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Time: 45 Min

Date: 07-04-2025

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LAND SUBSIDENCE IN URBAN AREAS

Context

- Land subsidence at a dumping ground in Belgachia, West Bengal, left hundreds of families without water and electricity, highlighting the growing challenges of man-made urban crises.

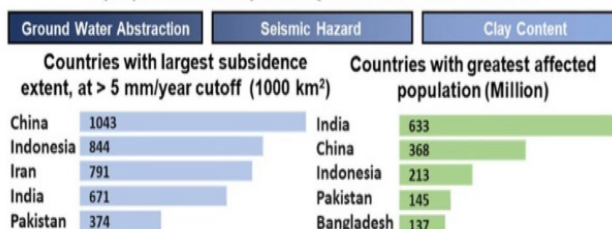
What is Land Subsidence?

- According to the **National Oceanic and Atmospheric Administration (NOAA)**, subsidence is the “sinking of the ground because of underground material movement”.
 - It can happen for a host of reasons, man-made or natural, such as the removal of water, oil, or natural resources, along with mining activities.
- Across the world, many cities are slowly sinking including tropical megacities like **Jakarta in Indonesia** or **Manila in the Philippines**, or places like **New Orleans, Vancouver, Mexico City** etc.
- Land subsidence has affected around **65 percent** of the houses in the pilgrimage town of **Joshimath in Uttarakhand** in 2023.

Causes of Land Subsidence in Urban Areas

- Over-extraction of Groundwater:** Unsustainable withdrawal of groundwater for domestic, industrial, and agricultural use causes aquifers to collapse.
- Unregulated Dumping of Waste:** Municipal solid waste piles exert heavy pressure on land, especially if dumped on weak or marshy soils.
- Rapid Urbanization:** High-rise buildings and infrastructure projects put enormous pressure on the land without assessing the soil's carrying capacity.
- Natural Causes:** Geological faults, tectonic activities, and the dissolution of underground rocks (e.g., limestone in karst areas).

Top 3 predictors that positively affect land subsidence rate



Impacts of Land Subsidence

- Damage to Infrastructure:** Cracks in roads, bridges, buildings, and pipelines increase maintenance cost for urban local bodies.
- Displacement of Populations:** Slum dwellers and low-income families living near landfills or unstable areas are worst affected.

- Public Health Crisis:** It increases the risk of urban flooding and vector-borne diseases.
 - Exposure to chemical sludge and foul gases impacts respiratory and digestive health.

Way Ahead

- Scientific Landfill Management:** Urban waste must be segregated, recycled, and processed using modern techniques.
 - Height and weight restrictions on landfills must be enforced, with constant monitoring of slope stability.
- Soil testing and simulation models** should be used to predict the likelihood of subsidence. Installing **early warning systems** could help prevent disasters in densely populated areas.
- Reviving local governance** through elected municipal representatives is crucial. Without accountable civic bodies, disasters like Belgachia are likely to recur.
- Ragpickers must be integrated into urban development plans.

Source: TH

WORLD HEALTH DAY 2025

Context

- World Health Day, observed annually on 7 April**, highlights pressing global health issues and mobilises action to **improve public health outcomes**.

About

- It was founded by WHO in **1950**.
 - The idea for World Health Day originated from the **first World Health Assembly, held in Geneva, Switzerland, in 1948**.
- It is aimed at **uniting governments, institutions, and communities to address global health priorities**.
- 2025 Theme:** “Healthy Beginnings, Hopeful Futures” focuses on **maternal and newborn health**, urging countries to **reduce preventable deaths and prioritize women’s long-term well-being**.
- India’s Commitment:** The Ministry of Health and Family Welfare, strengthens efforts for **equitable, accessible, and quality healthcare**.
- According to WHO**, close to 300,000 women lose their life due to pregnancy or childbirth each year, while over 2 million babies die in their first month of life and around 2 million more are stillborn.
 - Based on current trends, 4 out of 5 countries** are off track to meet targets for improving maternal survival by 2030.

India's Maternal Mortality and Child Mortality

- **MMR (Maternal Mortality Ratio) in India** dropped from 130 (2014-16) to 97 (2018-20) per 1,00,000 live births – a decline of 33 points.
- **Infant & Child Mortality:** IMR (Infant Mortality Rate) dropped from 39 (2014) to 28 (2020) per 1,000 live births.
- **NMR (Neonatal Mortality Rate)** reduced from 26 (2014) to 20 (2020) per 1,000 live births.

India vs Global Progress (1990–2020)

Indicators	India Reduction (%)	Global Reduction (%)
Maternal Mortality Ratio (MMR)	83%	42%
Neonatal Mortality Rate (NMR)	65%	51%
Infant Mortality Rate (IMR)	69%	55%
Under-5 Mortality Rate (U5MR)	75%	58%

Challenges in India's Healthcare

- **Limited Access to Healthcare:** Rural and remote areas often lack sufficient healthcare facilities and trained professionals.
- **Poor Infrastructure:** Inadequate medical infrastructure, including hospitals, equipment, and sanitation, especially in underserved regions.
- **High Disease Burden:** India faces a heavy burden of both infectious and non-communicable diseases, requiring diverse healthcare solutions.
- **Financial Barriers:** High out-of-pocket expenses for healthcare, leading to financial strain on low-income families.
- **Inequality in Healthcare Access:** Disparities in healthcare access based on geography and socioeconomic status.
- **Shortage of Skilled Workforce:** Insufficient number of healthcare workers, including doctors, nurses, and specialists.
- **Fragmented Health System:** Lack of integration and coordination between public and private health sectors.

Government Initiatives

- **Maternal Death Surveillance and Response (MDSR):** Conducted at facility and community levels to identify causes of maternal deaths and implement corrective actions for improving obstetric care.
- **Reproductive and Child Health (RCH) Portal:** A name-based digital platform to track pregnant women and newborns, ensuring timely antenatal, delivery, and postnatal care.
- **Anaemia Mukh Bharat (AMB):** Part of POSHAN Abhiyan; focuses on testing, treatment, and prevention of anaemia in adolescents and pregnant women.

Key Interventions for

Maternal Health

In India



1

Institutional Deliveries on the Rise

- ✓ 88.6% of all births now take place in health institutions (NFHS-5, 2019–21), including among tribal women – a major win under the National Health Mission.

2

Janani Suraksha Yojana (JSY)

- ✓ Conditional cash transfer scheme (since 2005) to boost institutional deliveries.
- ✓ 36.77 Lakh women benefited (April–Sept 2024).

3

Janani Shishu Suraksha Karyakaram (JSSK)

- ✓ Ensures **completely free care** for pregnant women and sick infants – covering delivery (including C-section), transport, diagnostics in public hospitals.

4

Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)

- ✓ Free, quality antenatal care on the 9th of every month since 2016.
- ✓ Over 6 crore women examined as of April 2025.

5

Extended PMSMA Strategy

- ✓ Focus on **high-risk pregnancies** with financial incentives for extra 3 visits + ASHA support till safe delivery.

6

SUMAN (2019)

- ✓ Assures **zero-cost, respectful and quality care** for all women and new births in public health facilities.
- ✓ 41,519 facilities onboarded as of Dec 2024.

7

LaQshya (2017)

- ✓ Aims to improve labour room and maternity OT quality in public hospitals.
- ✓ 1,106 Labour Rooms and 809 Maternity OTs certified by Dec 2024.

- **National Health Mission (NHM):** Focused on improving maternal and child health, expanding digital health access, and enhancing infrastructure and services.
- **The Ayushman Bharat Digital Mission (ABDM)** is a unified digital health ecosystem to securely connect patients, healthcare providers, and systems through an interoperable digital infrastructure.
- **Disease Elimination & Control:** India's major strides in malaria elimination, with a 69% drop in cases and 68% reduction in deaths between 2017 and 2023.
 - India has eliminated **Trachoma** as a public health problem in 2024.
 - Under the National Tuberculosis Elimination Programme (NTEP), TB incidence fell by 17.7% between 2015 and 2023.

- ♦ India has successfully achieved **Kala-azar elimination as of 2024.**

Conclusion

- Maternal and newborn health is crucial for several reasons, as it directly impacts the well-being of mothers, infants, families and communities.
- Prioritizing regular health check-ups throughout pregnancy can help with early detection and management of potential complications.
- India's advancements in public health, especially in maternal and child care, reflect a strong commitment to equitable and inclusive healthcare.

Source: PIB

INDIAN FINANCIAL REGULATORS NEED MORE AUTONOMY: IMF-WORLD BANK REPORT

In News

- A global report on India's financial system, based on an IMF-World Bank assessment, suggests strengthening the power and independence of **financial regulators (including the RBI, SEBI, and IRDAI) through legislative reforms.**

Financial Regulators In India

- India's financial system is regulated by various authorities that ensure transparency, stability, and accountability in the markets.
 - ♦ These regulators are crucial for maintaining a fair, orderly, and efficient financial environment, which supports the growth and development of the economy.

Major Regulators

- **The Securities and Exchange Board of India (SEBI):** It is the apex regulator for the securities market in India, tasked with safeguarding investor interests and promoting the development of the securities market.
- **The Insurance Regulatory and Development Authority (IRDA):** IRDAI regulates and promotes the insurance industry in India.
 - ♦ It ensures the growth of the insurance sector and protects the interests of policyholders.
- **The Reserve Bank of India (RBI)** conducts the country's monetary policy.
 - ♦ The RBI is India's central bank and acts as the primary regulator of the banking system in the country.
- **Pension Funds Regulatory and Development Authority (PFRDA) :** PFRDA regulates the pension sector in India, focusing on the National Pension Scheme (NPS) and other pension products.

- **The Ministry of Corporate Affairs (MCA):** it regulates corporate affairs in India through the Companies Act, 1956, 2013 and other allied Acts, Bills and Rules.
 - ♦ MCA also protects investors and offers many important services to stakeholders.
- **The Ministry of Finance:** It is responsible for the country's economic matters, serving as the Treasury of India.
 - ♦ It focuses on taxation, financial legislation, financial institutions, capital markets, as well as managing central and state finances, including the Union Budget.

Issues and Concerns

- **Government influence over regulator decisions:** Current legislation enables the Ministry of Finance to exercise control over the boards and senior management of regulatory bodies.
- **Limited autonomy of RBI:** The Ministry of Finance acts as the appellate authority for RBI, with powers to overturn supervisory decisions. Notably, in 2019, the government reversed the RBI's move to revoke the license of a small urban cooperative bank.
 - ♦ The RBI's authority over state-owned banks and insurers is restricted — it cannot easily enforce board changes or mergers in these institutions.
- **Governance gaps in insurance:** IRDAI has limited tools to act decisively against state-run insurers, which hinders reforms and efficiency.

Importance of Autonomy in Financial Regulatory Bodies in India

Aspect	Importance
Preserving Financial Stability	Allows regulators to act swiftly in crises based on financial realities.
Promoting Investor and Depositor Confidence	Ensures fair play and transparency, increasing public trust.
Upholding Good Corporate Governance	Enables strict enforcement of governance standards in financial institutions.
Strengthening Risk Management and Supervision	Supports timely identification and mitigation of systemic financial risks.

Boosting Global Investor Confidence and FDI	Enhances credibility and attractiveness of Indian markets to foreign investors.
Handling Emerging Challenges like Climate and Cyber Risks	Supports innovation and regulatory responses to evolving risks.

Recommendations

- The IMF-World Bank report suggests transferring the MoF's appellate authority to an independent agency, **empowering the IRDAI** to take decisive actions against state-owned life insurers, and **separating the functions of an insurer's board** from executive management to improve corporate governance.
- The **RBI should also issue clearer guidance** on board oversight and eliminate conflicts of interest, such as placing its staff on bank boards.
- Additionally, the report calls for **strengthening the capital base of public sector banks (PSBs) to handle liquidity shocks** and recommends better supervision of financial conglomerates, including addressing climate-related financial risks.
- Stress tests show that scheduled commercial banks (SCBs) have enough capital for moderate credit growth, but PSBs have less capacity.
 - While mutual funds and bond funds are resilient, risks from asset liquidations in the corporate debt market require further attention.
- SEBI's steps to address risks in securities markets are praised, and it is advised to **enhance macroprudential oversight** and **improve cybersecurity resilience** beyond the banking sector.

Conclusion and Way Forward

- To ensure a more stable and resilient financial system, India's financial regulators need greater autonomy and authority to make independent, timely decisions.
 - Strengthening their independence will also help improve governance, risk management, and overall financial sector stability.

Source :TH

FUTURE OF ANTIBIOTIC USE IN LIVESTOCK: FAO

Context

- A recent study by the **Food and Agriculture Organization (FAO)** projects that **global antibiotic use in livestock could increase by**

30% by 2040, highlighting the urgent need for interventions to curb this trend.

Use of Antibiotics in Livestocks

- Antibiotics are used for treating infections, and as growth promoters and preventive agents.
- The overuse and misuse of antibiotics in animal agriculture have accelerated the development of drug-resistant bacteria, posing risks to both animal and human health.
 - AMR could make common infections harder to treat, increasing healthcare costs and mortality rates.
- WHO called it a '**silent pandemic**', as it poses a serious risk of exacerbating antimicrobial resistance, whereby bacteria evolve to resist antibiotic treatment.
 - Drug-resistant infections already cause over 1.2 million deaths globally each year.
- Antibiotic use in livestock is expected to rise from 110,777 tons in 2019 to 143,481 tons by 2040, representing a 29.5% increase.
 - Key geographic regions are:
 - Asia and the Pacific Region: 64.6%
 - South America: 19%
 - Africa: 5.7%
 - North America: 5.5% and
 - Europe: 5.2%

Role of Antibiotics in Livestock

- Therapeutic Use:** Antibiotics are used to treat bacterial infections in animals, ensuring their health and productivity.
- Preventive Use:** Prophylactic administration of antibiotics helps prevent diseases in healthy animals, particularly in intensive farming systems.
- Growth Promotion:** In some regions, antibiotics are used to enhance growth rates and feed efficiency, although this practice is increasingly discouraged globally.

Key Drivers Behind the Surge

- Intensive Farming Systems:** Large-scale industrial farms often rely on antibiotics to maintain animal health in crowded, high-stress environments.
- Regulatory Gaps:** Many countries lack strict guidelines on antibiotic usage in animals, or fail to enforce them effectively.
- Overuse of Antibiotics as Growth Promoters:** Antibiotics can help animals grow faster and survive poor conditions, making them economically attractive in intensive systems.

- **Global Trade and Movement:** International trade in livestock, meat products, and feed can spread resistant strains across borders.
 - ♦ Antimicrobial resistance (AMR) genes can spread through mobile genetic elements like plasmids.

Policies and Commitments

- **UN General Assembly AMR Declaration (2024):** Governments worldwide have pledged to reduce antimicrobial use in agrifood systems by 30–50% by 2030.
 - ♦ UNGA recognizes AMR as a major challenge to human health, food security, economic development, and global stability.
- **RENOFARM Initiative:** It was launched by FAO, providing policy guidance and technical assistance to help countries curb antibiotic use.
- **One Health Approach:** It integrates human, animal, and environmental health — to address the issue of AMR, as emphasised by FAO, WHO and the **World Organisation for Animal Health (WOAH)**.
- **Optimizing Livestock Productivity:** Improving animal health, management practices, and production efficiency could cut antibiotic use by up to 57%.
 - ♦ Investing in vaccination programs, biosecurity measures, and improved animal nutrition can reduce the need for antibiotics.
- **India's National Action Plan on AMR:** It aims to reduce antibiotic dependency in agriculture.
- **Standard Veterinary Treatment Guidelines (SVTG):** It was introduced by the **Union Ministry of Animal Husbandry** to regulate the use of antibiotics in livestock and poultry while incorporating Ayurvedic and ethnoveterinary practices.

Source: DTE

AQUACULTURE

In Context

- India, with its extensive coastline and inland water resources, has emerged as a global leader in **aquaculture**. Over the past two decades, **India has made remarkable progress**, especially in prawn farming, balancing both economic and nutritional goals.

What is Aquaculture?

- Aquaculture involves the **controlled cultivation of aquatic species** in freshwater, brackish, or marine environments. It complements capture

fisheries and plays a pivotal role in **meeting the growing demand for animal protein**, generating employment, and contributing to exports.

- It can be classified into following categories:
 - ♦ Freshwater aquaculture
 - ♦ Coastal aquaculture
 - Sea farming
 - Brackish water aquaculture

India's Remarkable Progress in Aquaculture

- **India is currently:**
 - ♦ **3rd largest producer of aquaculture products** globally.
 - ♦ **2nd in the world for prawn production.**
 - ♦ Home to key aquaculture states: **Andhra Pradesh, West Bengal, Tamil Nadu, Odisha, and Gujarat.**
- A highlight of India's aquaculture success is its thriving **black tiger prawn (Penaeus monodon)** industry. This high-value species is farmed across suitable coastal regions and is in strong demand for both domestic consumption and export.

Factors Behind India's High Growth in Aquaculture

- **Geographic and Natural Advantages:** Long coastline (11,098km) and abundant **brackish water zones**.
 - ♦ Coastal groundwater and **tidal access** aid water salinity control (10–25g/L needed for prawn farming).
- **Innovative Farming Techniques:** Promotion of **smaller ponds** (e.g., in Andhra Pradesh) for better yield and disease control.
 - ♦ Controlled pond management and salinity balancing through **brackish water and river water mixing**.
- **Private and Institutional Collaboration:** Research support from institutions like **ICAR-CIBA**, which developed 'specific pathogen free' broodstock.
 - ♦ Growth of **aquafeed industries** and labs for disease detection.

Challenges in Aquaculture

- **Disease Outbreaks:** Pathogens like **Vibrio harveyi** and **White Spot Syndrome Virus** cause up to **25% annual yield losses**.
- **Environmental and Climate Change Pressures:** Salinity shifts, water temperature variations, and extreme weather events affecting production cycles.
- **Infrastructure and Resource Gaps:** Need for improved access to testing labs, biosecure hatcheries, and cold chain logistics in remote regions.

Key Government and Research Initiatives

- **ICAR-CIBA (Central Institute of Brackishwater Aquaculture):** Pioneering SPF (specific pathogen-free) prawn development.
 - ♦ Promotion of **phage therapy** to tackle bacterial diseases.
- Skill training, credit access, and support for small-scale farmers through government schemes like **PM Matsya Sampada Yojana**.
- **Lab networks** and diagnostic services to monitor and contain infections early.

Way Ahead

- To sustain the growth and make aquaculture climate-resilient, India needs to:
 - ♦ **Scale biosecure hatcheries** and expand **SPF broodstock production**.
 - ♦ Encourage **R&D in feed efficiency, breeding, and disease resistance**.
 - ♦ Improve **cold chain logistics and export infrastructure**.
 - ♦ Promote **digital aquaculture management systems** for small farmers.
 - ♦ Integrate **environmental sustainability**, like mangrove-friendly shrimp farming.

Source: TH

- ♦ Dementia is caused by diseases that damage brain cells, leading to cognitive decline beyond normal aging.
- ♦ It can also arise from strokes, infections, alcohol abuse, or physical brain injuries.
- **Impacts:** It has physical, psychological, social, and economic impacts on individuals, carers, families, and society.
- **Treatment :** While there is no cure for dementia, treatments like physical activity, brain-stimulating activities, and medications (e.g., cholinesterase inhibitors, NMDA antagonists, blood pressure control) can help manage symptoms.
- **Finding of recent study :** The research, published in Nature, found that people eligible for the shingles vaccine (based on their birth date) had a lower risk of developing dementia compared to those who were ineligible.
 - ♦ This effect was more pronounced in women than men

Source :TH

SEMAGLUTIDE**Context**

- A recent study found that **oral semaglutide (Rybelsus)** reduces the risk of heart attacks, strokes, and cardiovascular **death by 14%**.

About

- **Semaglutide** is a GLP-1 receptor agonist (GLP-1RA) is to achieve a significant reduction in cardiovascular risk, **was approved in 2021 for weight management in people with obesity and conditions like type 2 diabetes**.
- ♦ **The trial focused on reducing major adverse cardiovascular events (MACE)** in people with type 2 diabetes, cardiovascular disease (CVD), and chronic kidney disease (CKD).
- The study found that **oral semaglutide significantly reduced MACE** compared to a placebo.
 - ♦ Placebo is used in studies to compare the effects of a new treatment to a non-active treatment.

What is Diabetes?

- Diabetes is a **chronic medical condition** where the body has trouble regulating **blood sugar (glucose) levels**.
- It occurs when the body either **doesn't produce enough insulin** (a hormone that helps regulate blood sugar) or doesn't effectively use the insulin it produces.

NEWS IN SHORT**SHINGLES VACCINE CAN REDUCE RISK OF DEMENTIA****In News**

- A study in Wales suggests that the **shingles vaccine** may reduce the likelihood of new dementia diagnoses by about 20% over seven years.
 - ♦ **Shingles (Herpes Zoster)** is a viral infection caused by the **Varicella-Zoster Virus (VZV)**, the same virus that causes chickenpox.

Dementia

- It is a group of diseases that affect memory, thinking, and daily activities, primarily in older adults, though not everyone will develop it with age.
- **Common forms of dementia** include Alzheimer's disease, vascular dementia, dementia with Lewy bodies, and frontotemporal dementia.
- **Risk factors** include age (65+), high blood pressure, diabetes, obesity, smoking, excessive alcohol use, physical inactivity, social isolation, and depression.

- **There are two main types:**
 - ♦ **Type 1 Diabetes:** The body doesn't produce insulin at all, and it typically develops in childhood or adolescence.
 - ♦ **Type 2 Diabetes:** The body doesn't use insulin properly (insulin resistance), often due to lifestyle factors, and usually develops in adults.
- **Managing Diabetes:**
 - ♦ If not managed, diabetes can lead to serious health issues such as heart disease, kidney problems, and nerve damage.
 - ♦ Managing diabetes typically involves a combination of diet, exercise, medication, and regular blood sugar monitoring.

Source: TH

TIME USE SURVEY

In News

- The **Time Use Survey (TUS) 2024** revealed significant data on how people in India allocate their time across various activities.

Time Use Survey

- The National Statistics Office (NSO) under the **Ministry of Statistics and Programme Implementation (MoSPI)** conducted the **first all-India Time Use Survey (TUS)** from January to December 2019, and the second survey for 2024 was released in February 2025.
- It provides data on time spent on paid and unpaid tasks, learning, socializing, leisure, and self-care activities.

Do you know ?

- India, alongside countries like Australia, Japan, and the USA, conducts the National Time Use Survey to analyze the participation of men and women in various activities.

Objectives

- It aims to assess the participation of men and women in paid and unpaid activities, such as caregiving, volunteer work, and domestic chores.
- It aids in policy formulation, planning, and decision-making by government departments, organizations, and researchers.

Recent findings

- **Delhi residents** spend the **most time on work-related activities**, averaging 563 minutes daily, far surpassing the national average of 440 minutes.

- ♦ Goa follows closely with 536 minutes, showing a notable increase from 2019.
- The survey highlights a **gender gap in unpaid domestic services**, with women dedicating 289 minutes daily compared to men's 88 minutes.
- **Learning activities have slightly declined**, with the national average dropping from 424 minutes in 2019 to 414 minutes in 2024. Andhra Pradesh and Tamil Nadu remain high in learning time.
- **Socializing and community participation show** varying trends across states, with **Nagaland** reporting increased social engagement.
- **Leisure** activities have risen nationwide, with **Uttarakhand** seeing a notable increase.
- **Self-care time**, including sleep and hygiene, has decreased nationally, with some states like Meghalaya and Jammu & Kashmir showing an increase.

Source :IE

NAFTA (NORTH AMERICAN FREE TRADE AGREEMENT)

Context

- In an effort to advance a trade agreement with the United States and avoid 26% reciprocal tariffs, India's Ministry of Commerce and Industry has expanded its NAFTA division.

North American Free Trade Agreement (NAFTA)

- The North American Free Trade Agreement (NAFTA) was a trilateral trade pact among the **United States, Canada, and Mexico**, effective from **1994 to 2020**.
- It created one of the world's largest free trade zones, eliminating tariffs and reducing trade barriers to promote economic integration.
- **In 2020**, NAFTA was replaced by the **United States-Mexico-Canada Agreement (USMCA)** with updated provisions on digital trade, labor standards, and environmental regulations.

Challenges in India-US Trade Talks

- **Data Localisation Demands:** The U.S. Trade Representative (USTR) has raised concerns about **India's data localisation requirements**, which compel banks and payment service providers to store data within India.
- **Intellectual Property (IP) Concerns:** India has been placed on the USTR's Priority Watch List due to;
 - ♦ Lack of specific trade secret protection laws.
 - ♦ Lengthy patent approval processes.
 - ♦ Inconsistent enforcement of IP laws.

- **Labour and Environmental Standards:** India has yet to conclude a comprehensive trade agreement with any Western country, primarily due to divergent positions on;
 - ♦ Labor rights enforcement mechanisms.
 - ♦ Environmental sustainability standards demanded by developed countries.

Source: IE

22ND AMENDMENT TO THE U.S. CONSTITUTION STATE

Context

- The 22nd Amendment to the U.S. constitution was in the spotlight after the U.S. President Donald Trump made remarks on a two-term limit for American Presidents.

22nd Amendment to the U.S. Constitution

- The **22nd Amendment** to the US Constitution says that **no one can be elected more than twice as President**.
 - ♦ The Amendment was ratified in **1951**, after President **Franklin D Roosevelt** had been elected **four consecutive times**, from **1932 to 1944**.
- If someone has served as President for more than two years of another's term (for example, a Vice President who became President due to the President's death or resignation), they can only be elected once.
 - ♦ Thus, effectively, the maximum U.S. Presidential tenure can be 10 years (two years as a successor plus two full terms).

Source: TH

MOSPI RELEASED "WOMEN AND MEN IN INDIA 2024" REPORT

In Context

- The **Ministry of Statistics and Programme Implementation (MoSPI)**, released the 26th edition of its publication titled **"Women and Men in India 2024: Selected Indicators and Data"**.

About

- The publication offers a **comprehensive overview of the gender landscape** in India, presenting selected indicators and data across key areas like population, education, health, economic participation, and decision-making, all sourced from various Ministries/ Departments/ Organizations.

Some Key Highlights of the Publication

- **Education:** The Gender Parity Index (GPI) for enrolments at both primary and higher secondary levels increased in FY24 compared to FY23 and FY22, indicating more girls being enrolled in school.
 - ♦ At the upper primary and elementary levels, the enrolment numbers were nearly equal for both boys and girls.
- **Labour Force Participation:** The Labour Force Participation Rate (LFPR) for women aged 15 years and above saw a significant improvement from 49.8% in 2017–18 to 60.1% in 2023–24.
 - ♦ This reflects growing inclusion of women in the workforce and economic activity.
- **Financial Inclusion:** Women owned 39.2% of all bank accounts in India as of the latest data. They contributed 39.7% to total deposits in banks.
 - ♦ Women's presence is most prominent in rural areas, where they make up 42.2% of account holders.
- **Entrepreneurship & Economic Independence:** The number of female-headed proprietary establishments across manufacturing, trade, and services has been rising consistently between 2021–22 and 2023–24.
 - ♦ Startups with at least one woman director (DPIIT-recognized):
 - In 2017: 1,943 startups
 - In 2024: 17,405 startups
 - ♦ This is more than an 800% increase in 7 years.
- **Political Participation:** Female voter turnout has seen variations over the years, rising to 67.2% in 2019, followed by a modest dip to 65.8% in 2024.
- **Violence against Women:** Nearly 31.9% of married women aged 18 to 49 in India report experiencing spousal violence, with the highest prevalence observed in Karnataka (48.4%), Bihar (42.5%), and Manipur (41.6%).

Source: AIR

HADEAN PROTOCRUST

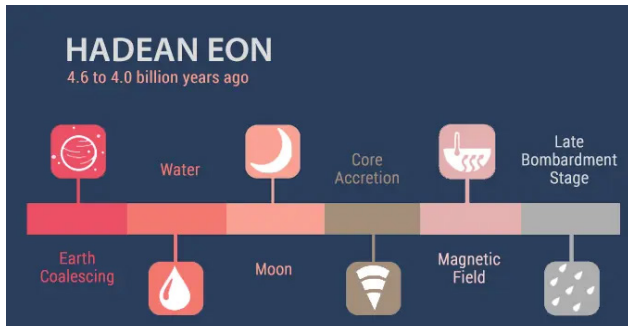
Context

- A new study questions the assumption that **Earth's chemical signatures post Hadean protocrust** appeared only **after subduction began**.

About

- The **Hadean protocrust** refers to **Earth's first crust** formed during the **Hadean eon**, which spanned from **about 4.6 billion to 4 billion years ago**.

- ♦ This eon marks the time **right after the formation of the Earth**, when the planet was still very hot and largely molten.
- ♦ During this time, the Earth's surface was molten and bombarded by space rocks.



- **Volcanic Activity:** Frequent volcanic eruptions and asteroid bombardment shaped the surface.
- **Conditions:** Hot, inhospitable with little to no liquid water and a volcanic gas-dominated atmosphere.
- **Thicker parts of the crust** gradually formed the **first continents**, which moved on the asthenospheric mantle.
 - ♦ **Plate tectonics** started as plates drifted, slid over, or dove under each other.
 - ♦ **These movements left distinct chemical signatures** in the crust, helping **scientists study plate tectonics**.
- **A new study questions the assumption** that **these signatures appeared only after subduction began**.
 - ♦ Researchers suggest that **these signatures existed in the Hadean protocrust**.
 - ♦ This finding **challenges a key idea in geology** and needs validation by independent research.

Source: TH

CAPTCHA

Context

- CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) is a key

security tool that has transformed how websites protect user accounts and data.

What is CAPTCHA?

- CAPTCHA is a type of challenge-response test designed to distinguish human users from automated bots.
 - ♦ It typically involves tasks that are easy for humans but difficult for machines to complete.
- **Background:** CAPTCHA is based on an idea called the **Turing test**. This was proposed by British mathematician **Alan Turing** back in the **1950s**.
- **CAPTCHA was introduced in the early 2000s** as a response to rising internet abuse by bots, including fake registrations, spam, and data scraping.
- The term CAPTCHA was coined in **2003** by **Luis von Ahn, Manuel Blum, Nicholas J. Hopper, and John Langford** at Carnegie Mellon University.

Source: TH

EXERCISE INDRA 2025

Context

- The 14th edition of the India-Russia bilateral naval exercise, INDRA 2025, was recently concluded.

About

- The exercise included a **wide range of activities and structured drills** designed to enhance interoperability towards countering common **maritime threats**.
- The **INDRA series of exercises** have been a cornerstone of **India-Russia Defence** relations since its **inception in 2003** and both countries recognise the importance of maritime security and the need for a collaborative approach to counter common threats and concerns.

Source: PIB

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