services such as education and health.

Indian coffee exports surpass \$1bn for the first time: Centre for Monitoring Indian Economy (CMIE)

As per CMIE think tank, **Indian coffee exports in 2024** experienced a **45% increase in dollar value**, reaching over \$1.68 billion.

Reason for increase in export

- **Surge in Robusta coffee prices:** By over **60% in 2024**, reaching 45-year high due to increased global coffee consumption.
 - ⊕ It was **driven by poor weather** (e.g. droughts) which disrupted supply in **key coffee producing countries like Brazil and Vietnam**.
- **European Union Deforestation Regulation (EUDR):** Sharp growth is **due to stocking ahead of EU's new deforestation regulation** that could raise cost of coffee and other agricultural exports to EU.

Status of Coffee Production

- **India is eighth largest** coffee producer globally in 2022-23.
 - ⊕ **Brazil is world's largest coffee producer**, contributing about 40% of global production.
- Traditionally grown in **rainforests of Western Ghats in South India** mainly produced in **Karnataka (highest)**, Kerala, Tamilnadu, Andhra Pradesh and Odisha.
- **Arabica and Robusta Coffee** are of major economic importance.
 - ⊕ **Arabica is superior in quality to Robusta** and trades at **higher price than that of Robusta**.
 - ⊕ India is **fifth largest producer** for robusta coffee which accounts for 72% of country's total coffee production.



Growing Conditions for Coffee

Factors	Arabica	Robusta
Soils	Deep, Fertile, rich in organic matter, well- drained and slightly acidic (PH 6.0-6.5)	Same as Arabica
Slopes	Gentle to moderate slopes	Gentle slopes to fairly level fields
Elevation	High (1000-1500 m)	Low (500-1000 m)
Temperature	15°C- 25°C ; Cool equable	20°C- 30°C ; Hot, humid
Relative Humidity	70-80%	80-90%
Annual Rainfall	1600-2500 mm	1000-2000 mm

'World Food and Agriculture 2024 Statistical Yearbook' released by FAO

Recently, **Food and Agriculture Organization (FAO)** of the United Nations released the Statistical Yearbook which offers a **synthesis of the major factors at play in the global food and agriculture landscape.**

Key Highlights from the Yearbook

- **Economic dimensions of agriculture**
 - ⊕ **Share of agriculture in global GDP** has been stable at around **4% since 2000.**
 - ⊕ Agriculture **employed 26% (892 million people) of the global workforce**, compared with 40% in 2000.
 - ◆ **India had the largest number of people working in agriculture** in 2022 at **226 million people.**
 - ⊕ In 2022, **India (76 million ha) and China (75 million ha)** had the **largest equipped area for irrigation.**
- **Production, trade, and prices of commodities**
 - ⊕ **Americas and Europe** are the **largest exporters** and **Asia** the **largest importer of cereals.**
 - ⊕ India is **top producer of milk** (23% of Global share in 2022) and **second largest producer of sugarcane and fisheries.**
- **Food security and nutrition**
 - ⊕ **Global hunger affected 9.1% (733 million people)** of the world's population in 2023.
 - ⊕ Prevalence of **food insecurity is higher for women** across all continents.
- **Sustainability and environmental aspects of agriculture**
 - ⊕ Between 2000 and 2022, **agricultural land declined by 91 million ha**, while **forest area declined by 109 million ha.**
 - ⊕ **Greenhouse gas emissions** from agrifood systems grew by **10% between 2000 and 2022.**

About FAO

- **Established in 1945.**
- It is a **specialized agency of the UN** that leads **international efforts to defeat hunger (SDG 2).**
- **Membership: 195 members (194 countries and the European Union), including India.**
- **Headquarter: Rome (Italy).**

'Tamil Nadu CM announced \$1 million prize for deciphering Indus Valley Script'.

Recently, Chief Minister of Tamil Nadu announced the **prize for experts and organizations for deciphering the scripts of the Indus Valley Civilization.**

About Indus Valley Scripts

- **Distribution and length:** Found at approximately **60 excavation sites.** Currently, **~3500 specimens** of this script survive in stamp seals carved in stone, in moulded terracotta and faience amulets, in fragments of pottery.
- **Writing direction and style:** Indus script is an unknown writing system, and the inscriptions discovered are very short, comprising no more than five signs on the average.
 - ⊕ Generally written **right to left**, longer texts sometimes used **Boustrophedon style (alternating directions between lines).**
- **Composition of the script:** Partially pictographic signs, contains **human and animal motifs**, distinctive '**unicorn**' symbol, artistic designs showing "**controlled realism**", etc.
- **Writing media and methods:** Use of seals, tablets, and copper tablets, Materials included terracotta, ceramics, shell, bone, ivory, stone, metals, and perishable materials like fabric and wood.
 - ⊕ Applied through **carving, incising, chiseling, inlaying, painting, molding, and embossing.**

Significance of Deciphering Indus Valley Script

- **Historical:** Could reveal relationship between Indus Valley Civilization and later Vedic practices and their interaction with other contemporary civilizations.
- **Linguistic and Ethnic connections:** Could establish connections between the languages of the Indus Valley and contemporary languages from Dravidian and Indo-European families.

About Indus Valley Civilization

- **Timeline:** Early Harappan (3500-2600 BCE), Mature Harappan (2600-1900 BCE), Late Harappan (1900-1300 BCE).
- **Discovery:** By John Marshall in 1924.
- **Major sites:** Harappa, Lothal, Dholavira, Rakhigarhi, Kalibangan, etc.

Also In News



Panchayat Se Parliament 2.0

Lok Sabha Speaker Shri Om Birla has inaugurated **Panchayat Se Parliament 2.0.**

About Panchayat Se Parliament 2.0

- Organised by **National Commission for Women** and **Lok Sabha Secretariat** in collaboration with **Ministry of Tribal Affairs.**
- Aims to **empower elected women representatives from Scheduled Tribes from Panchayati Raj institutions** and enhance their knowledge of constitutional provisions, parliamentary procedures, and governance to foster effective leadership.



Foreign Contribution (Regulation) Act (FCRA), 2010

Recently, Union Ministry of Home Affairs asked the **Chartered Accountants (CAs) to report Foreign Contribution (Regulation) Act (FCRA), 2010 violations by NGOs.**

- Act requires a CAs to **certify if an association or NGO has utilised foreign contribution received for the purposes** it was registered for.

About FCRA, 2010

- **Enacted** by the Parliament, **after repealing FCRA (1976)**, to **regulate the acceptance and utilization of foreign contribution** by certain individuals or associations or companies.
- **2020 amendment to FCRA** put some additional restrictions such as prohibiting the domestic transfer of foreign funds, limiting the administrative expense of organizations receiving foreign funds to 20%, etc.



Net-Zero Banking Alliance (NZBA)

Wall Street's biggest banks including Goldman Sachs Group Inc., etc. have announced their exit from NZBA.

About Net-Zero Banking Alliance

- **Bank-led and UN-convened**, NZBA is a group of leading global banks committed to aligning their lending, investment, and capital markets activities with net-zero greenhouse gas emissions by 2050.
- No Indian bank is a member of NZBA.
- It is the **climate accelerator for UNEP Finance Initiative's** Principles for Responsible Banking (PRB).



Gravitational Waves

Using **largest gravitational wave detector ever made**, researchers have confirmed that universe has a constant background vibration of Gravitational waves.

About Gravitational Waves

- It is an **invisible yet fast ripple in space**, traveling at the speed of light and causing the object in its path to **squeeze and stretch**.
- In **1916**, **Albert Einstein** predicted existence of **gravitational waves** in his general theory of relativity.
 - ⊕ He demonstrated that **massive accelerating objects would disrupt space-time, causing gravitational waves to propagate in all directions** away from source.
- In **2015**, **LIGO (Laser Interferometer Gravitational-Wave Observatory)** was used by scientists to **detect the first recorded gravitational waves**.



Konda Reddi Tribe

Recently, the **Konda Reddi tribe** was in news for **preferring live-in relationship** over marriage due to expensive traditional weddings.

About Konda Reddi Tribe

- They are recognized as a **Particularly Vulnerable Tribal Group (PVTG)**.
- **Habitation**: In the hilly and forest tracts of **East and West Godavari and Khammam districts of Andhra Pradesh**.
- **Mother Tongue**: Telugu.
- **Family and Marriage**: Family is **patriarchal and patrilineal**. Monogamy is a rule but polygamous families are also found.
- **Faith and Festivals**: They worship **Muthayalamma** (Village deity), **Bhumi Devi** (Earth Goddess), **Gangamma Devi** (River Goddess) etc., and celebrate festivals like **Mamidi Kotha, Bhudevi Panduga, Gangamma Panduga and Vana Devudu Panduga**.



Dozer Push Mining Method

CSIR-Central Institute of Mining and Fuel Research (CSIR-CIMFR) has successfully conducted the **first trial blast for the Dozer Push Mining Method**.

About Dozer Push Mining Method

- It utilizes **unmanned, automated machinery** to optimize the mining process while **ensuring that vibrations and flyrock are controlled within safe limits**.
- **Significance over conventional mining**: Faster coal recovery, reducing delays due to adverse weather conditions, highly cost effective, lesser risks associated with manual labours, etc.



Nanopore Technology

Scientists have developed a **nanopore based tool** that could help **diagnose illnesses much faster and with greater precision** by analyzing signals from individual molecules.

About Nanopore Technology

- Refers to **nano-scale holes embedded in a thin membrane structure** to detect potential change when charged biological molecules smaller than nanopore pass through hole.
- It makes **possible to sequence nucleic acids** - DNA (deoxyribonucleic acid) or RNA (ribonucleic acid) - **directly from biological samples in real time**.
- It has **potential application value for detection of disease markers**, and non-invasive **early diagnosis of cancer**.



Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USHA)

Centre has approved Rs 676.70 crore for infrastructural development of various universities and colleges in Odisha under PM-USHA.

About PM-USHA

- In light of NEP 2020, **Rashtriya Uchchatar Shiksha Abhiyan (RUSA) scheme has been launched as PM-USHA** in 2023.
- It is a **Centrally Sponsored Scheme**.
- Aimed at **funding specific State government universities and colleges**, including in rural areas, to **improve their quality** by ensuring their conformity to prescribed norms and standards.
- **Focus on**
 - ⊕ **Equity Access and inclusion** in higher education
 - ⊕ Developing **Quality Teaching & Learning processes**
 - ⊕ **Accreditation of Non Accredited Institutions** and improving accreditation
 - ⊕ **ICT – based Digital Infrastructure**
 - ⊕ **Enhancing Employability** through Multidisciplinary

Personality in News



Savitribai Phule (1831 - 1897)

Recently, eminent social reformer and educationist Savitribai Phule was remembered on her birth anniversary (January 03).

About Savitribai Phule

- She was born in **Naigaon, Satara district** (Maharashtra).
- She was the **first headmistress of the country's first school for girls** in Pune.

Key Contributions

- She devoted her life to educating Shudras and Ati-Shudras.
- In **1873**, she, along with her husband Jyotiba Phule, initiated the practice of **Satyashodhak marriage** - a marriage without dowry or a wedding at minimum cost.
 - ⊕ They also **opposed child marriages** and advocated and organized **widow remarriages**.
- In 1854, she published first collection of poems **Kavyaphule**, making her the **first modern poetess of Marathi**.

Values: Egalitarianism, Justice, Courage of Conviction, etc.



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



JAIPUR



JODHPUR



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI