

## DAILY CURRENT AFFAIRS (DCA)

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## INDIA NEED CLIMATE-RESILIENT AGRICULTURE (CRA)

### Context

- India is fast-tracking the expansion of **Climate-Resilient Agriculture (CRA)** to counter growing climate-change risks to food security, rainfed agriculture, and farmers' incomes.

### What is Climate-resilient Agriculture (CRA)?

- Climate-resilient agriculture** uses a **range of biotechnology and complementary technologies to guide farming practices** and reduce dependence on chemical inputs, while maintaining or improving productivity.
- Tools include:** Biofertilizers and biopesticides, and soil-microbiome analyses.
  - Genome-edited crops can be developed to withstand drought, heat, salinity, or pest pressures.
  - AI-driven analytics can integrate multiple environmental and agronomic variables to generate locally tailored farming strategies.

### Why does India need CRA?

- Agricultural Economy:** India is an agricultural nation with a rapidly growing population, which places increasing pressure on the need for higher and more reliable farm productivity.
  - Around 51% of India's net sown area is rainfed, and this land produces nearly 40% of the country's food, making it especially vulnerable to climate variability.
- Conventional Farming Methods are not enough:** These methods alone may not withstand the rising stresses of climate change.
  - Recent modelling suggests that by the end of the century, yields of staple crops like rice could fall by 3-22%, and in worst-case scenarios by more than 30%.
- Enhanced Productivity:** Climate-resilient agriculture offers a suite of technologies that can enhance productivity while protecting environmental health.
  - It can also reduce India's reliance on food imports and strengthen the country's strategic autonomy in the food sector.

### Global Scenario

- The U.S. integrates CRA into federal policy through the USDA Climate-Smart Agriculture and Forestry (CSAF) initiative, investing billions in climate-smart practices.
- CRA is embedded in the **EU Green Deal** and Farm to Fork Strategy, both aiming to reduce chemical inputs and enhance sustainability.
- China's CRA strategy** centres on climate-tolerant crop breeding, large-scale water-saving irrigation, and agricultural digitalisation.
- Brazil** leads in tropical climate-resilient crop development, driven by EMBRAPA's biotechnology research.

### Challenges

- Low Adoption:** CRA techniques adoption is low among small and marginal farmers due to limited access, awareness, and affordability, and quality inconsistencies in biofertilizers and biopesticides that undermine trust in biological alternatives.
- Uneven Distribution:** The rollout of climate-resilient seeds remains slow, with the adoption of new tools such as gene editing still emerging and uneven distribution across States.
- The digital divide** limits the reach of precision agriculture and AI-based decision tools.
- These challenges are compounded by **ongoing soil degradation, water scarcity, and accelerating climate volatility**, which may outpace current adaptation efforts.
- Fragmented policy coordination** further risks slowing progress.

### Government Initiatives

- National Innovations in Climate Resilient Agriculture:** In 2011, the Indian Council of Agricultural Research (ICAR) launched a flagship network project '**National Innovations in Climate Resilient Agriculture**'.
- The National Mission for Sustainable Agriculture** has been formulated to enhance agricultural productivity, especially in rainfed areas, focusing on integrated farming, water use efficiency, soil health management, and synergising resource conservation.
- The BioE3 policy** also positioned CRA as a key thematic area for the development of biotechnology-led solutions.

- **Leading companies** such as Biostadt, IFFCO, GSFC, NFL, and IPL Biologicals supply bio-inputs that improve soil health and reduce chemical dependence.
- India also has an **expanding digital agriculture sector**, with agritech startups offering AI-enabled advisories, precision irrigation, crop-health monitoring, and yield prediction tools.

### Way Forward

- There is a need to accelerate the development and deployment of climate-tolerant and genome-edited crops, strengthening quality standards and supply chains for biofertilizers and biopesticides, and provision of digital tools and climate advisories to support adoption by small landholders.
- Financial incentives, climate insurance, and credit access are essential to support farmers during the transition.
- India needs a coherent national CRA roadmap under the BioE3 framework, aligning biotechnology, climate adaptation, and policies to deliver resilience at scale.

Source: TH

## BULGARIA JOINS EUROPEAN UNION

### In News

- Recently, Bulgaria became the 21st country to switch to the euro, nearly 20 years after the Balkan nation joined the European Union (EU).

#### Bulgaria

- It is a country occupying the eastern portion of the Balkan Peninsula in southeastern Europe.
- It is bounded by Romania to the north, with most of the border marked by the lower Danube River.
- The Black Sea lies to the east, Turkey and Greece to the south, North Macedonia to the southwest, and Serbia to the west.
  - ◆ The capital city, Sofia, lies in a mountainous basin in the west.

### Background

- The Maastricht Treaty of 1992 established the European Union.
- It paved the way for the formation of a common economic and monetary union, which is the European Economic and Monetary Union

- It allowed the adoption of a common currency, which would be accepted as the sole legal tender, the euro.
  - ◆ The euro was first rolled out in 12 countries on January 1, 2002. Croatia was the latest to join, in 2023.
- It also has a unified central banking system, which established the European Central Bank (ECB).
  - ◆ And a common economic region.

### What is the Eurozone?

- The eurozone, or officially the euro area, refers to the geographic and economic region comprising those members of the EU that have fully adopted the euro as their official currency.
- **Composition :** Bulgaria's admission to the eurozone makes it the 21st nation out of 27 EU members to do so.
  - ◆ The remaining six use their own currencies instead.
    - Four microstates, Andorra, Monaco, the Vatican City and San Marino, also use the euro through agreements with the EU, while Kosovo and Montenegro use the euro as their sole currency without an agreement. However, none of these countries are not regarded as members of the eurozone.
- Croatia was the last country to join the eurozone in 2023.
- **Eligibility :** To be eligible for eurozone membership, an EU country (except Denmark, which has an opt-out) must meet "convergence criteria" ensuring alignment with other members economically, socially, and politically.
  - ◆ This includes adopting the euro, integrating into the common market, and adjusting national laws and monetary policies to comply with EU treaties, ensuring a smooth transition without disrupting the eurozone.

### Benefits of joining the eurozone

- The eurozone provides its members with several benefits, including price stability, lower interest rates, and easier market access through a common currency.
- The euro allows consumers to compare prices across member nations, reduces currency exchange costs, and facilitates trade, labor, and capital mobility.

- Members, like Bulgaria, gain a seat on the ECB's Governing Council, shielding them from external shocks due to the eurozone's economic size.
- Additionally, the euro, as the world's second-largest reserve currency, strengthens European integration, boosts tourism, and promotes economic competitiveness.

Source :[TH](#)

## PREJUDICE AND HEALTHCARE ACCESS FOR TRANS MEN IN INDIA

### Context

- Despite legal recognition and welfare initiatives, transgender men and gender-diverse persons **assigned female at birth (AFAB)** continue to face systemic discrimination, and inadequate access to inclusive healthcare in India.

### Key Issues Faced in Healthcare Access

- **Structural and Institutional Barriers:** Persistent misgendering, judgemental attitudes, and denial of care in public healthcare institutions.
  - ◆ Healthcare access is linked to gender recognition certificates under the **Transgender Persons (Protection of Rights) Act, 2019**, creating administrative gatekeeping.
  - ◆ **A binary understanding of gender** among medical professionals excludes transmasculine and non-binary identities.
- **Knowledge and Research Gaps:** Limited Indian research on gender-affirming care for trans men and AFAB individuals.
  - ◆ Medical curricula and clinical practice are largely shaped by the experiences of trans women, causing **unequal attention to trans men**.
  - ◆ Absence of ICMR-backed, India-specific ethical and affirmative medical protocols for diverse **gender identities and sex characteristics (GIESC)**.
- **Unethical Practices:** Refusal of medically indicated procedures such as **hysterectomy** due to **patriarchal and reproductive biases**.
  - ◆ Reports of unnecessary invasive examinations, violating bodily autonomy and medical ethics.
- **Challenges in Hormone Replacement Therapy (HRT):** Inadequate counselling on dosage, risks, and long-term side effects of **testosterone therapy**.
  - ◆ Lack of standardised dosing guidelines linked to body weight or health conditions.
- **High incidence of self-medication due to** limited access to trans-affirming endocrinologists and administrative hurdles in public insurance schemes.

### What are the Implications?

- **Ethical Implications:** It reflects weak integration of ethics, empathy, and lived experiences into public service delivery.
  - ◆ Denial of dignified healthcare **violates Article 21** (Right to Life and Dignity).
  - ◆ Highlights a **gap between formal equality (laws) and substantive equality (outcomes)**.
- **Health Implications:** It increases self-medication and unsafe hormone use, raising long-term health risks.
  - ◆ It leads to poor mental health outcomes, including anxiety, depression, and distress.
- **Economic Implications:** Loss of productive workforce participation due to poor health outcomes.

### Initiatives taken by government

- **Transgender Persons (Protection of Rights) Act, 2019:** The law passed by the Parliament aims to end discrimination against transgender persons in accessing education, employment and healthcare and recognise the right to self-perceived gender identity.
- **National Council for Transgender Persons:** In pursuance of the **Transgender Persons (Protection of Rights) Act, 2019**, the National Council for Transgender Persons has been constituted to advise the Central Government on the formulation and evaluation of policies, programmes, legislation and projects for the welfare of the transgender community.
- **National Portal for Transgender Persons:** It was launched by the Ministry of Social Justice and Empowerment in **2020**.
  - ◆ Any Transgender applicant can **obtain a certificate of identity** and identity card without any physical interface with the office of issue.
- **Mitr Clinic:** India's first transgender-led healthcare centre, established in **Hyderabad, Telangana**. It is entirely staffed and managed by members of the trans community.

- It faced closure in January **2025** due to funding cuts but reopened as **Sabrang Clinic** with support from Tata Trusts.
- Services offered are:** General health services; clinical consultation on Hormone Replacement Therapy, Treatment for Human Immunodeficiency Virus (HIV)/Sexually Transmitted Infection (STI) etc.

#### Judicial Measure

- The ruling in **National Legal Services Authority (NLSA) v. Union Of India (2014)** famously known as the NALSA Case, has following implications;
  - The Court directed Centre and State Governments to grant **legal recognition of gender identity** whether it be male, female or third-gender.
  - Recognising third gender persons as a **“socially and educationally backward class of citizens”**, entitled to reservations in educational institutions and public employment.

#### Way Ahead

- Policy and Institutional Reforms:** Develop ICMR-led, India-specific, evidence-based protocols for gender-affirming care.
- Capacity Building:** Mandatory gender-affirmative training in medical education and in-service programmes.
- There is a need for adoption of **World Professional Association for Transgender Health (WPATH)** aligned protocols, adapted to Indian socio-economic realities.
- Community-Centric Approach:** Inclusion of community health workers with lived experience in public healthcare delivery.
- Regulation and Safety:** Standardised guidelines for HRT dosage, monitoring, and follow-up.

#### Concluding remarks

- The challenges faced by trans men and gender-diverse persons in healthcare reflect deeper systemic issues of knowledge deficits, patriarchal norms, and weak implementation of rights-based laws.
- Addressing these gaps is essential not only for inclusive healthcare but also for advancing constitutional morality, social justice, and ethical governance in India.

Source: [TH](#)

## NATIONAL SPORTS GOVERNANCE ACT COMES INTO EFFECT PARTIALLY

#### In News

- The Central Government has notified that select provisions of the National Sports Governance Act, 2025..

#### National Sports Governance Act

- It was originally notified in August 2025, allowing different provisions to be implemented on different dates.
- It is a landmark legislation aimed at restructuring the governance of sports bodies in India.
- It seeks to align Indian sports administration with global standards while prioritizing athlete welfare and transparency.

#### Features

- National Sports Governing Bodies:** The Act provides for establishing: National Olympic Committee, National Paralympic Committee, and (National and Regional Sports Federations for each designated sport.
  - The national bodies will have affiliation with respective international bodies.
- National Sports Board:** The Act empowers the central government to establish a National Sports Board (NSB).
  - NSB will grant recognition to the national sports bodies and register their affiliate units. Only recognised bodies will be eligible to receive funds from the central government.
  - The Board may suspend or cancel such recognition or registration, subject to specified conditions.
- National Sports Tribunal:** The Act provides for constituting a National Sports Tribunal to adjudicate sports related disputes.
  - It will not have jurisdiction over specified disputes such as those in relation to games organised by international bodies and internal disputes of national sports bodies.
- Oversight of elections:** The central government will establish a national panel of electoral officers to oversee elections of national sports bodies.
  - Every national sports body must also constitute an electoral panel to oversee elections of its affiliates.

### Objectives

- It aims to promote transparency, accountability, ethical practices and good governance in sports administration.
- It will also ensure welfare of sportspersons, and provide effective and timely resolution of sports-related disputes, in consonance with the Olympic Charter, the Paralympic Charter and international best practices.
- It will ensure representation of sportspersons in decision-making.
- It will standardize governance structures across federations.
- It will promote inclusivity and grassroots participation.

### Concerns

- Critics argue the National Sports Governance Act may reduce independence of some federations.
- Transition to new structures may disrupt ongoing activities.
- Concentration of powers in NSB could lead to bureaucratic delays.
- Athlete representation is mandated but concerns remain about tokenism rather than genuine empowerment.
- Overlap between tribunal jurisdiction and existing arbitration mechanisms.

### Conclusion and Way Forward

- The National Sports Governance Act is a transformative step toward modernizing India's sports administration.
- Its phased implementation balances change with continuity, and ongoing collaboration with federations and athletes is essential to strengthen governance while maintaining competitiveness and autonomy.

Source :[TH](#)

## JOINT WATER MEASUREMENTS BY INDIA & BANGLADESH AS GANGES TREATY NEARS EXPIRY

### Context

- India and Bangladesh** have initiated a **joint water measurement initiative** on the Ganga and Padma rivers as the **Ganges Water Sharing Treaty** enters its final year before expiry in **December 2026**.

### About the Ganges Water Sharing Treaty, 1996

- The **Ganges Water Sharing Treaty**, signed on **12 December 1996** between India and Bangladesh, governs the sharing of Ganges waters at the **Farakka Barrage**, located in West Bengal, about 18 km upstream of the Bangladesh border.
- The treaty marked a major diplomatic breakthrough, ending decades of tension over Ganges water sharing that had strained bilateral relations since Bangladesh's independence in 1971.

### Origins of the Ganges Water Dispute

- Construction of Farakka Barrage (1975):** India completed the Farakka Barrage in 1975 to divert water into the Hooghly River.
  - Purpose was to flush out silt & improve navigability of the Kolkata Port.

### Bangladesh's Concerns

- As a lower riparian state, Bangladesh argued that reduced downstream flows:
  - Harmed agriculture and fisheries
  - Disrupted river navigation
  - Increased salinity intrusion in coastal areas
  - Threatened the Sundarbans ecosystem
- This disagreement became one of South Asia's most persistent transboundary water disputes.

### Steps Taken

- Five-year Ganges Agreement (Interim), 1977
- Memoranda of Understanding on Flow Sharing in 1982 & 1985
- Teesta Water Sharing Agreement: 2011; Proposed but unsigned.

### Criticism and Challenges

- Bangladesh's Concerns:** insufficient flows during lean months, salinity intrusion, and loss of fish habitats.
- India's Concerns:** Rising water demand in Uttar Pradesh, Bihar, and West Bengal.
- Climate Change Impacts:** Altered monsoon patterns and glacier melt threaten future flow reliability.

**About Ganga River**

- **Origin:** Gangotri Glacier in Uttarakhand; **Length:** Approximately 2,525 km.
- **Basin Area:** Covers about 8,61,452 sq. km in India, nearly **27% of India's landmass** over 11 Indian states.
  - ◆ It supports **over 45% of India's population**.
  - ◆ The **Ganga River Basin** is the **second most water-stressed basin in India**, despite receiving 35.5% of the total water input in terms of precipitation, following the Sabarmati Basin.
- **States Covered:** Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, West Bengal, and parts of several others.
- **Key Tributaries:** Yamuna, Ghaghara, Gandak, Kosi, and Son among others.
  - ◆ The **Ganga enters as the Padma River into Bangladesh below the Farakka Barrage**, eventually **merging with the Brahmaputra and Meghna rivers** before **emptying into the Bay of Bengal**.
- **Delta:** Forms the **world's largest delta**, the **Sundarbans**, shared by India and Bangladesh.

Source: Money Control

## EXPANSION OF INDIA'S LAB GROWN DIAMOND MARKET

**Context**

- **India's lab-grown diamond market** is entering a **high-growth phase** as demand accelerates and funding surges amid the expansion.

**Lab-grown Diamonds**

- **Lab-grown diamonds** (also called synthetic or cultured diamonds) are real diamonds that are manufactured in **laboratories using advanced technology** that replicates the natural conditions under which diamonds form inside the Earth.
- **Composition:** Pure carbon
- **Crystal structure:** Same as natural diamonds (cubic crystal lattice)
- **Physical, chemical, and optical properties:** Identical to mined diamonds.
- They are made using technologies like the **chemical vapour deposition (CVD) and high-pressure high temperature (HPHT)**.
- **HPHT (High Pressure High Temperature)**

- ◆ Mimics the Earth's mantle conditions.
- ◆ Carbon is subjected to extremely high pressure and temperature to form diamonds.
- **CVD (Chemical Vapour Deposition)**
  - ◆ Carbon-rich gas (like methane) is broken down in a vacuum chamber.
  - ◆ Carbon atoms deposit layer by layer on a diamond seed crystal.
- **How are they different from Natural?** The natural diamonds contain **small traces of nitrogen**, whereas the lab-grown diamonds are **nitrogen-free**.
  - ◆ Lab-grown diamonds are **eco-friendly and conflict-free**. Unlike mined diamonds, which displace up to 250 tonnes of earth and emit greenhouse gases, lab-grown diamonds use less water and energy.
- **Market of Lab Grown Diamonds:** As of 2024 around **90% of the world's diamonds are processed in India**, accounting for approximately **75% of global turnover by value**.
  - ◆ The lab-grown diamond market is expected to make up 16% of the global diamond market by 2029 from 12% in 2024.

Source: BS

## NEWS IN SHORT

### SANGITA KALANIDHI AWARD

**Context**

- **Sangita Kalanidhi award** was conferred on violinist **R.K. Shriramkumar**.

**About**

- The Sangita Kalanidhi award was instituted in **1942** by the **Madras Music Academy**.
- The award is considered the highest recognition for excellence in Carnatic music and is often regarded as the **"Nobel Prize" of Carnatic music**.
- The award comprises a gold medal and a birudu patra (citation).
- Since 2005, the Sangita Kalanidhi awardees have also received the MS Subbulakshmi Award instituted by The Hindu.

**M.S. Subbulakshmi's Legacy**

- M.S. Subbulakshmi was an iconic Carnatic singer, she was the first Indian musician to receive the Ramon Magsaysay award in **1974** and the first Indian to perform at the United Nations General Assembly in **1966**.

- She was the first musician to be awarded the Bharat Ratna, India's highest civilian award, in **1998**.

### About Madras Music Academy

- The Music Academy, emerged as an offshoot of the All India Congress Session held in Madras in **December 1927**.
- It was conceived to be the institution that would set the **standard for Carnatic music**.
- One of the most notable events organized by the Music Academy is its **annual music and dance festival**.
- It also confers the various awards such as the Sangita Kalanidhi, Sangita Kala Acharya, TTK, and Musicologist awards for the year.

Source: [TH](#)

### Alo Prabhat: Dance of the Dawn

#### Context

- Dong, India's easternmost village in Anjaw district of Arunachal Pradesh, celebrated India's first sunrise of 2026 with "**Alo Prabhat: Dance of the Dawn**".

### About 'Alo Prabhat: Dance of the Dawn'

- The sunrise was welcomed with a cultural performance titled "Alo Prabhat: Dance of the Dawn."
- The performance drew from the cultural traditions of the **indigenous Meyor and Mishmi communities**, with traditional chants, songs and indigenous rhythms using **traditional musical instruments**.

Source: [TH](#)

### Nimesulide

#### In News

- The government has prohibited the manufacturing, sale and distribution of all oral formulations containing Nimesulide above 100 mg with immediate effect.

### Nimesulide

- It is a non-steroidal anti-inflammatory drug (NSAID) which is widely used in the treatment of acute pain.
- It works by blocking the release of certain chemical messengers that cause pain and inflammation (redness and swelling).

Source: [Air](#)

## THORIUM

#### Context

- Chicago-based Clean Core Thorium Energy (CCTE) has partnered with NTPC Ltd to deploy thorium-based nuclear fuel in India's existing PHWRs, marking a new phase in India-US civil nuclear cooperation.

#### About

- CCTE has developed a fuel that **blends thorium with HALEU (high-assay low-enriched uranium)**, enabling its use in India's existing **Pressurised Heavy Water Reactors (PHWRs)**.
- The fuel, called **ANEEL (Advanced Nuclear Energy for Enriched Life)**, allows large-scale thorium deployment in PHWRs, enhancing energy security, reactor safety, and proliferation resistance

#### What is Thorium?

- Thorium is a **radioactive metallic element** found naturally in the Earth's crust.
- It is **fertile, not fissile**, meaning it cannot sustain a nuclear chain reaction on its own.
- Thorium Availability in India:** Thorium is primarily **extracted from monazite sands**. India possesses one of the largest thorium reserves globally.
- Major deposits are found in:**
  - Coastal sands** of Kerala, Tamil Nadu, Odisha, Andhra Pradesh, Maharashtra and Gujarat.
  - Inland riverine sands** of Jharkhand and West Bengal.

#### Significance of Thorium for India

- Resource Advantage:** India has limited uranium but abundant thorium reserves, mainly in coastal and riverine sands.
- Energy Security:** Reduces dependence on imported nuclear fuel.
- Nuclear Behaviour:** Thorium is not fissile like uranium; it is fertile and **converts into uranium-233** after absorbing neutrons, which can then sustain nuclear fission.
- Strategic Fit:** Integral to India's long-term three-stage nuclear power programme.

Source: [IE](#)

## LAND STACK

### In News

- Under the **Digital India Land Record Modernisation Programme (DILRMP)**, the Minister of State for Rural Development and Communications launched the '**Land Stack**' in the Pilot Locations of Union Territory of Chandigarh and Tamil Nadu.

### About Land Stack

- The Land Stack is envisaged as an integrated, **GIS-based digital platform** inspired by the best practices in countries like Singapore, the UK, and Finland.
- Benefits of Land Stack:**
  - The Land Stack portal enables informed decision-making by citizens through integrated access to land-related information.
  - It enhances citizen convenience, transparency and trust.
  - It reduces the risk of inadvertent purchase of unauthorised or non-compliant properties.
  - It improves inter-departmental coordination and supports data-driven governance.
  - It represents a significant e-Governance reform in land administration.

Source: PIB

## INDIA ALLOWS BANKS TO SPONSOR PENSION FUNDS UNDER NPS

### Context

- The Pension Fund Regulatory and Development Authority (PFRDA) has granted in-principle approval to banks to sponsor and independently set up pension funds under the National Pension System (NPS).

### About

- Eligibility Conditions for Banks:**
  - Compliance with **RBI-aligned norms**.
  - Also banks will have to meet eligibility criteria linked to **networth, market capitalisation, and prudential soundness**.
- Current Landscape:** Currently, banks serve as points of presence, handling subscriber registrations, contributions, and other system services.
  - At present, there are **10** registered pension funds under PFRDA.

- The regulator also revised the **Investment Management Fee structure** for pension funds starting April 1, 2026.

### National Pension System (NPS)

- The National Pension System (NPS) is a **market-linked, defined-contribution** pension scheme launched by the Government of India.
- The Pension Fund Regulatory and Development Authority (PFRDA)** regulates and administers NPS under the **PFRDA Act, 2013**.
- Investment:** Funds are invested across four asset classes: Equity (max 75%), Corporate Bonds, Government Securities, and Alternate Assets (max 5%).
- NPS is available to all the citizens of India** and offers different models depending on the following user segments:
  - All Central Government employees** joining on or after **January 1, 2004**, are covered under the NPS scheme, **except for those in the armed forces** and are also extended to the **employees of Central Autonomous Bodies** from the said date. It is also **available to all State Government** employees/employees of State Autonomous Bodies, if the respective State/UT opted for it.
  - NPS can be **voluntarily adopted by the corporations for their employees** and contributions are made to the NPS account as per the terms of employment.
  - NPS voluntary model** is available to **all the citizens of India** including those residing abroad, between the age of **18 and 70 years**.

Source: [TH](#)

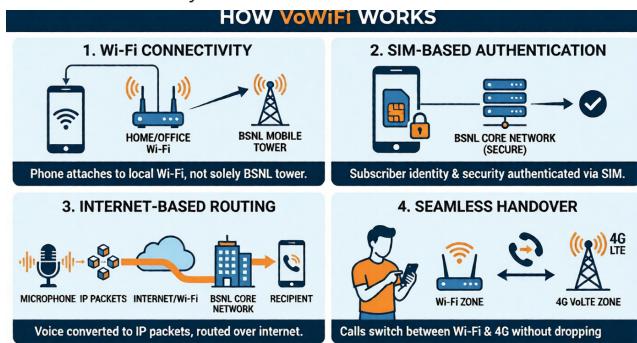
## BSNL LAUNCHES VOICE OVER WIFI (VOWIFI)

### In News

- State-owned telecom operator Bharat Sanchar Nigam Limited (BSNL) has launched Voice over WiFi (VoWiFi) services nationwide across all telecom circles, allowing users to make voice calls and send SMS over Wi-Fi networks.

### What is VoWiFi?

- Voice over WiFi (VoWiFi) is a technology that enables users to:
  - Make and receive voice calls and SMS using a Wi-Fi network instead of a mobile tower.
  - Use the same mobile number and default phone dialer.
  - Operate without any third-party app.
- It is built on IMS (IP Multimedia Subsystem) architecture, ensuring carrier-grade call quality and security.



Source: PIB

## SECONDARY POLLUTANTS

### In News

- Recent analysis by the Centre for Research on Energy and Clean Air (CREA) shows that secondary pollutants now contribute nearly one-third of Delhi's annual PM2.5 load.

### What are secondary pollutants?

- Secondary pollutants are **not emitted directly**.
- They are formed in the atmosphere when primary pollutants (gaseous precursors) undergo chemical reactions.
- These reactions depend on sunlight, humidity, temperature, and wind conditions.
- Unlike direct emissions, they accumulate over time and space, often far from the original source, making regulation difficult.

### Types

- Inorganic aerosols:** Ammonium sulfate (from  $\text{SO}_2 + \text{NH}_3$ ), ammonium nitrate (from  $\text{NO}_x + \text{NH}_3$ ).
- Organic aerosols:** Secondary organic aerosols (SOA) from volatile organic compounds (VOCs) oxidation.
- Ground-level ozone:** From  $\text{NO}_x$  and VOCs photochemical reactions.

Source: TH

## ANCIENT MARATHI LITERATURE REVEALS SAVANNAS ARE NOT DEGRADED FORESTS

### Context

- As per the study of medieval Marathi literature, **Savannas in western Maharashtra are far older** than commonly believed and should not be treated as degraded forests.

### Savannas

- A savanna is typically defined as a **mixed tree-grass system** with **scattered trees amidst a continuous layer of grass**.
  - They are characterized by **widely spaced trees, a continuous grass layer, and a distinct wet and dry season**.
- It is a type of ecosystem found in **tropical regions**.
- Unlike dense forests**, trees in the savanna are spread out, allowing plenty of sunlight to reach the ground, which supports a wide range of grasses and herbivores.
- Savannas occur where** there isn't enough rain to support a tropical rainforest, but there is enough to keep it from becoming a desert.
- Some examples of savanna habitat** are the East African plains, the South American pampas, and the open woodlands of northern Australia.
- Savannas in India: Deccan Plateau:** Rain-shadow regions of Maharashtra, Telangana, and Karnataka (Semi-arid).
  - Terai Region:** The Terai-Duar Savanna and Grasslands at the foothills of the Himalayas are highly productive tall-grass ecosystems (home to the Rhinoceros and Tiger).
  - Western India:** Parts of Rajasthan and Gujarat (transitioning to Thorn Forests).



Source: TH

## INDIA-PAKISTAN EXCHANGE LIST OF NUCLEAR INSTALLATIONS AND CIVILIAN PRISONERS

### Context

- India and Pakistan exchanged lists of nuclear installations that cannot be attacked in the event of hostilities and lists of prisoners in each other's custody.

### About

- Exchange of Nuclear Installations list:** Pakistan and India exchanged the lists of their respective nuclear installations pursuant to the agreement on **Prohibition of Attacks against Nuclear Installations and Facilities** between Pakistan and India signed on **31st December 1988**.

- ♦ The pact mandates the two countries to inform each other of nuclear installations and facilities on the **first of January of every year**.
- ♦ This marks the **35th consecutive exchange** of such lists between the two countries, with the first exchange having taken place on **January 1, 1992**.
- **Exchange of Prisoners' Lists:** The two countries exchanged a list of prisoners under the consular access agreement signed on **May 21, 2008**.
  - ♦ The lists include **details of civilians and fishermen** lodged in each other's custody.

Source: [TH](#)

