

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 05-12-2024

Table of Content

SHe-Box Portal

Is the caste Census a useful exercise?

Rajya Sabha passes Boilers Bill

Women Personnel in the Central Armed Police Forces (CAPFs)

Draft National Policy Framework on Agricultural Marketing

Nuclear Technology as Vital Agriculture Tool

Global Plastic Treaty Talks Collapsed

NEWS IN SHORT

Levirate Marriages in India

Lake Effect Snow

Sambal Vertical of Mission Shakti

Nepal, China Sign BRI Cooperation Agreement

Brain Rot

All-India Home Price Index (HPI)

Extrachromosomal DNA

MH-60R Helicopters

Rafale-Marine (Rafale-M)

South Korea

SHE-BOX PORTAL

Context

- The Ministry of Women and Child Development recently launched the SHe-Box portal.

About

- It is an online system designed to help in **better implementation** of various provisions of 'The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013' (SH Act).
- It will provide a **publicly available centralised repository** of information related to **Internal Committees (ICs) and Local Committees (LCs)** constituted at various workplaces, across the country.

Key Features of the of the SHe-Box portal:

- **Nodal Officer:** It provides for designating a nodal officer for every workplace who is required to ensure updation of data/ information on a regular basis for real time monitoring of complaints.
- **Filing of Complaint:** A complaint on the portal can be filed by an aggrieved woman or any other person on behalf of the complainant.
- **Monitoring:** It has a monitoring dashboard for Nodal Officers at the Centre / State/ UT level and District level, to see the number of cases filed, disposed and pending.
- **Confidentiality:** The portal is so designed that it masks the details of the complainant to maintain confidentiality.
 - ♦ Except the Chairperson of the IC/ LC, no other person is able to see the details or nature of the complaint registered.

The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013" (SH Act)

Key provisions include:

- **Definition of Sexual Harassment:** Unwelcome physical contact, sexual advances, demands for sexual favors, Sexual remarks, and any other inappropriate behavior.
- **Internal Complaints Committee (ICC):** Every organization with more than 10 employees to establish an Internal Complaints Committee (ICC).
 - ♦ The committee must be led by a woman and should include at least one external member, such as an expert on women's issues or an NGO representative.

- **Complaint Mechanism:** Women can file complaints within three months, and the ICC must resolve them within **90 days**.
- **Confidentiality:** Complaints and investigations must be kept confidential.
- **Employer Responsibility:** Employers must take preventive measures, conduct training, and act on complaints.
- **Redressal:** If harassment is proven, disciplinary action is taken against the offender, and compensation can be awarded to the victim.
- **No Retaliation:** Retaliation against the complainant or witnesses is prohibited. Any retaliation or victimization can be treated as a separate violation under the law.
- **Penalties:** Failure to comply with the provisions of the SH Act can result in penalties for employers.

Significance

- **Empowerment of Women:** The Act plays an important role in empowering women by giving them a legal recourse against sexual harassment at work.
- **Safe Workplaces:** It fosters the creation of safe and respectful work environments, encouraging women to participate more actively in the workforce.

Challenges

- **Lack of awareness:** Many employees are unaware of their rights and the mechanisms available for redressal.
- **Underreporting:** There is still a degree of underreporting, primarily due to fear of retaliation or lack of trust in the system.
- **Ineffective Implementation:** In some organizations, the creation of the Internal Complaints Committees and their functioning is not up to the required standards.

Conclusion

- The SH Act, 2013 is a critical step toward **creating a safer and more respectful work environment for women in India**.
- While the Act lays down comprehensive provisions to address sexual harassment, its successful implementation requires awareness, training, and commitment from employers and employees to ensure that workplaces are free from harassment.
- The SHe-Box portal represents a significant step forward in ensuring safer workplaces and providing aggrieved women with a reliable mechanism for addressing their grievances.

Source: PIB

IS THE CASTE CENSUS A USEFUL EXERCISE?

Context

- The demand for a caste Census has gained momentum with support from political parties, NGOs, and organizations like the Rashtriya Swayamsevak Sangh (RSS).

What is a Caste Census?

- A caste Census involves collecting **data on the population size and socio-economic conditions** of various caste groups.
- Advocates believe it can be instrumental in providing equitable distribution of government jobs, land, and other resources based on caste proportions.

Historical Background

- First detailed caste Census** conducted in 1871-72 across major regions like Bengal and Madras.
 - However arbitrary classification led to confusion, as noted by W. Chichele Plowden in the 1881 Census report.
- 1931 Caste Census:** It identified **4,147 castes**, exposing challenges like different identities claimed by the same caste in different regions.
- Post-Independence:** 2011 Socio-Economic and Caste Census (SECC) identified over **46.7 lakh castes/sub-castes** with significant errors.

Imperatives for a Caste Census

- Understanding Demographic Realities:** It helps policymakers identify gaps in resource allocation and ensure targeted interventions.
- Revisiting Reservation Policies:** Existing reservation policies are based on outdated data from the 1931 Census.
 - A fresh caste Census can rationalize and update the quota system, ensuring fairness and proportional representation.
- Empowering Marginalized Groups:** Recognizes the presence of underrepresented castes and sub-castes in political and economic structures.
- Political Representation:** Accurate caste data can guide delimitation of constituencies and ensure equitable representation in legislative bodies.

Challenges to Accurate Data Collection

- Upward Caste Mobility Claims:** Respondents claim higher social status due to the prestige associated with certain castes. Between the **1921 and 1931 Censuses**, some groups reclassified themselves as higher castes.

- Downward Caste Mobility Claims:** Post-independence, benefits of reservation policies have encouraged some to report themselves as belonging to lower social categories.
- Caste Misclassification:** Similar-sounding surnames across regions often result in errors. Such inaccuracies lead to misrepresentation and inequitable resource allocation.
- Multiplicity of Caste Claims Within Communities:** Communities with the same name may claim different varna or caste identities across regions.
 - Example:** Sonars in one region identified as Kshatriya or Rajput, while in another, they identified as Brahmin or Vaishya.
- Enumerators' Subjectivity:** Census officials inadvertently misclassify respondents due to lack of knowledge or preconceived notions about caste hierarchies.
 - Example:** During the **Bihar caste Census in 2022**, controversies arose over the inclusion of ambiguous categories like 'hijra' and 'kinnar' in caste classifications.

Way Ahead

- Establish a **robust and transparent framework** to conduct the caste Census, incorporating technological solutions like AI and machine learning for data accuracy.
- Conduct awareness campaigns** to educate respondents about the importance of providing accurate information.
- Standardize caste categorization** across states to resolve confusion over similar-sounding surnames and overlapping identities.
- Introduce **mechanisms for periodic review** and validation of collected data to correct inaccuracies over time.

Source: TH

RAJYA SABHA PASSES BOILERS BILL

In News

- The Boilers Bill, 2024 was passed by the Rajya Sabha, replacing the Boilers Act of 1923, which was enacted during the colonial period.

Do you know ?

- A boiler is defined as a vessel in which steam is generated under pressure.
- Boilers are listed under the **Concurrent List of the Constitution**, meaning both Parliament and State Assemblies can legislate on them.

Background of Bill

- The Boilers Act, 1923 regulates the manufacturing, installation, operation, alterations, and repair of steam boilers to ensure their safe operation.
- The **Boilers Act, 1923** focuses on safety and is being updated to reflect current needs and **incorporate decriminalized provisions** under the **Jan Vishwas (Amendment of Provisions) Act, 2023**.
- The Boilers Act, 1923 was amended in 2007 to include **independent third-party inspections**, but further review was needed.
- Therefore, Boilers Bill, 2024 has been redrafted according to modern drafting practices for clarity.

Salient Features of the Boilers Bill, 2024

- **Regulation of Boilers:** The Bill regulates the manufacturing, installation, operation, alterations, and repair of boilers.
 - ♦ Registration is required before operation, renewable annually.
 - ♦ The Central Boilers Board can make regulations, and state governments appoint inspectors.
- **Exemptions:** Boilers with specific capacities or uses are exempt (e.g., those below 25 liters or below 1 kg/cm² pressure).
 - ♦ The state can exempt boilers in emergencies or to support rapid industrial growth.
- **Offences and Penalties:** Penalties for offences like altering boilers without approval or tampering with safety valves. Penalties range from fines to imprisonment.
- **Safety and Uniformity:** The Bill aims to ensure safety from boiler explosions and ensure uniformity across the country.
- **Decriminalization Provisions:** Incorporates decriminalization measures from the Jan Vishwas Act, 2023.
- **Fines have been replaced** with penalties for non-criminal offences, with penalties levied through executive mechanisms rather than courts.
- New clauses 35 (Adjudication) and 36 (Appeal) have been added for dispute resolution.

Importance

- The Bill aims to **enhance safety in factories** using industrial boilers by ensuring uniformity in regulations across India, including standards for construction, pressure specifications, registration, and periodic inspections.
 - ♦ The focus is on **preventing boiler explosions** and ensuring the safety of life and property.
- The Bill benefits boiler users, especially in the MSME sector, by incorporating decriminalization provisions.

Key Issues

- **Exemption from Provisions:** The Bill allows state governments to exempt certain areas, potentially compromising safety.
- **Lack of Appeal Mechanism:** No judicial recourse for decisions made by the central government or inspectors; appeals can only be made through writ petitions to the High Court.
- **Entry Powers for Inspectors:** Inspectors have powers to enter premises, but no safeguards are specified, unlike similar laws.
- **Simplification of Compliance:** Some states allow self-certification for boilers, but the Bill does not incorporate this feature.
 - ♦ The Bill does not specify time limits for inspections or approvals for alterations and repairs.

Conclusion and Way Forward

- The Boilers Bill, 2024, represents a significant step towards modernizing India's regulatory framework for boilers.
- By enhancing safety measures and simplifying processes, the bill aims to support industrial growth while ensuring the well-being of workers and the public.
- Its implementation will require careful attention to avoid compromising environmental standards, judicial fairness, and consistent enforcement.

Source: ET

WOMEN PERSONNEL IN THE CENTRAL ARMED POLICE FORCES (CAPFS)

Context

- Recently, the Minister of State for Home Affairs informed Lok Sabha that 4,138 women personnel are likely to be recruited in the CAPFs and Assam Rifles in 2025.

Central Armed Police Forces (CAPF)

- These play a crucial role in maintaining internal security and border protection, and work under the **Union Home Ministry**.
- These include seven paramilitary forces, namely:
 - Assam Rifles
 - Border Security Force (BSF)
 - Indo-Tibetan Border Police (ITBP)
 - Sashastra Seema Bal (SSB)
 - Central Industrial Security Force (CISF)
 - Central Reserve Police Force (CRPF)
 - National Security Guard (NSG) special task force.

Historical Context: Women in CAPFs

- The journey of women in **CAPFs began in the late 20th century**, with the CRPF being the first to induct women in 1986. Initially, their roles were **limited to support and administrative functions**.
- However, with changing societal norms and the recognition of women's capabilities, their participation has **expanded to combat and operational roles**.

Current Status/Representation

- Women currently make up 4.4% of the 9.48 lakh-strong CAPFs and Assam Rifles.
 - ♦ The number of **women personnel in CAPFs had almost tripled in the 10 years from 2014 to 2024**, while the **percentage remained low**.
- The **CISF has the highest representation** of women at 7.02%, followed by SSB (4.43%), BSF (4.41%), ITBP (4.05%), Assam Rifles (4.01%), and CRPF (3.38%).
- They are involved in border patrolling, anti-Naxal operations, and disaster response, among other duties.

Reasons for Low Representation

- **Cultural and Social Barriers:** Traditional gender roles and societal expectations often discourage women from pursuing careers in armed forces.
- **Recruitment and Retention Issues:** Despite policy measures, the actual recruitment process has faced challenges, including fewer women applicants and high attrition rates.
- **Work Environment:** The demanding nature of the job, including frequent transfers and postings in remote areas, can be less appealing to women, especially those with family responsibilities.
- **Infrastructure and Facilities:** Inadequate facilities such as separate accommodations and sanitation can deter women from joining and staying in the forces.

Efforts to Increase Representation

- **Reservation Policies:** In 2016, the government decided to **reserve one-third of all constable-level positions** in the CRPF and CISF for women, and 14-15% in the border guarding forces like BSF, SSB, and ITBP.
- **Recruitment Efforts:** The number of women in CAPFs has significantly increased from 15,499 in 2014 to 42,190 in 2024.
 - ♦ In 2025, an additional 4,138 women are expected to be recruited, with the BSF getting the largest share.

- A **parliamentary committee** has recommended steps to encourage women to join CAPFs, including providing 'soft postings' and not subjecting them to extremely strenuous working conditions.
 - ♦ The committee suggested exploring reservations for transgender individuals in CAPFs.

Conclusion

- Continuous efforts, including better recruitment strategies, improved working conditions, and societal change, are essential to enhance women's representation in these critical forces.

Source: IE

DRAFT NATIONAL POLICY FRAMEWORK ON AGRICULTURAL MARKETING

Context

- The Centre has released a draft "**National Policy Framework on Agricultural Marketing**" that seeks to help farmers realise the best price for their produce.

About

- Department of Agriculture and Farmers' Welfare (DA&FW), constituted a Drafting Committee under the chairmanship of Faiz Ahmed Kidwai, Additional Secretary (Marketing), DA&FW.
- The Drafting Committee has prepared a draft National Policy Framework on Agricultural Marketing.

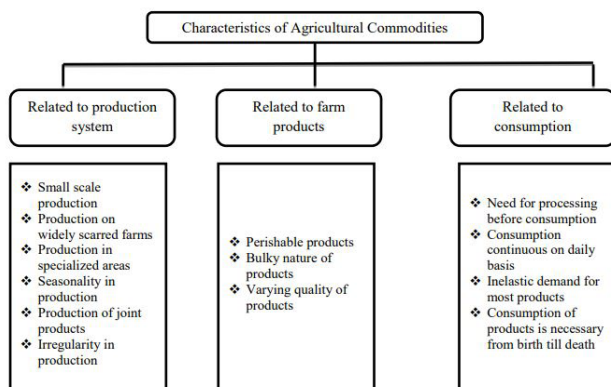
Major Highlights of the National Policy Framework

- It has proposed the **constitution of an Empowered Agricultural Marketing Reform Committee of State Agricultural Marketing Ministers to push agriculture marketing reforms**.
 - ♦ The success of the GST Council in harmonizing tax policies across states and creating a unified tax regime serves as a model for this new initiative.
 - ♦ **Composition of Committee:** The empowered committee may be chaired by the agriculture minister of any state on rotational basis with agriculture ministers of the remaining states as members.
- **Supply Chain Reforms:** It highlighted the need for private wholesale markets, direct purchases by processors and exporters, and the declaration of warehouses and cold storage as deemed market yards.

- ◆ These measures are crucial for reducing the intermediaries in the supply chain and ensuring that farmers receive better returns for their produce.
- **Price Insurance Scheme:** It proposes a price insurance scheme along the lines of the Pradhan Mantri Fasal Bima Yojana (PMFBY) to protect farmers from price crashes.
 - ◆ This scheme aims to stabilize farmers' incomes, encourage the adoption of modern agricultural practices, and ensure the flow of credit to the agriculture sector.

What is Agricultural Marketing?

- Agriculture, generally means growing and/or raising of crops and livestock while, marketing encompasses a series of activities involved in moving the goods from the **point of production to point of consumption**.
- It includes the planning, production, transportation, processing, and distribution of agricultural goods.
- The goal is to ensure that the products reach consumers efficiently while meeting market demands at a fair price.
- Agricultural marketing is a **State subject under Entry 28 of List-II (State List)** of the VII Schedule under **Article 246 of the Constitution**.



Challenges Faced by Agriculture Marketing in India

- **Inadequate Infrastructure:** Poor transportation, storage, and cold chain facilities lead to high post-harvest losses and inefficiencies in distribution.
- **Fragmented Markets:** The lack of organized markets and reliance on multiple intermediaries increases costs and reduces farmers' profit margins.
- **Price Fluctuations:** Farmers often face unpredictable prices due to market volatility, leading to income instability.
- **Limited Market Access:** Small-scale farmers struggle to access distant or organized markets, limiting their ability to sell at fair prices.

- **Lack of Market Information:** Farmers often lack timely information on prices, demand trends, and quality standards, which hinder decision-making.
- **Limited Credit and Financial Support:** Difficulty in accessing affordable credit for transportation, storage, and processing limits growth and profitability.
- **Inadequate Value Addition:** Low investment in processing and value addition leads to the export of raw, unprocessed goods at lower prices.

Government Initiatives to Reform Agricultural Marketing in India:

- **PM-AASHA (Pradhan Mantri Annadata Aay SanrakshAn Abhiyan) 2018:** A scheme to ensure farmers get remunerative prices through Price Support, Price Deficiency Payment, and Private Procurement Schemes.
- **Agriculture Produce Market Committee (APMC) Reforms:** Encouraging states to amend APMC Acts for direct selling and private market participation to reduce middlemen.
- **E-NAM (National Agriculture Market):** An online platform integrating mandis to enable transparent trading and better price discovery.
- **Kisan Rail Scheme:** Dedicated trains for transporting perishable goods, improving market access and reducing transportation costs.
- **Agricultural Infrastructure Fund (AIF):** Providing financial support for developing storage, processing, and cold storage facilities.
- **One Nation, One Market:** Aiming for seamless interstate trade by eliminating barriers and strengthening the E-NAM platform.
- **FPO (Farmer Producer Organization) Promotion:** Supporting farmer cooperatives to improve bargaining power and market linkages.
- **Support for Agri-Startups:** Encouraging innovation and new market solutions in the agriculture sector through financial and mentorship support.
- **Minimum Support Price (MSP) Policy:** The MSP system aims to provide a safety net for farmers by ensuring that the price they receive for their crops is above the cost of production.

Conclusion

- The government's agricultural marketing reforms are aimed at addressing inefficiencies, reducing middlemen's influence, and providing farmers with more opportunities for better income.
- These reforms are designed to make farming more profitable and sustainable by offering

better market access, fairer pricing mechanisms, and innovative solutions for both farmers and consumers.

Source: IE

NUCLEAR TECHNOLOGY AS VITAL AGRICULTURE TOOL

Context

- India's initiative to establish 50 multi-product food irradiation facilities underscore its growing significance in ensuring sustainable agriculture.

About

- Nuclear technology has emerged as a transformative tool in agriculture and food production.
- Recently the **International Atomic Energy Agency (IAEA)** organised the IAEA Scientific Forum '**Atoms4Food**'.
 - Speakers from different countries described how nuclear technologies were being used in agriculture and food production back home.

Nuclear Technologies in Agriculture

- Microbial Control:** Irradiation effectively kills microbes that cause food spoilage, thereby extending the shelf life of agricultural produce.
 - India's irradiation facilities in Vashi and Nashik are pivotal in reducing post-harvest losses.
- Radiation-Induced Mutagenesis:** It uses radiation to induce genetic changes at the chromosomal level, enabling the development of crop varieties with higher yields, disease resistance, and climate adaptability.
- Fallout Radionuclide (FRN) Technique:** This method quantifies soil erosion and helps in comprehensive soil ecosystem management.
- Cosmic-Ray Neutron Sensor (CRNS) Technology:** CRNS allows large-scale soil moisture measurement, which is critical for efficient irrigation planning.
- Radioimmunoassay (RIA) Technology:** RIA aids in monitoring reproductive hormones in livestock, improving fertility, and identifying optimal times for artificial insemination.
- Sterile Insect Technique (SIT):** SIT involves sterilising and releasing insects to curb pest populations.
- Isotopic Tracing:** Techniques like nitrogen-15 tracing assess nitrogen fixation in crops, optimizing fertilizer use and ensuring sustainable crop nutrition and water management.

- Nuclear Methods for Food Authenticity:** These methods verify the geographic origin and authenticity of food products, ensuring quality and consumer trust in the global food market.

Challenges with Nuclear Technology in Agriculture

- High Initial Costs:** Facilities such as irradiation centers or isotopic tracing laboratories, requires significant financial investment, making it less accessible to developing nations and smallholder farmers.
- Environmental Concerns:** Mismanagement of nuclear materials or radioactive waste poses environmental risks.
- Economic Viability for Small Farmers:** The costs associated with nuclear technology may be prohibitive for small and marginal farmers.
- International Dependencies:** Some nuclear technologies require collaboration with international organizations like the IAEA or dependency on imported equipment and isotopes, delaying implementation in developing nations.
- Ethical Issues:** Using techniques like radiation-induced mutagenesis raise ethical concerns, especially regarding genetic modifications.

Way Forward

- Nuclear technology offers innovative solutions to tackle agricultural challenges such as food security, soil degradation, and pest control.
- Integrating nuclear solutions with traditional agricultural practices has the potential to ensure sustainability, productivity, and resilience in the sector.

Source: BL

GLOBAL PLASTIC TREATY TALKS COLLAPSED

Context

- The fifth meeting of the UN's Intergovernmental Negotiating Committee (INC-5) has ended without delivering a legally binding treaty to address global plastic pollution.

About

- More than 170 countries in the Republic of Korea were negotiating the global treaty to end plastic pollution, including marine pollution.
- Aim:** The treaty aims to have countries cut the production of plastic and plastic polymers.

Background

- In 2022, the United Nations Environment Assembly (UNEA) adopted a resolution to tackle plastic pollution on a global scale.

- ◆ 175 nations voted to adopt a global treaty for plastic pollution—agreeing on an accelerated timeline so that the treaty could be implemented as soon as 2025.
- This led to the creation of the Intergovernmental Negotiating Committee (INC) tasked with developing a legally binding international agreement on plastic pollution by 2024.
- Since 2022, the INC has held four sessions in Uruguay, France, Canada, and Kenya.

Why have the Talks Failed?

- **The discussions saw a sharp divide between two camps** – a large coalition of about 100 countries that wanted caps on plastic production, and a smaller set of oil-producing nations that wanted to **focus only on plastic waste management**.
- With the two camps unable to reach a compromise, the conference concluded with an agreement to meet again at a later date.

India's Stand

- **Support to Developing Nations:** Any legally binding treaty must recognise the need for

support to developing countries through finance and technology transfer.

- **Focus on Reducing Plastic Pollution:** Production of primary polymers was not directly linked to plastic pollution and there should be no targets concerning polymer or plastic production. Instead, it asked to focus on reducing plastic pollution.
- **No Plastic Pollution Fee:** It did not support a levy of a plastic pollution fee on the production of primary polymers.
- **Balanced Treaty:** India added that a balance has to be struck between preventing plastic pollution and protecting the sustainable development of developing countries.
- **Assessment of Finances:** There must also be an **assessment of the financial resources** needed for waste management as well as the availability of adequate, timely, and predictable financial resources.
- **Avoid Overlapping:** The scope of the treaty should be well-defined to not overlap with existing multilateral environmental agreements.

What is Plastic and Microplastics?

- The word plastic is derived from the Greek word **plastikos**, meaning “**capable of being shaped or moulded.**”
- Plastic refers to a **wide range of synthetic or semi-synthetic materials** that use **polymers** as a main ingredient with their defining quality being their **plasticity** – the ability of a solid material to undergo permanent deformation in response to applied forces.
 - ◆ This makes them extremely **adaptable, capable of being shaped as per requirement.**
- **Microplastics:** Plastics break down into their smaller units called **microplastics** – officially defined as plastics **less than five millimetres in diameter.**

Plastic Waste by India

- India is presently the **biggest contributor to plastic pollution** in the world, and releases 9.3 million tonnes of plastic waste every year which is almost **20 percent of the global generation of plastic waste.**

India's Efforts In Tackling Plastic Waste

- **Ban on Single-Use Plastics:** Prohibition on production, use, and sale of items like bags, cups, plates, cutlery, and straws in many states.
- **Extended Producer Responsibility (EPR):** Plastic manufacturers are mandated to manage and dispose of waste generated by their products.
- **Plastic Waste Management Rules, 2016:** Framework for recycling and waste-to-energy initiatives.
- **Plastic Waste Management (Amendment) Rules, 2022:**
 - ◆ Prohibited single-use plastic items.
 - ◆ Banned carry bags below 75 micrometers.
- **Plastic Waste Management (Amendment) Rules, 2024:**
 - ◆ Defines biodegradable plastics as those leaving no microplastics.
 - ◆ Labels for disposable plastics must ensure no microplastic residue.
- **Swachh Bharat Abhiyan:** National campaign for cleanliness, including plastic waste management.
- **Plastic Parks:** Specialized zones for recycling and processing plastic waste.
- **International Commitments:** India is a signatory to MARPOL to prevent marine pollution.

NEWS IN SHORT

LEVIRATE MARRIAGES IN INDIA

Context

- The Centre for DNA Fingerprinting and Diagnostics (CDFD) recently found the practice of levirate in a family through **DNA sampling**.

About

- Practice:** Levirate is a cultural practice in which a **widow marries the brother** of her deceased or mentally or physically incapacitated husband's brother.
 - The family would prefer to keep such knowledge private.
- Reasons:** By marrying her deceased husband's brother, she could retain her social standing and access to property and resources.
 - The brother of the deceased is expected to produce offspring who would inherit the family wealth and name.
- Communities:** In tribal cultures, such as among the Bhils, Gonds, and some other indigenous groups, levirate marriages were more common.
 - Though not as common, levirate marriage existed in some Hindu communities, especially in rural areas.
- Its prevalence has declined in modern times due to legal, social, and cultural changes.

Source: TH

LAKE EFFECT SNOW

Context

- Lake-effect snow blowing in from the Great Lakes has impacted parts of **Michigan, Ohio, Pennsylvania and New York**.

About

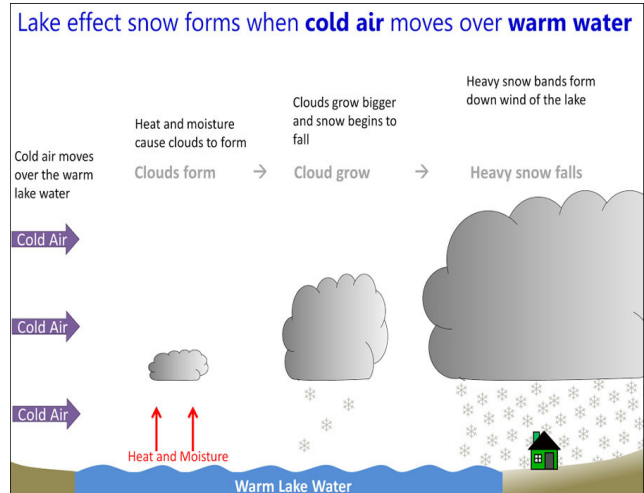
- Lake effect snow** is common across the Great Lakes region during the late fall and winter.
- It occurs when cold air, originating from Canada, moves across the open waters of the Great Lakes.

Process of Lake effect snow

- As the cold air passes over the unfrozen and relatively warm waters of the Great Lakes, warmth and moisture are transferred into the lowest portion of the atmosphere.
- The air rises, clouds form and grow into a narrow band that produces **2 to 3 inches of snow** per hour or more.

Geographical Factors

- The **physical geography of lakes and surrounding terrain** influences snowfall distribution.
- Wind direction** determines which areas receive snow, causing sharp contrasts; heavy snow in one area and clear skies just a mile away.



Source: NYT

SAMBAL VERTICAL OF MISSION SHAKTI

In News

- Beti Bachao Beti Padhao** improved sex ratio and Gross Enrollment ratio of girls under **Sambal vertical of Mission Shakti**.

Mission Shakti

- It is a scheme aimed at enhancing women's safety, security, and empowerment.
- It focuses on addressing issues affecting women throughout their life cycle and promoting women as equal partners in nation-building through collaboration and citizen involvement.
- It consists of two sub-verticals:** 'Sambal' for women's safety and security, and 'Samarthya' for women's empowerment.
 - Sambal** includes schemes like One Stop Centres (OSC), Women Helpline (181-WHL), and Beti Bachao Beti Padhao (BBBP).
 - Samarthya** includes schemes like Pradhan Mantri Matru Vandana Yojana (PMMVY), Ujjwala, Swadhar Greh (now Shakti Sadan), Working Women Hostel (now Sakhi Niwas), National Hub for Empowerment of Women (NHEW), and National Creche Scheme (now Palna).

Do you know ?

- The **Beti Bachao Beti Padhao (BBBP)** scheme, launched on January 22, 2015, is a collaborative effort between the Ministry of Women & Child Development, the Ministry of Education, and the Ministry of Health and Family Welfare. Its objectives are to prevent gender-biased sex-selective practices, ensure the survival and protection of the girl child, and promote her education.
- The scheme is **Centrally Sponsored Scheme (100% funding by the Central Government)** and implemented in all districts **except West Bengal**.

Source:TH

NEPAL, CHINA SIGN BRI COOPERATION AGREEMENT

Context

- Nepal and China signed the execution framework for the **Belt and Road Initiative (BRI)**, indicating that Nepal will soon decide on projects for implementation.

About

- While **Nepal signed onto the BRI in 2017**, this new execution framework agreement solidifies the commitment and provides a structure for project implementation.
- Both countries expressed readiness to sign an MoU on building the **Trans-Himalayan Multi-Dimensional Connectivity Network (THMDCN)**.
 - ♦ It focuses on enhancing connectivity in areas such as ports, roads, railways, aviation, power grids, and telecommunications.

Concerns

- **Debt Trap:** Like other countries participating in the BRI, Nepal risks falling into a debt trap if projects rely heavily on Chinese loans.
- **Geopolitical Balance:** Nepal needs to carefully manage its relationships with both China and India.
 - ♦ Projects under the BRI, particularly those close to sensitive border areas, could **raise security concerns for India**.
- **Environmental Concerns:** Large-scale infrastructure projects can have significant environmental impacts

Belt and Road Initiative (BRI)

- China proposed the BRI in **2013** with the purpose of restoring the ancient Silk Route.

- ♦ The initiative aims to **connect Asia with Europe and Africa**, with the intent to promote trade, investment, and economic growth in participating countries.
- **The BRI comprises two main components:** The Silk Road Economic Belt and the 21st century Maritime Silk Road.
 - ♦ **The Silk Road Economic Belt** focuses on improving connectivity and cooperation between China and countries in Central Asia, Europe, and West Asia,
 - ♦ **The 21st century Maritime Silk Road** focuses on strengthening maritime cooperation between China and countries in Southeast Asia, South Asia, and Africa.

Source: IE

BRAIN ROT

In News

- The term “**brain rot**” has been named the **Oxford Word of the Year for 2024**.

About Brain Rot

- **Meaning:** It describes the perceived deterioration of mental or intellectual faculties due to excessive consumption of trivial or unchallenging online content, particularly on social media platforms.
- The **concept of “brain rot”** is associated with several cognitive and mental health concerns:
 - ♦ **Decreased Attention Span**
 - ♦ **Reduced Critical Thinking**
 - ♦ **Mental Health Issues**

Source: IE

ALL-INDIA HOME PRICE INDEX (HPI)

Context

- The All-India Home Price Index (HPI) of the Reserve Bank of India rose by 4.34% to 322 as of September 2024 as against 308.6 in September 2023.
 - ♦ HPI has gone up by nearly **67% in the last ten years**.

About

- It is a measure used to track changes in the **prices of residential properties** across India.
- The index provides a **comprehensive picture of the housing market** by measuring the price changes for residential properties in different cities or regions.

- All the eight major cities saw an annual increase in housing prices with **Delhi NCR witnessing the highest rise at 32%, followed by Bengaluru at 24% rise.**

Source: IE

EXTRACHROMOSOMAL DNA

Context

- Three papers in Nature have reported how **extrachromosomal DNA** contributes to the progression of cancer and drug resistance.

About

- Extrachromosomal DNA** refers to DNA that **exists outside the chromosomes in the cell.**
 - Unlike the chromosomal DNA that is located in the nucleus (in eukaryotic cells) or the nucleoid region (in prokaryotic cells), extrachromosomal DNA exists independently or in a separate structure within the cell.
- Some cells, especially cancer cells, **have Extrachromosomal circular DNAs (ecDNAs)**, which are small circular DNA molecules that are separate from the chromosomal DNA.
 - These molecules can carry multiple copies of certain genes and may be involved in the amplification of genes, such as those responsible for drug resistance.
- Chromosomal DNA** contains the complete set of genetic instructions necessary for the development, functioning, and reproduction of an organism.
 - It carries the vast majority of the organism's genetic information, organized into genes, which are the building blocks for proteins and cellular structures.
 - In humans, there are **23 pairs of chromosomes**, each containing a single, long molecule of DNA.

Source: TH

MH-60R HELICOPTERS

In News

- The United States has approved a \$1.17 billion sale of advanced equipment for **MH-60R Seahawk helicopters** to India.

MH-60R helicopter equipment

- The **MH-60R ("Romeo")** is a versatile helicopter designed for **anti-submarine and anti-surface warfare.**
- It targets both submarines and surface vessels and can operate from **both ships and shore-based facilities.**

- The MH-60R is armed with torpedoes, air-to-ground missiles, rockets, Hellfire missiles, and Mark 54 anti-submarine torpedoes.
- Equipped with advanced sensors, the MH-60R includes a multi-mode radar, electronic support measures, infrared cameras, datalinks, dipping sonar, and sonobuoys.
- Importance for India:** It will be boosting the country's anti-submarine warfare and maritime capabilities.
 - This deal supports India's defence modernisation and enhances its naval operations in the Indo-Pacific region.

Source: TH

RAFALE-MARINE (RAFALE-M)

Context

- India is set to finalize the proposed procurement of **26 Rafale-Marine (Rafale-M) aircraft**, from France soon.

About

- Designed and built by France's **Dassault Aviation**, the Rafale is an advanced **4+ generation, twin-engine**, multirole fighter jets and are equipped with **latest weapon systems** — including Meteor-beyond visual range air-to-air missiles, Hammer air to surface smart weapon system, and Scalp cruise missiles.
- The **Marine version (Rafale-M)** of the jets will be slightly different, given that they will operate from aircraft carriers on sea.
- The differences include **foldable wings**, a longer airframe for landing on carriers, and a tail hook for arrested landing on a carrier.

Rafale M vs Rafale: How are they different

Feature	Rafale M	Rafale
Airframe	Strengthened for carrier landings	Standard airframe
Wing	Foldable	Non-foldable
Tailhook	Yes	No
Radar	Maritime-optimized	Standard radar
Weapons	Wider range of weapons, including anti-ship missiles	Standard range of weapons
Mission	Carrier operations	Air superiority, ground attack, air-to-air refueling

Source: IE

SOUTH KOREA

In News

- In South Korea, opposition lawmakers have moved to impeach President Yoon Suk Yeol after his controversial imposition of martial law, which sparked mass protests.

About South Korea (Seoul)

- **Location and Geography:**
 - ♦ **Region:** East Asia.
 - ♦ **Geographical Position:** Occupies the southern half of the Korean Peninsula.
- **Governance:**
 - ♦ **System of Governance:** Presidential system of governance, with a democratic framework.
- **Land Borders:**



- ♦ Shares a border with North Korea, separated by the Korean Demilitarized Zone (DMZ), one of the most heavily fortified borders in the world.
- **Maritime Borders:**
 - ♦ Yellow Sea (to the west).
 - ♦ Sea of Japan (referred to as the East Sea in South Korea) to the east.
 - ♦ East China Sea (to the south).
- **Rivers:**
 - ♦ Han River: Flows through the capital city, Seoul, and is a key waterway for the country.
 - ♦ Nakdong River: The longest river in South Korea, serving as a vital resource for agriculture and water supply.

Source: TH

