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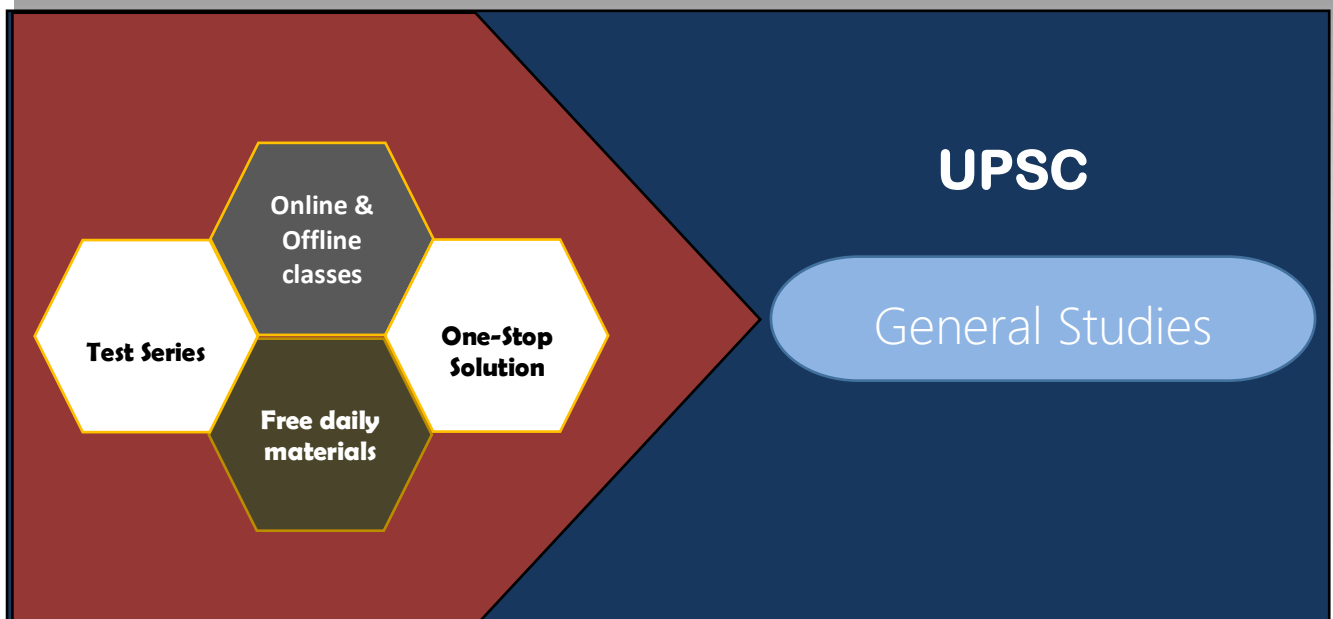
Monthly current affairs magazine

SHIKSHA

A MAGAZINE FOR CIVILSERVICES PREPARATION

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THE HINDU & INDIAN EXPRESS**



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GS 1 : Heritage, culture ,Geography of the World and Society

1. Problem of Migrants in Maharashtra Sugar Fields

The High Court of Bombay has recently taken suo motu cognisance of the intra-State workforce exploitation who have migrated from the drought- affected Marathwada to the sugar-belt region of western Maharashtra.

Status of Sugarcane Production

- **Global level** - India is the world's top producer and consumer of sugar.
- India is the 2nd largest exporter of sugar in the world after Brazil.
- **National level** - Maharashtra and Uttar Pradesh are the leading sugar producing States in India.
- **Maharashtra's status** - According to the Maharashtra Sugar Commissioner, in 2022-23, the net area under sugar cane was 1.487 million hectares.
- There were 203 crushing factories in the State that has the capacity to produce 138 lakh metric tons of sugar.
- Maharashtra has set a record for itself by producing 137.28 lakh tonnes of sugar in 2021-22, which is nearly 31 lakh tonnes more than the previous year.
- In 2022-23 the State stands next to Brazil in terms of production.

Why there is significant migration in Maharashtra?

- **Prolonged unemployment**- After sowing rabi crops, millions of small and marginal peasants of the Marathwada region migrate to the sugar-belt districts to work in cane harvesting and factories.
- **Debt**- Due to unemployment, crop failure farmers get caught up in debt trap, they migrate for better employment opportunities to pay off the debt.
- **Prolonged drought** - Marthawada region is a water scarce region which forces the peasants to migrate.
- **Crop failure**- Due to drought conditions it results in repeated crop failure which makes the peasants to migrate.
- **Dependence on Mukadam**- It is an exploitative structure of recruiting migrant workers in the sugar cane industry.

- The Mukadam is a man with political influence who has a contract with sugar factories to supply 'Koytas' (labour couples) and takes an advance to pay workers.
- The Mukadam system assures sugar factories a supply of a large volume of temporary, cheap, reliable, and efficient workforce.

Migration Tracking System (MTS)

- It is a technology aided application launched in 2022 by the Maharashtra Government.
- It is said to be the first of its kind initiative in the country which initially focused seasonal migrants in the tribal districts.
 - To enumerate and track children, pregnant women, and lactating mothers at source and destination areas.
 - To ensure nutrition, immunisation and early childhood care, and continuity of the Integrated Child Development Services

What are the issues faced by interstate migrant workers? ★

- **Lack of awareness-** The interstate migrants are exploited by the mukadam with cheap wages, sexual abuse etc.,
- **Inadequate data-** The data especially of women and children is invisible and unenumerated and it blocks the framing of policies for seasonal migrants.
- **Failure of Migration Tracking System** - It failed to create a comprehensive picture of seasonally migrating families, their current employment status, wage structure and entitlement coverage.
- **Women health-** They are engaged in vigorous work such as headload cane bundles that adversely impacts their body, causing musculoskeletal disorders and several gynaecological issues.

In the Beed district of Maharashtra, the women are forced to get a hysterectomy to avoid complications of pregnancies and periods while working in the fields.

- **Early marriages-** At 12-13 years of age, girls are married off because the field employs only couples.
- **Gender based violence-** Many studies have reported recurring violence and sexual harassment cases linked to the Mukadam and male workers.
- **Child labour-** The children accompany their parents to sugar cane fields and there is no sufficient alternative schooling models.

What lies ahead?

- **Periodic databank-** A time bound enumerating exercise is critical to create a databank for seasonal migrants that is credible.
- **Revise MTS-** Expand its scope that can be used in the State's sugar belt and other seasonal migration corridors.
- **Gender equality-** There is a need to address the plight of migrant women workers to ensuring their health, safety and employment in the sugar cane labour market.
- **Strict implementation of NEP 2020-** There should be strict adherence to National Education Policy (NEP) 2020 which emphasises equitable and inclusive education for all.
- **Access to justice-** There is a need to guarantee safe and healthy working and living conditions.
- **Political will-** There is a need to create a favourable legal environment to protect the rights of migrants by strengthening the labour administration.
- Employment should be generated through schemes like MNREGA and the government should find the solution to the problem of water scarcity in the drought prone region.
- **Promote Amrit Kal Vision-** Its aim is to an empowered and inclusive economy to fulfil all its humanitarian obligations.

2. Supreme Court concerns over Persistent Lynchings and Mob Violence

- The Supreme Court asked the Centre and six States to respond to a plea concerning the alarming incidents of lynchings and mob violence.
- It highlighted the need for the government machinery to be held accountable for protecting the lives of victims, including members of the minority community.
- Presently the National Crime Records Bureau (NCRB) does NOT maintain separate data on atrocities against religious minorities and on mob lynching.

Mob Lynching through Judiciary's Lens

- **Apex Court's 2018 Judgment:** In the Tehseen Poonawala Case (2018), the Supreme Court warned against the rising wave of frenzied mobs fueled by fake news, self-professed morality, and false stories. The court foresaw these incidents as "creeping threats" and emphasized the necessity to curb them promptly.
- **Call for Special Law and Punishment:** The 2018 judgment condemned mobocracy as an anathema and called for special laws and stringent punishments to address the issue effectively.

Mob Lynching?

- Mob lynching is a heinous act of premeditated extrajudicial killing carried out by a group to punish an alleged transgressor or intimidate a community.
- The absence of a separate definition for lynching in the Indian Penal Code (IPC) and inadequate provisions to deal with such crimes have raised concerns about the growing incidents of mob violence in the country.

Need for an Anti-Lynching Law

- **Filling the Legal Void:** An anti-lynching law would address the shortcomings in the current criminal jurisprudence, providing a specific legal framework to deal with such brutal acts. Presently, the IPC offers provisions for unlawful assembly, rioting, and murder, but there is no explicit law against mob lynching.
- **Curbing Lawlessness:** An anti-lynching law would hold accountable those involved in lynching incidents, establishing a clear deterrent against such acts of violence.
- **Addressing the Rise in Lynching Incidents:** Over the years, mob lynching cases have increased, necessitating a focused and comprehensive legal approach to combat this menace.

Factors behind the Surge in Lynchings

- **Impunity:** Lynch mobs often act with confidence, believing they will escape punishment. The lack of decisive action by the state has contributed to their audacity.
- **Communalism:** In cow-linked lynchings, political considerations influence the response from the incumbent government, affecting the crackdown on such attacks.
- **Fake News:** The rapid spread of misinformation through social media platforms fuels sudden waves of antagonism and contributes to mob violence.
- **Alienation and Unemployment:** Modernity has eroded associational life and a sense of fraternity, leading to feelings of alienation. High unemployment rates also leave millions of youth disengaged, making them vulnerable to manipulation.

Impact of Lynching

- **State:** Lynching undermines fundamental rights enshrined in the constitution, leading to a crisis in law and order.
- **Economy:** International agencies have issued warnings against mob lynching, negatively impacting foreign and domestic investments and sovereign

ratings. It also hampers internal migration and places an additional burden on the state exchequer to tackle such incidents.

- **Society:** Lynchings foster fear of radicalization, disrupt communal harmony, and promote intolerance, aggravating caste, class, and communal tensions.

Way Forward

- **Proactive Measures:** States must proactively monitor and flag rumours on social media and other platforms, adopting measures taken by some states as examples to deter such incidents.
- **Special Courts:** Establishing special courts to try mob violence cases would ensure prompt and efficient justice delivery.

3. Heat Waves across the World

Continents like North America, Africa, Asia and Europe have been experiencing heat waves, caused by either formation of heat domes or arrival of anticyclones in most cases.

Heat wave

- A heat wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs.
- Heat waves typically occur between March and June, and in some rare cases even extend till July in India.

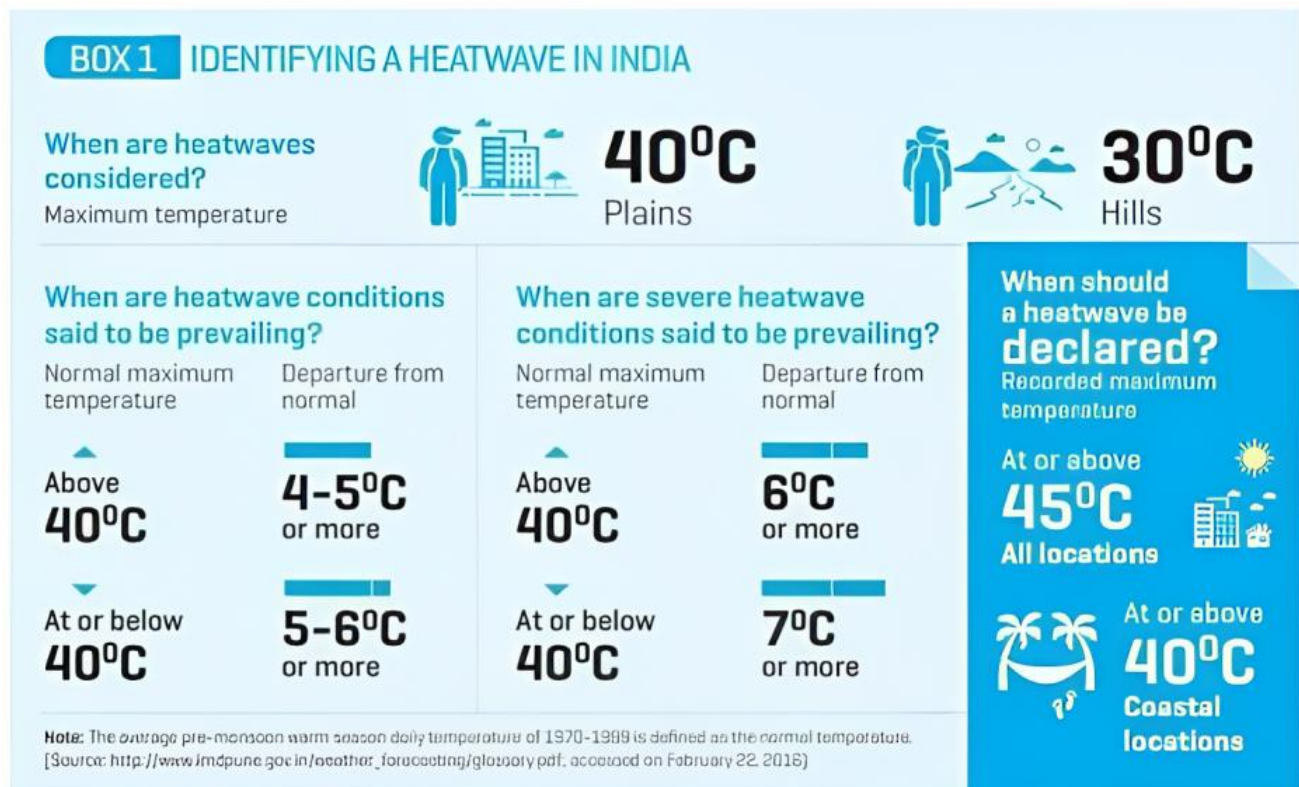


Fig:1. Identifying a Heat Wave in INDIA

How dangerous are the 'heat waves'?

According to a study released recently, heat waves killed more than 60,000 in Europe last year.

- Heat waves are particularly lethal when they become wet bulbs.
- **Wet bulb** is a condition when high temperatures combine with high humidity.
- In such conditions, sweat from the human body isn't able to evaporate, failing to stabilise the body temperature.
- This could ultimately cause heat stroke and even death.

How different parts of the world are affected by heat waves?

A marine heat wave is an extreme weather event. It occurs when the surface temperature of a particular region of the sea rises to 3 or 4 degree Celsius above the average temperature for at least five days.

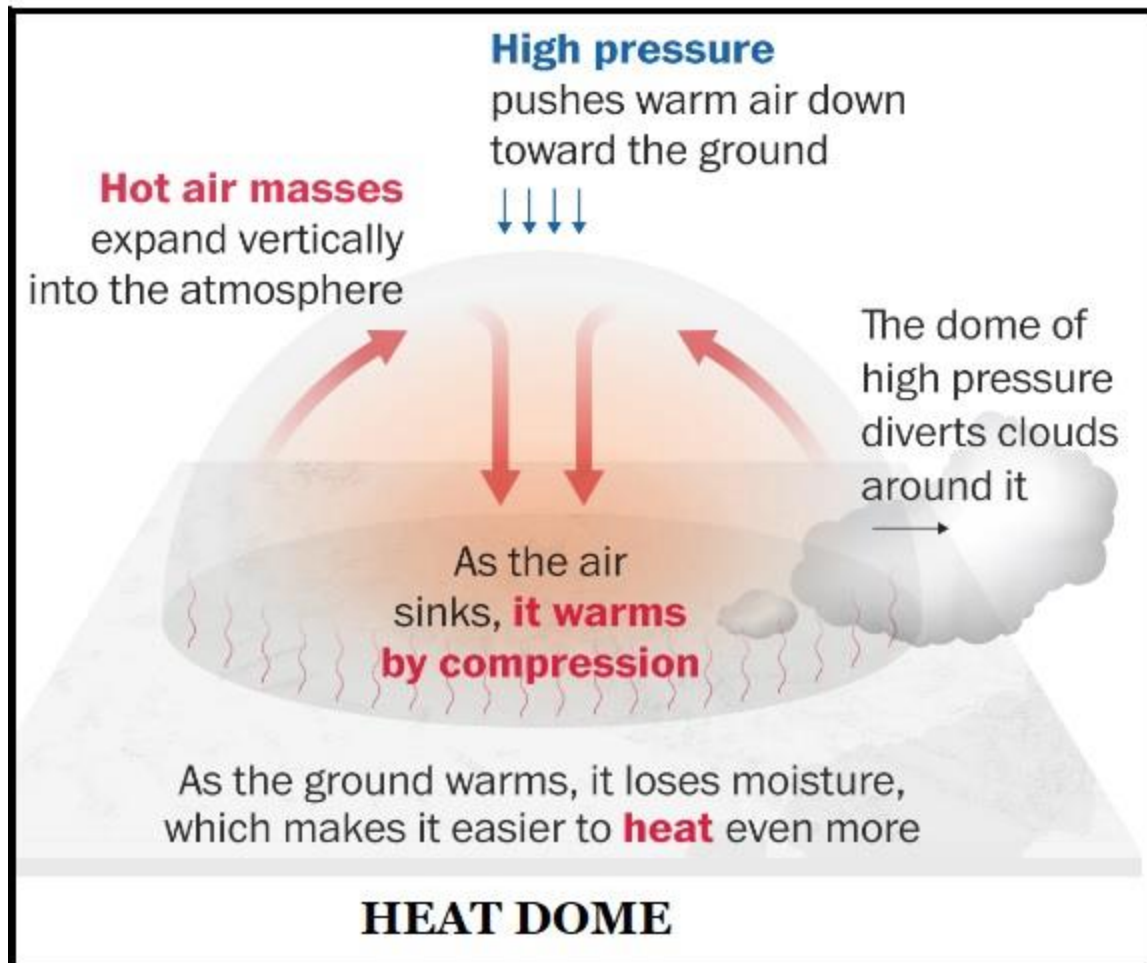
- **North America** - The USA's Arizona, California and southern Nevada have been gripped by a blazing heat wave.
- Southern, western and mid-western regions of USA continue to simmer due to unusually warm waters in the Gulf of Mexico and in the western Atlantic Ocean.

- Soaring temperatures have sparked wildfires in Canada which have so far burned nearly 25 million acres.
- **Europe** - Countries like Italy and Greece have been gripped by two consecutive heat waves within two weeks.
- Europe witnessed record-breaking temperatures and wildfires in different areas.
- **Africa** - Record-breaking temperatures have been reported in North Africa's Algeria crossing 50 degree Celsius mark.
- Tunisia is also impacted by severe heat with some parts of it reaching 49 degree Celsius.
- **Asia** - China has been searing under the impact of a series of heat waves since June.
- West Asian countries like Iran and Saudi Arabia also saw soaring temperatures in several regions.
- **India** - The occurrence of heat waves is expected in the month of July, on contrary temperatures have been under control because of heavy monsoon rains.
- In June 2023, more than 60 people died in Uttar Pradesh's Ballia after the region was hit by a heat wave.

June 2023 was the Earth's hottest June since the record-keeping of global temperatures began 174 years ago by National Oceanic and Atmospheric Administration (NOAA).

What is causing heat waves across the world?

- **Global warming** - Extreme weather events have a direct correlation with global warming.
- Climate change has increased the frequency and intensity of extreme weather events like heat waves and mass scale floods.
- **Heat domes** - Heat domes were responsible for unleashing heat waves the USA and Algeria.
- Heat dome occurs when an area of high-pressure stays over a region for days and weeks.
- It traps warm air, just like a lid on a pot, for an extended period producing warmer conditions with every passing day.
- Heat domes, if they last for a long period, may cause deadly heat waves.



- **Anticyclones** - Europe has suffered due to the arrival of two consecutive anticyclones that originated in Africa.
- Anticyclone is a high pressure system in which the air goes downwards towards the Earth's surface.
- As the air sinks, its molecules get compressed, which increases the pressure, making it warmer and causing dry and hot weather.
- **High sea surface temperatures** - El Nino is a weather pattern that refers to an abnormal warming of surface waters in the equatorial Pacific Ocean.
- The El Nino conditions have developed for the first time in 7 years and are exacerbating the extreme heat around the world.

4. Groundwater extraction shifted the Earth's axis: What a new study says

In a recent study, researchers have revealed that human activities, particularly the extraction of groundwater, have had a discernible impact on Earth's axis and contributed to the rise in global sea levels. This phenomenon, known as polar

motion, occurs as the mass distribution within and on the planet changes. While the shift in the axis may not have immediate real-life consequences, it underscores the significant influence of human actions on our planet's delicate balance.

The phenomenon of Earth's rotation

- **Rotation Axis:** The Earth rotates around an imaginary line called the rotation axis, which runs through the North Pole, the center of the Earth, and the South Pole. This axis remains fixed in space, and the Earth completes one full rotation around it in approximately 24 hours.
- **Rotation Direction:** The Earth rotates from west to east, which is why we perceive the sun and other celestial objects to rise in the east and set in the west.
- **Speed of Rotation:** The Earth rotates at a relatively constant speed. The equator experiences the fastest rotational speed, which is approximately 1,670 kilometers per hour (1,040 miles per hour). The rotational speed gradually decreases towards the poles.
- **Effects of Rotation:**
 1. **Day and Night:** As the Earth rotates, different parts of the planet are exposed to sunlight, creating the cycle of day and night.
 2. **Coriolis Effect:** The rotation of the Earth influences the movement of air and ocean currents, giving rise to the Coriolis effect. This effect causes moving objects (such as winds and ocean currents) to deflect to the right in the Northern Hemisphere and to the left in the Southern Hemisphere.
 3. **Shape of the Earth:** Earth's rotation causes it to bulge slightly at the equator and flatten at the poles, resulting in an oblate spheroid shape.
 4. **Centrifugal Force:** The rotation generates a centrifugal force that slightly counteracts the force of gravity, leading to a slightly lower effective gravity at the equator compared to the poles.
- **Polar Motion:** Earth's axis and the location of the poles are not fixed and can undergo slight movements. This phenomenon, known as polar motion, occurs due to various factors, including mass redistribution within the Earth, changes in water distribution, and atmospheric pressure variations.

The new findings of the study on the impact of groundwater extraction on Earth's axis

- **Groundwater Extraction and Axis Shift:** The study revealed that groundwater extraction plays a significant role in the shift of Earth's rotational axis. The redistribution of groundwater resulting from activities

like irrigation and meeting freshwater demands was found to be the largest contributor to the drift of the rotational pole.

Impact of Midlatitude Groundwater Extraction: The research showed that groundwater extraction from regions located at the Earth's midlatitudes, specifically North America and northwestern India, had a more pronounced effect on polar motion compared to extraction taking place at the poles or equator. This finding highlights the sensitivity of the rotational pole to mass changes in midlatitude areas. **Contribution to Sea Level Rise:** The study confirmed that groundwater extraction is a major contributor to the rise in global sea levels. The water extracted from the ground for various purposes eventually finds its way into the oceans. The researchers' calculations aligned with previous studies, which estimated that groundwater extraction raised global sea levels by 6.24mm between 1993 and 2010

Impact of Climate Change on Polar Motion

- **Changes in Water Mass Distribution:** Climate change is causing significant changes in the distribution of water masses on Earth. The melting of glaciers, ice sheets, and polar ice caps contributes to the redistribution of water from land to the oceans. This alteration in water mass distribution affects the planet's rotational dynamics, including polar motion.
- **Melting of Greenland's Ice:** Greenland's ice sheet is particularly susceptible to climate change. As it melts, vast amounts of water are discharged into the surrounding oceans. This influx of water alters the distribution of mass on Earth, leading to shifts in the rotational axis.
- **Accelerated Rotational Axis Shift:** Recent studies suggest that climate change has accelerated the shift of Earth's rotational axis since the 1990s. The increased melting of glaciers and ice sheets, combined with other climate-driven changes in water distribution, has intensified the movement of the rotational axis compared to historical patterns. **Influence on Polar Motion Magnitude:** Climate-driven changes in water mass distribution have been found to have a significant impact on the magnitude of polar motion. The redistribution of water, particularly from the melting of ice, affects the planet's overall mass distribution, causing shifts in the rotational pole.

Significance of the Study

- **Understanding Human Influence:** The study highlights the significant influence of human activities, specifically groundwater extraction, on Earth's rotational dynamics and polar motion. It emphasizes the need to recognize and account for human-induced changes in the delicate balance of the planet.

- **Environmental Consequences:** By identifying groundwater extraction as a major contributor to global sea level rise, the study emphasizes the environmental consequences of excessive groundwater usage. It highlights the importance of sustainable groundwater management to mitigate the adverse effects on sea levels and coastal regions.

Climate Change Interactions: The findings establish a connection between climate change and Earth's rotational dynamics. The study adds to the body of knowledge on how climate-driven changes in water distribution, including melting glaciers and ice sheets, can influence polar motion. Understanding these interactions contributes to a comprehensive understanding of climate change impacts.

- **Policy and Management Implications:** The study provides valuable insights for policymakers, water resource managers, and environmental planners. It underscores the need to incorporate the impact of groundwater extraction on Earth's axis and sea levels into decision-making processes. It highlights the urgency of implementing sustainable practices to manage groundwater resources effectively and mitigate adverse environmental effects.
- **Scientific Advancements:** The study contributes to the field of geodesy, which focuses on the measurement and understanding of Earth's shape, gravity, and rotation. It enhances our understanding of Earth's rotational dynamics and the complex interactions between various factors influencing polar motion.

Conclusion

- The study's results emphasize the need to recognize the far-reaching consequences of human activities on the Earth's delicate equilibrium. Groundwater extraction, driven by agricultural and freshwater needs, has been found to impact the planet's rotational axis, leading to polar motion and contributing to global sea level rise. Understanding these interactions is crucial for effective environmental management and sustainable practices to mitigate the adverse effects of human-induced changes on our planet

5. Reservation for transgender community

Trans-persons in India have been fighting for the right to horizontal reservation for a long time.

How reservations are given in India?

- Reservation in India is given to historically oppressed and disadvantaged communities so that they have a right to affirmative action policies.
- Reservation in education and employment can be divided into two broad categories, namely, vertical and horizontal.
- **Vertical reservations** are provisions aimed at addressing social asymmetry arising out of caste hierarchy or social and educational 'backwardness' (in the case of OBCs).
- Includes: Reservations for Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBC).
- **Horizontal reservation** provides affirmative policies for disadvantaged groups within categories cutting across all vertical groups.
- For example, disabled persons are guaranteed horizontal reservation in all the aforementioned vertical categories alike.

NALSA judgement

A study conducted by the National Human Rights Commission revealed that in 2017, only 6% of transgender people were formally employed.

- In the National Legal Services Authority of India (NALSA) vs Union of India (2014) case, the Supreme Court ruled that transgender persons have a right to reservation.
- It also directed the Centre and the State Governments to take steps to treat them as socially and educationally backward classes of citizens and extend all kinds of reservation in education and employment.

What is the issue?

- The NALSA judgment entitles trans persons to reservations on constitutional grounds.
- But it does not, mention the nature of reservations - whether they are to be vertical or horizontal.
- **Interpretation** - It has largely been interpreted as directing reservations for transgender people in the OBC category as the bench identifies the community as 'a socially and educationally backward class'.
- Such 'backwardness based' reservation for trans people will come at a loss for them.
- **Dilemma** - Dalit, Bahujan and Adivasi transgender persons will have to make a choice between availing reservation either based on caste and tribal identity or gender identity.
- Under such conditions, they will have to choose between a rock and a hard place.
 - Either compete with cis-gendered SC, ST persons.

- Or compete with other caste transgender persons, and cis-gendered persons from OBC communities.
- **Demand** - SC, ST trans people should be able to avail internal reservation in their categories (Horizontal reservations).

What has happened so far on horizontal reservations?

- There has been no direction from the Central government on delivering on the right to reservation for trans persons so far.
- The Transgender Persons (Protection of Rights) Act of 2019 did not have any mention of reservation neither vertical nor horizontal.
- **Earlier attempts** - The Rights of Transgender Bill, 2015 (private bill) which had provisions for reservation for trans persons in the public and private sector was rejected in the Lok Sabha.
- The Transgender Persons (Protection of Rights) Bill, 2016 (introduced by the Centre) had no provision for reservations.
- A parliamentary standing committee set up under the Ministry of Social Justice in 2018, recommended reservations for transgender persons.
- **In States** - In 2015, the Tamil Nadu government decided to categorise (only) transwomen under the Most Backward Classes (MBC) category.
- After Sangama v State of Karnataka case, Karnataka became the first and only state to offer 1% horizontal reservation to transgender persons in 2021.
- In 2023 April, transgender persons were included in the OBC category in Madhya Pradesh.

What is the status of the case in Maharashtra?

- The Bombay High Court is hearing a petition filed to include transgenders for recruitment in MahaTransco.
- The Bombay HC requested a clarification to the Maharashtra government.
- In response the Maharashtra government said that providing additional reservations for transgender persons in education and public employment will be difficult.
- The state government had earlier issued a government resolution (GR) for recruitment of transgenders in employment and education.
- The GR stated that an expert committee would be set up under the social justice department comprising 14 members.
- The bench adjourned hearing in the plea for the expert committee to consider the aspect of reservation first.

6. Indian Ocean Dipole and its Effect on El Nino

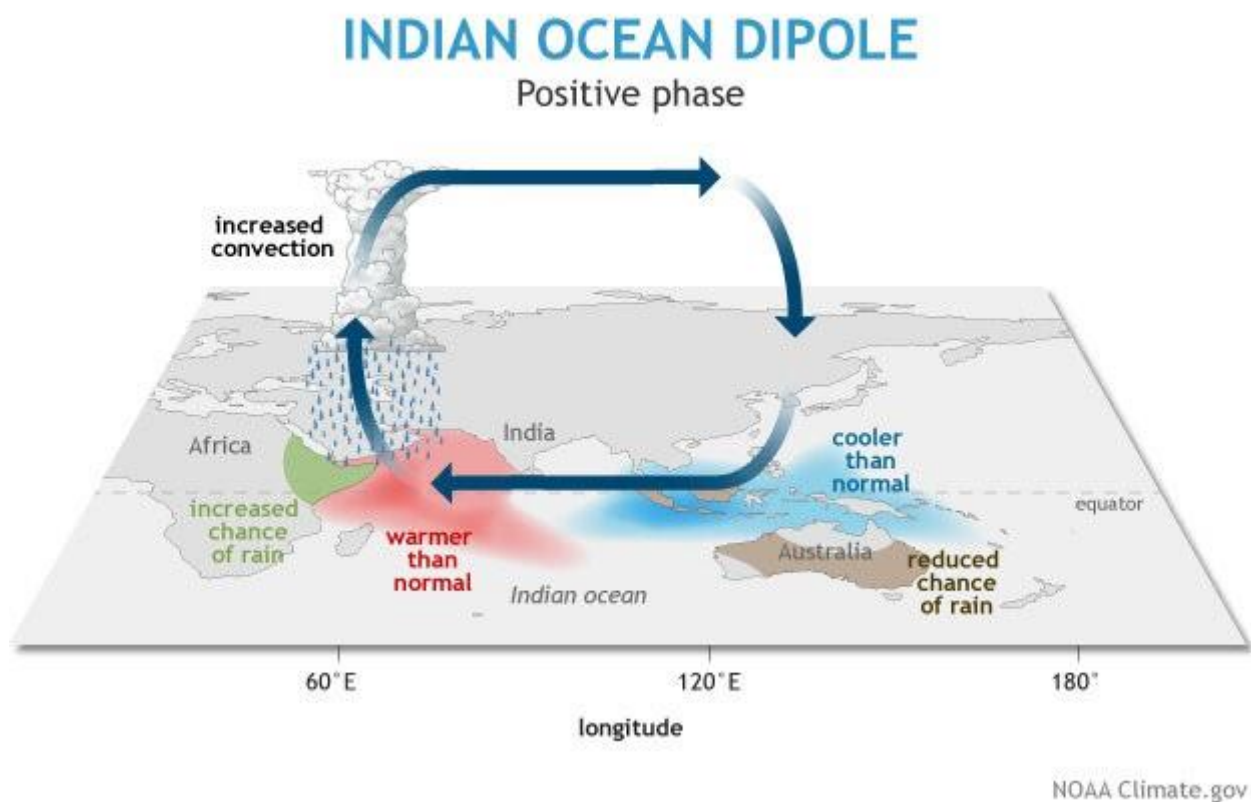
Experts have predicted a positive Indian Ocean Dipole in the coming months.

Indian Ocean Dipole

- The Indian Ocean Dipole (IOD) is a coupled ocean atmosphere phenomenon in the Indian Ocean.
- IOD is defined by the **difference in sea surface temperature** between the western pole in the Arabian Sea (western Indian Ocean) and an eastern pole in the eastern Indian Ocean south of Indonesia.
- What is Indian Ocean Dipole, how it will impact Monsoon this year?
- The IOD is sometimes called **India's El-Nino** and its impact can be seen in weather and climate patterns in India and as far as Indonesia, Australia, New Zealand and Africa.

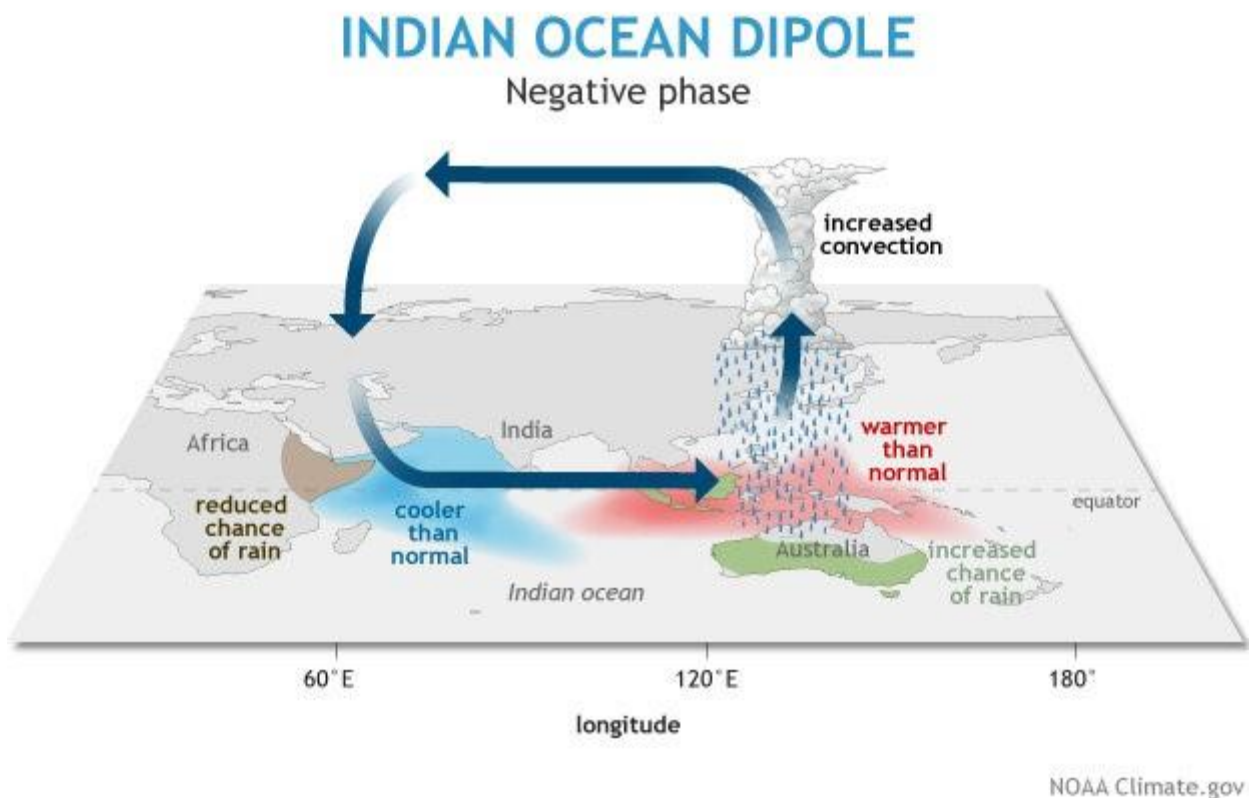
Phases of IOD

- IOD has 3 phases - Positive IOD, Neutral Phase, Negative IOD
- **Positive event**- Warmer sea surface temperatures in the western Indian Ocean relative to the east.
- It brings more rainfall to India.



- **Neutral event**-Water flows from the Pacific between Indonesia's islands, keeping seas warm to the northwest of Australia.

- Air rises above this area and falls across the western half of Indian Ocean basin, blowing westerly winds along the equator.
- This has **very less impact of Indian monsoon**.
- **Negative event**- Cooler sea surface temperatures in the western Indian Ocean relative to the east.
- It brings **less rainfall to India**.



The Indian Ocean Dipole is currently neutral. The India Meteorological Department (IMD) has said that there was an 80% chance of a positive IOD in the coming months.

ENSO

- **El Nino** - El Nino is the warming of sea waters in Central-east Equatorial Pacific that occurs every few years (Warm phase off the coast of Peru).
- Over India, the El Nino has the impact of **suppressing monsoon** rainfall.
- **La Nina** - La Niña sees cooler than average sea surface temperatures in the equatorial Pacific region (Cool phase).
- In the Indian context, La Nina is associated with **good rainfall** during the monsoon season.
- Both these conditions, together called **El Nino Southern Oscillation or ENSO**, affect weather events across the world.

Effect of IOD on ENSO

- A positive IOD event is often seen developing at times of an El Nino, while a negative IOD is sometimes associated with La Nina.
- During El Nino, the Pacific side of Indonesia is cooler than normal because of which the Indian Ocean side also gets cooler.
- That helps the development of a positive IOD.
- If both IOD and ENSO are strong their circulation can impact each other.
- Compared to ENSO events, the impacts of IODs are much weaker.

7. Nari Adalat: Women-only Courts

- The government is launching a unique initiative 'Nari Adalat' to establish women-only courts at the village level.

Nari Adalat

- Nari Adalat aims to provide an alternative dispute resolution forum for issues such as domestic violence, property rights, and countering patriarchal norms.
- The pilot project will commence in 50 villages each in Assam and Jammu and Kashmir, with plans for nationwide implementation over the next six months.

Structure and Functioning

- **Composition:** Each Nari Adalat will consist of 7-9 members, with half elected members of the gram panchayat and the other half being women with social standing, such as teachers, doctors, and social workers.
- **Objectives:** It will address individual cases, promote awareness about social schemes, collect feedback, raise awareness about legal rights, and resolve cases falling within its jurisdiction.
- **Services Provided:** The platform will offer alternate dispute resolution, grievance redressal, counseling, evidence-based decision making, pressure group tactics, negotiation, mediation, and reconciliation for accessible and affordable justice.

Implementation and Collaboration

- **Ministry-In-Charge:** The Ministry of Women and Child Development will oversee the implementation of the scheme under the **Sambal sub-scheme of Mission Shakti**, dedicated to women's safety, security, and empowerment.
- **Collaborative Efforts:** The Ministry of Panchayati Raj, the Ministry of Rural Development, and the Ministry of Electronics and Information Technology's Common Service Centers will collaborate in the implementation process.
- **Standard Operating Procedures:** Detailed procedures for all states have been prepared and will be released to ensure uniformity and effective functioning of Nari Adalats.

Inception of the idea

- **Previous Initiatives:** The scheme draws inspiration from the Parivarik Mahila Lok Adalats (People's Court of Women) previously operated by the National Commission for Women (NCW).
- **Focus Areas:** These courts addressed matters related to family affairs, matrimonial disputes, bigamy, succession, and motor vehicle accident disputes related to labor.
- **Discontinued Scheme:** The NCW-assisted Parivarik Mahila Lok Adalats conducted a total of 298 sessions before the scheme was discontinued in 2014-15.

Need for such scheme

- **Persisting Gender Bias:** Women's only courts counter gender bias in traditional court systems, providing a fair and non-discriminatory environment for women's cases.
- **Cultural and Social Barriers:** These courts break down cultural and social barriers that prevent women from seeking justice, offering a culturally sensitive space where they can freely participate.
- **Empowerment and Agency:** Women's only courts empower women to assert their rights, challenge patriarchal norms, and access justice independently.
- **Addressing Specific Issues:** These courts focus on women's unique issues, including domestic violence, property rights, and gender-based discrimination.
- **Enhanced Access to Justice:** By being located at the village level, women's only courts improve access to justice for women who face geographical and logistical challenges in reaching mainstream courts.
- **Alternative Dispute Resolution:** These courts offer mediation and negotiation options, which are more effective and less adversarial for resolving disputes, particularly in family and community conflicts.

- **Precedents and Awareness:** Women's only courts set legal precedents and raise awareness about women's rights, influencing social norms and promoting positive change.

Conclusion

- The establishment of women-only courts at the village level through the Nari Adalat initiative demonstrates the government's commitment to empowering women and promoting gender justice.

8. Report on Child Trafficking by International Organization for Migration (IOM)

A new report by the International Organization for Migration (IOM) and a centre at Harvard University (FXB) said more than half of child trafficking victims are trafficked within their own country.

About Child Trafficking Data to Inform Policy and Programming report:

- The report, titled **From Evidence to Action: Twenty Years of IOM Child Trafficking Data to Inform Policy and Programming**, was prepared by International Organization for Migration (IOM) and **François-Xavier Bagnold Centre for Health and Human Rights at Harvard University**.
- It is based on the analysis of extensive, globally sourced data, using the **IOM Victims of Trafficking Database (VoTD)**- Collection on **18.3% of 69,000 victims** of human trafficking.

Key Highlights of the report:

- **57.4% of child trafficking victims were female and 42.6% were male children.**
- Child victims ranged **from 0 to 17 years old** suggesting **no age range is immune to child trafficking**.
 - **Children aged 13-17 formed the largest group** of child victims (46.6%) and some were aged between **0 and 2 years**- indicating that **victims were likely born** into trafficking.
- Close to half of the child victims were used for **forced labour (mainly boys)**, in a wide range of industries, such as **domestic work, begging and agriculture**.
- **Sexual exploitation**, including through prostitution, pornography, and sexual servitude, is also prominent, affecting **20% of children- mainly girls**.
- Victims for **sexual exploitation were commonly trafficked internationally**, while those for **forced labour were trafficked more domestically**.

- The recruiters are **individuals or groups that introduce victims** to the situation that leads to trafficking. They are often **close to child** victims.
- Common means of control reported were **False promises (58.9%) and psychological- physical abuse.**

Suggestions by IOM:

- **Integrating counter-trafficking into climate change, environmental and disaster risk reduction** policies and programmes.
- **Tailored programmes** to address the vulnerability of children to trafficking.
- Empower communities affected by climate change, environmental degradation and disasters to develop community-based mitigation strategies aimed at reducing human trafficking.

Initiatives by India:

- **National Plan of Action to Combat Trafficking and Commercial Sexual Exploitation of Women and Children 1998.**
- **Central Advisory Committee (CAB)** to advise on methods and tactics to address the problem.
- **Pre-rescue, Rescue, and Post-rescue operations** of child victims of trafficking for Commercial Sexual Exploitation protocol were published.
- Manuals and training for Police, Medical officers and counselling by **Ministry of Women and Child Development with National Institute of Public Cooperation and Child Development (NIPCCD), and UNICEF.**
- **The Ministry of Home Affairs-** nodal Cell for the prevention of trafficking for state governments with the **necessary research, studies, and information.**
- Suggested **amendment of the Immoral Traffic (Prevention) Act, 1956** to widen its scope, focus on **traffickers, human rights of victims, and focus on proper implementation.**

9. Pride Month

Countries across the world celebrates Pride Month as a celebration of alternative sexual and gender identity.

Pride month

- Every **June** is celebrated as Pride month across the world as an occasion for members of the LGBTQ community to mark progress made on legal and social fronts on their rights.

- **Origin** - The history of gay rights in the U.S goes back to 1924, when the Society of Human Rights was founded by Henry Gerber in Chicago.
- The Stonewall riots at 1969 fired up the cause of LGBTQ activism further.
- A young activist called for nationwide protests each June honouring the Stonewall riots.
- New York's first pride march was held in June of 1970, a year after the riots, on what was then called **Christopher Street Liberation Day**.
- Thousands marched in the parade, starting off in Christopher Street and ending in Central Park's Sheep Meadow.

How other parts of the world celebrates Pride?

- In **the UK**, the first LGBTQ Pride event was held on July 1, 1972 in London and holds a Pride Parade on July 1 every year.
- Around the 1980s, Pride events in the UK focused on the AIDS crisis which ravaged the gay community and also protested Section 28
- In the UK, February is earmarked as LGBT History Month, significant as the month Section 28 was abolished in 2003.
- The Conservative government of the day banned the 'promotion of homosexual lifestyles' in schools under Section 28.
- In **Canada**, different cities may hold pride parades on different days.
- **Berlin** and certain other nations in the European Union celebrate a Pride-equivalent day on July 23, called **Christopher Street Day**.

LGBT History Month is celebrated in the month of October, while National Coming Out Day is celebrated on October 11.

Pride History in India

- **Protest** - India's first-ever protests demanding rights for gay individuals happened on August 11, **1992**.
- It was held by the AIDS Bhedbhav Virodhi Andolan (ABVA) outside ITO Police headquarters in Delhi to protest the arrest of men on the suspicion of homosexuality.
- In **1994**, a medical team sought to look into the high prevalence of same-sex relations reported from Tihar jail.
- While ABVA activists wished to distribute condoms to inmates, the jail authorities refused.
- **Legal protest** - ABVA filed a PIL in the Delhi High Court challenging the constitutional validity of Section 377 of the Indian Penal Code.
- Widely considered one of the first legal protests against government repression of LGBTQ rights in India, was dismissed in 2001.

India held its first pride parade, incidentally also South Asia's first, on July 2, 1999, in Kolkata called the Kolkata Rainbow Pride Walk.

How India decriminalised homosexuality?

- In 2009, the Delhi High Court held in **Naz Foundation vs Govt. of NCT Delhi** that treating gay sex between consenting adults as a crime was a gross violation of the fundamental right to privacy.
- **Bill** - In 2015, MP Shashi Tharoor introduced a private member's bill in the Lok Sabha seeking to decriminalize homosexuality by amending **Section 377** of the IPC.
- **Justice K. S. Puttaswamy vs. Union of India** case set a judicial precedent that helped the legal battles of the LGBTQ community.
- On September 6, 2018, the Supreme Court ruled that Section 377 was unconstitutional.
- It thus legalised "consensual same-sex acts between homosexuals, heterosexuals, lesbians and other sexual minorities."

How is the progress post the Section 377 judgment?

- **Same-sex marriage** - Post the legalisation of same-sex relationships, marriage has been the next battlefield for the community.
- **Legislature** - In April 2022, NCP MP Supriya Sule introduced a private member Bill in Lok Sabha to legalise same-sex marriage in the country.
- **Judiciary** - In June 2022, the Kerala High Court set a trailblazing precedent by allowing a lesbian couple to live together after they were coercively separated by their parents.
- In November 2022, two gay couples filed writ petitions in the Supreme Court seeking legal recognition of same-sex marriages, under the Special Marriage Act, 1954.
- A Constitution Bench began hearing the matter in April 2023, and the Court has now reserved its judgement.
- **Union government** - It has urged the Supreme Court to leave the matter to the Parliament.
- The government stated that the decriminalisation of same-sex relationships does not signify acceptance of same-sex marriage and that this is not in line with Indian society.
- **Medical** - India has also made progress on conversion therapy.
- On August 25, 2022 the National Medical Commission (NMC), banned conversion therapy and calling it "professional misconduct".

What is the state of LGBTQ+ rights globally?

- LGBTQ+ rights widely vary across the globe, and although several countries have legalised same-sex relationships, fewer nations have legalised same-sex marriage.
- **Decriminalising homosexuality** - All nations in North America and Europe have legalized same-sex behaviour.
- In Asia, it was legal in 20 out of 42 member countries in 2020.
- **Recent** - In August 2022, Singapore announced that the country would repeal Section 377A of its penal code, which criminalised gay sex.
- In December 2022, a Barbados High Court decriminalised homosexuality via an oral ruling.
- In May 2023, the Sri Lankan Supreme Court gave a green light to a Bill seeking to decriminalise homosexuality.
- **Legalising same-sex marriage** - In some countries, gay marriage has been legalised by way of legislation, in others, through judicial pronouncements.
- Some countries, like Montenegro, have recognised same-sex civil unions, while still not legalising marriage.
- At present, same-sex marriage is legal in 34 countries.
- In 2001, the Netherlands became the first country and, in 2019, Taiwan the first Asian country, to legalise same-sex marriage.
- **Recent** - Estonia's Parliament passed a law legalising same-sex marriage on June 20, 2023, which will come into effect only on January 1, 2024.
- **Homosexuality as crime** - As of November 2020, 6 UN member states (Brunei, Iran, Mauritania, Saudi Arabia, Yemen and Nigeria) still prescribed the death penalty as punishment for homosexual acts.
- In June 2023, post the signing of the Anti-Homosexuality Act of 2023, Uganda has added itself to the list.

As per the ILGA World Database, consensual same-sex sexual activity was not criminalised in 129 countries, while 64 countries still criminalise homosexuality, whether by law or de facto.

10. Oral Polio Vaccine and VDPV

The U.S., the U.K., and Israel, among others, recently reported polio cases in unvaccinated people after having been polio-free for more than a decade.

Polio

- Poliomyelitis (commonly called polio) is a highly infectious viral disease that can leave patients disabled, and in some cases, even prove fatal.
- The virus enters the nervous system and can cause total paralysis in just a few hours.


- **Types of Polio virus** - Wild poliovirus (WPV) has three known strains – types 1, 2, and 3 – each with a slight difference in structure.
- Immunity to one type does not guarantee immunity to others.
 - **Type 1 WPV** - remains in circulation and endemic to Pakistan and Afghanistan.
 - **Type 2 WPV** - declared eradicated in September 2015.
 - **Type 3 WPV** - declared eradicated in October 2019.
- **Spread** - The polio virus is most commonly spread through the faecal-oral route and through contaminated water or food.
- The virus multiplies in the host's intestine.
- **Treatment** - There is no known cure for polio. It can only be prevented by way of vaccination.
- **Vaccine** - There are two types of vaccines – oral poliovirus vaccine (OPV) and inactivated poliovirus vaccine (IPV).
- Click here to know more about **Polio virus resurgence**.

India was declared polio free in 2014 by WHO.


OPV and IPV

- **Oral Polio Vaccine (OPV)** is a live attenuated vaccine for Polio.
- It contains weakened polioviruses (all three types – 1, 2, and 3) to induce an immune response in a human body without causing disease.
- **Inactivated Polio Vaccine (IPV)** contains inactivated polioviruses (all three types).
- IPV is administered by injection.
- It induces a strong systemic immune response, thus protecting against paralytic poliomyelitis, without any risk of causing VAPP or VDPV.

What are the pros and cons of OPV?



Pros and Cons of OPV



<p>The OPV is less expensive.</p> <p>It is easy to administer as it is an oral vaccine.</p> <p>The mucosal immune response is also triggered in addition to the significant immune response in the blood (the systemic immune response).</p> <p>It triggers a robust immune response in the gut lining</p> <p>Easier to manufacture as the 'seed virus' required for the vaccine development</p>	<p>Its uptake by the immune system is not as desired and requires multiple doses over time.</p> <p>OPV in rare cases can lead to vaccine-associated paralytic poliomyelitis (VAPP) due to its ability to reverse the virus's neurovirulence.</p> <p>When the virus's ability to jump from one person to another is restored, the result can be vaccine-derived paralytic poliomyelitis (VDPV).</p> <p>The cases reported in the U.S., the U.K. and Israel last year were all VDPVs.</p>
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What is the inactivated polio vaccine?

- **Global switch** - Poliovirus Type-2 cause 90% of VAPP and VDPV cases.
- Type 2 virus was eradicated worldwide in 1999 and it was decided that OPV type-2 be discontinued.
- Since April 2016, the OPV has had attenuated versions of types 1 and 3 of the virus.
- This is accompanied by the introduction of the IPV in countries that still depended on the OPV in their national immunisation programmes.
- **VDPV after switch** - But the number of VDPV cases on contrary to expectation increased after April 2016.
- The previously existing type-2 VDPV began to circulate.
- In 2020, the VDPV Type-2 cases were at 1,081 from 26 countries, many of which were previously polio-free.
- **Reasons**
 - Limited supply/availability of the IPV
 - Cost and logistics of the IPV
 - Sudden increase in the demand for IPV after the switch.
 - The population immunity against type-2 virus dropped in OPV.

What are the alternatives in development?

- Experts are trying to develop better polio vaccines to tackle the disadvantages of both the OPV and the IPV.
- **Novel OPV (nOPV)** - It has been recently in use in African countries.
- It is manufactured using attenuated polioviruses in which certain mutations have been introduced using genetic engineering.
- nOPV makes it 5 times harder for the virus to regain its neurovirulence.
- All clinical trials shows that novel OPV is safer and effective than monovalent oral polio vaccine type 2 (mOPV2).
- Even after administering the nOPV, a few VDPV cases have been reported.
- **Sabin IPV** - Researchers are trying to use attenuated viruses instead of wild viruses to make the IPV-manufacturing safer.
- Sabin IPV is currently undergoing clinical trials in Japan and China.
- **Adjuvant** - Experts are also testing specific adjuvants (substances that enhances the body's immune response to an antigen) to be added to the IPV to induce a mucosal immune response.

GS 2 : Polity, Governance, International Relations

1. Lax Response of the States to Mob Lynching

The Supreme Court has asked several States to respond to the petition filed by National Federation of Indian Women for their consistent failure to act against mob lynching.

Mob lynching

- Mob Lynching is the act of violence by a group of people towards an individual without a legal trial.
- It is an illegal activity done by the crowd of people who turn aggressive and kill an individual on the assumption that he is a criminal and held him guilty without any legal trial.
- **Victims-** Generally, Muslims, dalits and minorities have been the victims of mob lynching.



What are the causes of mob lynching?

- **Intolerance-** People are intolerant in accepting the law and try to punish the alleged person assuming the act to be immoral.
- **Biases-** Mob lynching is said to be rising because of the biases or prejudices among various castes, class & religions.
 - The 24-year-old Tabrez Ansari was brutally beaten by a mob in Jharkhand for alleged theft, eventually leading to his death.
- **Cow vigilantism-** Cow vigilantism is a scenario where people create violence in the name of cow protection.
 - The memory of murder of a dairy farmer, Pehlu Khan and his sons by self-described cow vigilantes in 2017 in Rajasthan still stays afresh.
- **Lack of speedy justice-** Inefficient working of justice is also one of the prime reasons why people take law into their own hands without fearing of consequences.
- **Poor law enforcement-** Police officers play a significant role in protecting person's life & maintaining harmony, but due to ineffective investigation procedure, hate crime is in the rise.
- **Lack of awareness-** Easy spread of fake news due to increase in the internet penetration.
- **Lack of data-** In 2017, the National Crime Records Bureau (NCRB) collected data on mob lynching, hate crimes and cow vigilantism, but it was not

published as these crimes are not defined and the data were found to be unreliable.

Manipur is the first state to have a law for mob lynching in 2018.

What are the concerns of mob lynching?

- **Growth of communalism-** A rampant rise in lynchings and mob violence against a particular religious community revealed police apathy.
- **Violation of Constitution**
 - Articles 14 - Equality before the law
 - Article 15 - Religious non-discrimination
 - Article 21 - Right to life
- **Breach of duty-** Due to inefficiency of police administration to stop mob lynching it leads to breach of a duty of care.

Tehseen Poonawala vs Union of India in 2018

- Supreme Court held that it was the “sacrosanct duty of the State” to protect the lives of its citizens.
- It stated that no right is higher in a secular, pluralistic and multiculturalist social order than the right to live with dignity and to be treated with humaneness.
- Vigilantism cannot become the “new normal”. No citizen can assault the human dignity of another, for such an action would comatose the majesty of law.
- The court declared that the authorities of the States have the “principal obligation” to see that vigilantism does not take place.
- “Vigilantism cannot, by any stretch of the imagination, be given room to take shape”.

What is the issue now?

- **Contempt petition-** The Centre and States are facing a separate contempt petition in the Supreme Court for non-compliance with the Tehseen Poonawala judgment.
- National Federation of Indian Women (NFIW) also filed petition against several States for their consistent failure to act against mob lynching on Muslims by cow vigilantes.
- **Status report-** The apex court directed the States to file a status report containing year wise data from 2018 by September 30, 2023.

What were the remedial directives given by the Supreme Court?

- SC in 2018 described lynching as a “horrendous act of mobocracy” and laid down guidelines for the both Centre & state governments to frame laws particularly to deal with lynching.
- **Designated officer-** Appoint a designated nodal officer, not below the rank of Superintendent of Police to prevent prejudice-motivated crimes like mob violence and lynching.
- **Lodge FIR-** The immediate lodging of an FIR if an incident of lynching or mob violence comes to the notice of the local police.
- **Duty of Station House Officer-** To inform the nodal officer in the district about the registered FIR, to ensure that the families of the victims are secured from further harassment.
- The investigation of the crime should be personally monitored by the nodal officer.
- **Duty of police officer** – It is the duty of every police officer to cause a mob to disperse that seems to cause violence, in their opinion.
- **Victim compensation** -There should be a scheme to compensate victims of such prejudice-motivated violence.
- **Negligence of duty-** Any failure to comply with the court’s directions by a police or district administration officer, would be considered as an act of deliberate negligence and/or misconduct.
- Appropriate action will be taken for negligence of duty within 6 months.
- **Role of States-** States should take disciplinary action against their officials if they did not prevent the incident of mob lynching,
 - Despite having prior knowledge of it, or
 - Where the incident has already occurred,
 - Official did not promptly apprehend and institute criminal proceedings against the culprits.

What lies ahead?

- **Designated Fast Track Courts-** States need to set up a designated fast track court in every district to deal exclusively with mob lynching cases.
- **Special Task Force-** The court had said that there is a need to set up of a special task force.
- **Compensation** - NHIW has directed the government to pay a “minimum uniform amount” to the victims of lynchings and mob violence.
- **Separate law-** Each state should have a separate law to deal with incidents like mob lynching.
 - Presently, only 3 states - Manipur, West Bengal & Rajasthan, have enacted laws against mob lynching.

2. Israel Judicial Reform Explained: What is the crisis about?

- On July 24, the governing coalition in Israel's Parliament (Knesset) passed a critical part of its judicial overhaul plan, aimed at curbing the Supreme Court's oversight powers over government decisions.
- This has sparked months of protests against the right-religious government's plans to transform the judiciary.

Judiciary Overhaul: The Crisis Trigger

- **Abolishing the "Reasonability Doctrine":** The Knesset legislation abolishes the "reasonable doctrine" used by the Supreme Court to assess government decisions and ministerial appointments. This doctrine allowed the court to determine the sensibility and fairness of government decisions and nullify them if deemed necessary.
- **Reasonability Doctrine in Other Countries:** The reasonability standard is a legal standard used in several countries, including Australia, Canada, and the U.K., by top courts to evaluate government decisions.
- **Criticism and Justification:** Supporters of the government argue that the reasonability standard is too abstract and prone to judicial overreach, justifying its removal. They claim that this change will prevent courts from interfering in executive decisions.

Other Proposals in the Overhaul Plan

- **Curbing Judicial Review:** The original overhaul plan included proposals to limit judicial review over legislation and empower Parliament to override court decisions with a majority vote of 61 out of 120.
- **Greater Control of Judicial Appointments:** The government seeks to replace members of the Bar Association in the nine-member panel responsible for selecting judges with "public representatives" chosen by the government. This change would give the government a majority vote in the committee and more control over judicial appointments.
- **Ministers' Autonomy from Legal Advisers:** Another proposal seeks to remove the legal obligation for Ministers to follow the advice given by their legal advisers, including the Attorney-General's guidance.

Motivation behind the Overhaul

- **Right-Wing Government's Agenda:** Israel's current government, composed of right-wing, ultra-Orthodox, and extreme-right parties, aims to strengthen its control over the judiciary. The right-wing leaders have criticized the judiciary for impeding their legislative agenda and settlement expansion in Palestinian territories.

- **Shift in Israel's Polity:** Over the years, Israel's polity has shifted rightward, while the judiciary remained relatively independent. The right-wing has long advocated for bringing the courts under the Parliament's ambit.
- **Influence of Think Tank:** The Kohelet Policy Forum, a think tank backed by American and Israeli billionaires, has played a significant role in formulating the judicial reforms. Kohelet seeks to advance right-wing policy reforms in Israel and has pushed for the overhaul of the judiciary.

Protests and Concerns

- **Undermining Democracy:** Critics, including the Opposition and civil society, argue that the government's actions are an attempt to undermine Israel's democracy. They fear that concentrating power within the government, controlled by right-wing and religious parties, could lead to an authoritarian theocracy.
- **Tensions between Liberal and Orthodox Jews:** Protests have spread to different groups, including military reservists, amid concerns that religious parties may undermine the courts and empower religious sections.
- **Supreme Court Review:** Civil society groups have filed petitions in the Supreme Court challenging the legislation on the reasonability doctrine. The court, facing a constitutional showdown, will review the challenges, even though the law curtails its own powers.

Conclusion

- The passage of the judicial overhaul plan in Israel's Knesset has significant implications for the country's governance and democratic fabric.
- The concentration of power within the government and curtailing the Supreme Court's oversight powers has raised concerns about checks and balances.
- Civil society's petitions and the Supreme Court's subsequent decisions will be crucial in determining the future course of Israel's judiciary and its democratic institutions.

3. Whistle Blowing

Daniel Ellsberg, an American military analyst who had caused a public uproar in 1971 by releasing Pentagon Papers died recently.

Whistle blowing

- Whistleblowing is the act of drawing public attention, or the attention of an authority figure.
- It is done for perceived wrongdoing, misconduct, unethical activity within public, private or third-sector organisations.
- Corruption, fraud, bullying, health and safety violation, cover-ups and discrimination are common activities highlighted by whistle-blowers.
- **Types of whistle blowers**
 - **Internal Whistle blowers**- The whistle blowers inform or report to the higher authority of the organizations where the wrongful act is being done.
 - **External Whistle blowers**- They report illegitimate incidents to the external people- media, Government office etc.,

Status of Whistle blowing in India

- In 2011, Law Commission recommended a law should be in place for protection of Whistle blowers.
- In 2004, Government notified a resolution “Public Interest Disclosure and Protection of Informers Resolution (PIDPIR)”
- **Power** - The resolution gave the power to Central Vigilance Commission to act on complaints from Whistle blowing.
- In 2014, India enacted Whistle Blowers Protection Act to provide adequate safeguards for whistle blowers.
- **Companies Act 2013** - It makes it mandatory for the entities listed on the stock exchanges to set up an audit committee to investigate whistleblower complaints.
- **Institutional Support** - Securities and Exchange Board of India (SEBI) has guidelines to regulate the companies to have law for protection of Whistle blower.
- **International Convention** - In 2005 India become a signatory to the UN Convention against Corruption.
- It talks about the reporting of corruption done by the public or private entities and protecting the whistleblowers from the retaliation faced by them.

Famous Instances of Whistle blowing in India

Whistle blowing Cases	About
Shanmugam Manjunath case	An Indian Oil Corporation Officer who was murdered after he exposed adulterated fuel.
Lalit Mehta case	An activist who exposed corruption in the National Rural Employment Guarantee Act (NREGA) scheme.
IPS Narendra Kumar Singh case-	An Indian Police Service Officer who was killed after he exposed illegal mining in Madhya Pradesh.

Vyapam Scam	It was one of the most notorious episodes in India's educational and recruitment narrative exposed by Anand rai in Madhya Pradesh.
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What are the provisions under Whistle Blowers Protection Act, 2014?

- **Aim-** To prevent corruption, asset misappropriation and misuse of power.
- **Applicability-** The law applies only to the public sector and targets the public servants.
- **Burden of proof-** Lies on the public authority.
- **Filing Complaint-** The complaint can be filed by a public servant or any other person to make a public interest disclosure.-
- **Good faith requirement-** The report must be submitted in good faith so that the whistle blower may be exempted from defamation claims and prosecution in case the information him/her is incorrect.
- **Conditions for Whistle blower**
 - The whistle blower should act immediately after the act of misconduct was observed.
 - The whistle blower must identify himself. Otherwise, his report will not be considered.
 - Anonymous and false identity of complaints will not be encouraged.
- **Authority-** The report is submitted to the Competent Authority, who must conceal the identity of the whistle blower.
- The complaint is then forwarded to the Head of the Department.
- The whistle blower may choose to reveal the identity to the Head of the Department or provide the necessary evidence to the Authority.
- **Court of Appeal-** Any person aggrieved by the competent authority can approach the High Court within the 60 days from the date of order.
- **Exceptions-** The whistle blower can't report on matters which may harm the sovereignty of India or directly damage its national security.
- **Penalty-** There is a provision of penalty to any person who has disclosed the identity of complainant and penalty for false identity of the complainant.

What is the significance of Whistle blowing?

- **Improves transparency-** It will help to combat corruption, serious misconduct and illegal wrong doings.
- **Public trust-** It ensures accountability and enhances the public trust with the government.

- **Protect rights of the people-** People must know about the happenings in the government, there must be appropriate mechanism to whistle blow a serious misconduct.
- **Enables justice-** It provides an environment of safety and protection from the inevitable abuse of power.

4. Adjournment Motion

Recently opposition parties moved an adjournment motion in the Lok Sabha, citing the need for urgent discussions on the ethnic violence in Manipur.

Adjournment motion

- The adjournment motion is a form of censure of the government.
- It originated in the House of Commons in the United Kingdom.
- It was established through Government of India Act, 1919 in India under the rules of the pre-independent bicameral legislature.
- **Lok Sabha** - It is introduced only in Lok Sabha to draw attention of the House to a definite matter of urgent public importance.
- It involves an element of censure against the government, so Rajya Sabha is not permitted to use the motion.
- **Support** - An adjournment motion needs the support of 50 members to be admitted.

When adjournment motion can be moved?

Normal Business	Adjournment Motion
To raise matters in the House, MPs must inform the presiding officers in advance	The Scheduled business can be set aside by a procedural mechanism called the "adjournment motion".
It is available in both houses	Only Lok Sabha has this provision as it involves an element of censure
MPs inform to speaker of Lok Sabha and Chairman of Rajya Sabha in advance	The Speaker has to decide whether to allow the MP to move the motion.
This requirement ensures the government can collect information to respond to the MPs, the information of bills and budget in the agenda of the government is passed	This Rule in Lok Sabha allows an MP to urge the Speaker to adjourn the House's business "to discuss a definite matter of urgent public importance".

to MPs to prepare for debate.	
MPs can only discuss a matter that is on the day's business.	It results in the House dropping its scheduled list of business to discuss this urgent matter.

What are the criteria for adjournment motion?

- **Time** - The discussion on the Adjournment motion must be at least two hours and thirty minutes (2hrs and 30 minutes).
- **Coverage** - It should not cover more than one topic.
- It should be restricted to one issue which had a recent occurrence.
- It should not be a topic that is already discussed or under discussion, in the same session.
- It should not involve the matter of privileges.
- It should not contain topics that are under adjudication by the court.
- It should not be a matter that can be raised under a distinct motion.

What is the significance of adjournment motion?

- **Collective responsibility** - Article 75 says that the Council of Ministers is collectively responsible to the House of the People.
- **Rule Book** - Due to doctrine of collective responsibility, in 1952 adjournment motion found a place in Lok Sabha rule book.
- **Urgent action** - G.V.Mavlankar the first speaker of Lok Sabha called the adjournment motion a very exceptional thing.
- The members should resort to this procedural device when the "occasion is of such a character that something very grave, something which affects the whole country, its safety, its interests and all that is happening, and the House must pay its attention immediately".
- **Accountability** - It ensures a responsive and responsible character of the Government, to address the matter of urgent public importance.

The main issue with the adjournment motion is the reluctance of the Lok Sabha Speakers to allow these motions. Most Lok Sabha have spent **less than 3%** of their time on adjournment motions. The only exception being the 9th Lok Sabha which spent almost 5% (36 hours) of its time on adjournment motion.



ADJOURNMENT MOTIONS IN LOK SABHA

Lok Sabha Number	Notices Received	Admitted
2	1,262	3
3	776	7
4	1,078	12
5	996	10
6	295	6
7	5,762	24
8	1,805	4
9	375	9
10	608	4
11	63	1
12	83	0
13 (1999 - 04)	1,778	5
14 (2004 - 09)	163	7
15 (2009 - 14)	759	2
16 (2014 - 19)	Data not available	0

What are the ways for the MPs to draw attention of the house?

About	Lok Sabha	Rajya Sabha
Short duration Discussion- A debate without voting	Rule 193	Rule 176
A motion with a vote	Rule 184	Rule 167
To discuss urgent matter	Adjournment motion	Rule 267
Collective responsibility	No confidence motion	Not available

What is the issue in Rajya Sabha?

- Since Rajya Sabha Rule Book does not provide for an adjournment motion, hence rule 267 was used to suspend pre decided agenda in the House to raise urgent matters.
- **Amendment** - In 2002 it was amended to only allow the suspension of a Rule for a matter related to the business listed before the Council of that day.

- So now, rule 267 can be used only to suspend to take up matters that are already on the list of business.
- But opposition parties want to invoke Rule 267 of Rajya Sabha which favoured a longer period of discussion.
- The Rajya Sabha agrees only to invoke short duration discussion to discuss Manipur issue.

What is a short duration discussion?

- **About** - As per rule 176 of Rajya Sabha, if the Chairman is satisfied that the matter is urgent and is of sufficient public importance to be raised in the Council at an early date.
- He may admit the notice and in consultation with the Leader of the Council fix the date on which such matter may be taken up for discussion and allow such time for discussion, not exceeding two and a half hours.

5. Guidelines for Human Immunodeficiency Virus (HIV) by World Health Organization (WHO)

World Health Organization (WHO) has recently released new guidelines for Human Immunodeficiency Virus (HIV) at the **12th International AIDS Society Conference on HIV Science**.

Key highlights of guidelines:

- There is a **critical role of HIV viral suppression and undetectable virus levels** in enhancing individual **health** and **preventing transmission** of the **virus**.
- Countries shall **integrate Mpox detection, prevention, and care** with existing and innovative **HIV and sexually transmitted infection prevention** and control programmes.
- An analysis of **global surveillance data (2022-2023)** has reported a multi-country outbreak of **Mpox** with following observations:
 - Around **39% Mpox cases** had an **association** with **HIV**.
 - Among those, **52% suffered** from **HIV**, who had most of **sex with men (MSM)**.
 - More than **80%** of them reported **sex** as the **most probable route** of getting infected with Mpox.
 - Around **25%** had **advanced HIV disease** or immunosuppression that led to an increased risk of **hospitalization** and **death**.
- People living with **HIV** who were taking the treatment and having good immunity had similar **hospitalization** and **death** outcomes as those who were **HIV-negative**.

- It described key **HIV viral load thresholds** and **methods** for measuring **virus levels** in relation to those thresholds.
- HIV-infected people had **undetectable** levels of the **virus** through consistent use of **antiretroviral therapy (ART)**.
 - **Anti-retroviral drugs (ART)** are drugs that delays the **progression** of the infection into **Acquired Immunodeficiency Syndrome (AIDS)**.
- Person infected with HIV when given ART, did **not transmit** HIV to their **sexual partner(s)** and are at low risk of **vertical transmission** to their **children**.
- There is a **negligible risk** of transmitting HIV if **viral load** measurement is less than or equal to **1000** copies per mL (**suppressed viral load**).
 - **Viral load** refers to the **amount of virus** in the **blood** of infected person.
 - **HIV viral load** measures the amount of **viral RNA** (genetic material of the virus) in a sample of a patient's blood.
- About **40 million** of **HIV infected** people depended on a **combination** of **drugs** to suppress the viral load in their blood.
- People treated with ART are expected to have the **same health and life expectancy** as **HIV-negative persons**.

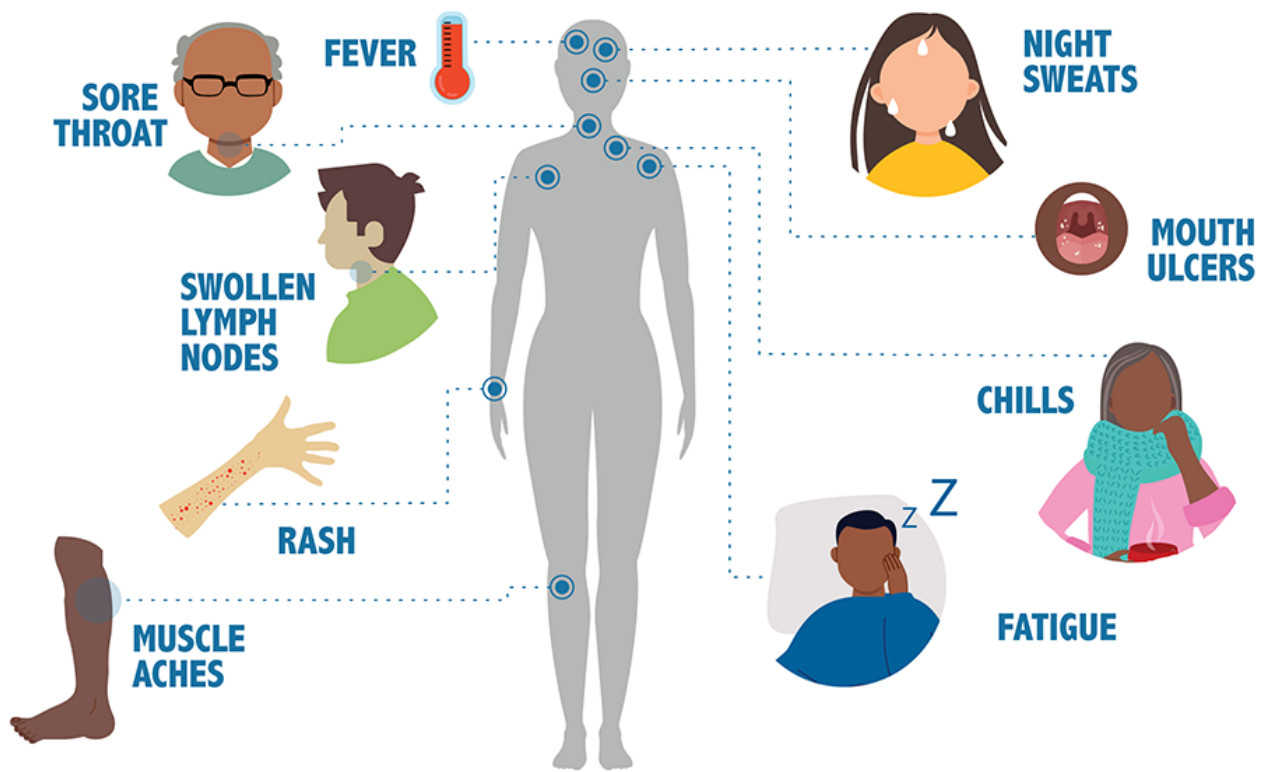
WHO-led rapid electronic survey:

- It was done to **assess community experiences** of the **mpox outbreak** in **Europe** and **America** for better preparedness and response.
- The survey focused on men who have sex with men and **trans** and **gender-diverse** people.
- Almost **51%** changed their **sexual behaviour** (like reducing number of sexual partners) and **35%** had **maintained** these changes after one year.
- The findings from this survey provide valuable insights into the experiences and **needs of affected communities** and emphasize on **increasing** access to **mpox vaccination** and **diagnostics**.

About HIV-AIDS:

- **Acquired immunodeficiency syndrome (AIDS)** is a chronic immune system disease caused by the human immunodeficiency virus (HIV).
- HIV damages the immune system and **interferes** with the **body's** ability to **fight infection** and **disease**.
- It can be spread through **contact** with **infected blood, semen, or vaginal fluids**.
- There's **no cure** for **HIV/AIDS**, but **medications** can control the **infection** and prevent disease progression.

HIV-AIDs symptoms:



About Monkeypox (Mpox):

- Mpox is an illness caused by the **monkeypox virus**.
- It can spread between **people** and occasionally from the **environment** to **people** via things and surfaces **touched** by a person with mpox.
- It spreads via **physical contact** with **infected** animals like some species of **monkeys, terrestrial rodent (tree squirrel)**.
 - Physical contact through **bites or scratches**, or activities such as **hunting, skinning, trapping, or cooking**.
- Most of the cases that were reported in the **multi-country outbreak** were identified among **gay, bisexual, and other men** who have sex with **men**.
- There are three **vaccines** against **mpox**- **MVA-BN, LC16 and OrthopoxVac** approved for the prevention of mpox.

6. LS passes Forest Conservation (Amendment) Bill

The Lok Sabha passed the Forest Conservation (Amendment) Bill, aiming to amend the Forest Conservation Act, 1980, despite objections raised by various groups.

Introduction and Passage of the Bill

- The Lok Sabha passed the Forest Conservation (Amendment) Bill without any changes from the first version introduced on March 29.
- The Bill aims to amend the Forest Conservation Act, 1980, which has been empowering the Centre for the past four decades to ensure proper compensation for forest land diverted for non-forestry purposes, even beyond officially classified forest areas.

Objectives of the Amendments

- The amendments encourage cultivating plantations on non-forest land to increase tree cover, act as a carbon sink, and support India's goal of achieving 'net zero' carbon emissions by 2070.
- The amendments seek to remove restrictions on creating infrastructure for national security and livelihood opportunities for people living on the outskirts of forests.

JPC Investigation and Objections

- A Joint Parliamentary Committee (JPC) investigated the Bill due to raised objections when it was first introduced.
- Objections claimed that the amendments "diluted" the Supreme Court's 1996 Godavarman case judgement, which provided protection to vast forest areas, even if not officially recorded as forests.
- Concerns were raised about the new name of the Act, Van (Sanrakshan Evam Samvardhan) Adhiniyam, being "non-inclusive" and excluding non-Hindi speaking populations in south India and the northeast.
- There were fears that large parcels of forest land near borders would lose protection.

Response from the Government

- The objections raised during the JPC's deliberations were ultimately dismissed.
- The measure would enhance road and infrastructure accessibility for soldiers stationed in Ladakh's sub-zero temperatures.

7. No Confidence Motion

Recently, Lok Sabha Speaker accepted the Opposition's no confidence motion against the Government.

No confidence motion

- In a parliamentary democracy, a government can be in power only if it commands a majority in the directly elected House.
- It is a parliamentary process that allows the opposition to challenge the government's majority.
- If the no-confidence motion is passed in the Parliament, then the government must resign.
- **Article 75(3)** of our Constitution embodies this rule by specifying that the Council of Ministers are collectively responsible to the Lok Sabha.
- For testing this collective responsibility, the rules of Lok Sabha provide a particular mechanism – a motion of no-confidence.
- A no confidence motion can only be moved in the Lok Sabha.

Why is NCM adopted now?

- **Manipur Issue** - Since the beginning of the Monsoon Session, opposition parties have been demanding that Prime Minister Narendra Modi make a statement in Parliament on the violent situation in Manipur.
- After several days of protests and washouts, the opposition gave two separate notices to move motions of no-confidence against the government, hoping to force the Prime Minister to reply to the debate

What is the difference between NCM and censure motion?

Censure Motion	No Confidence Motion
It should state the reasons for its adoption in the Lok Sabha.	It need not state the reasons for its adoption in the Lok Sabha.
It can be moved against an individual minister or a group of ministers or the entire council of ministers.	It can be moved against the entire council of ministers only.
It is moved for censuring the council of ministers for specific policies and actions.	It is moved for ascertaining the confidence of Lok Sabha in the

	council of ministers.
If it is passed in the Lok Sabha, the council of ministers need not resign from the office	If it is passed in the Lok Sabha, the council of ministers must resign from office.

What is the procedure for passing a NCM?

- **Support** - Any Lok Sabha MP who can garner the support of 50 colleagues can introduce a motion of no-confidence against the Council of Ministers.
- It is moved in writing and must be signed by the member moving it, the motion is submitted to the Speaker of Lok Sabha on any day on which the House is sitting.
- **Power of Speaker** - He will decide whether to admit the motion for discussion and debate.
- If the motion is admitted, the Speaker will decide on the date and time for discussion.
- **Date** - This date for discussion should be within 10 days from the date the motion was accepted in the House.
- **Time for discussion** - The Speaker may grant time for discussion of the motion under Rule 198 of Lok Sabha.
- **Debate** - The motion will be debated in the Lok Sabha and it will be moved by the member who submitted it.
- Government will respond to the motion, the opposition parties will then have the opportunity to speak on the motion.
- **Vote** - After the debate, the Lok Sabha will vote on the NCM, it will be passed if it is supported by the majority of the members of the House.

8. UNESCO endorses Banning Smartphones from Schools

- The UNESCO has released Global Education Monitoring (GEM) Report 2023.
- The report warned against the negative impacts of excessive screen time on children's well-being and academic performance.

Global Education Monitoring Report 2023

- Established in 2002, the GEM Report is an editorially independent report, hosted and published by UNESCO.
- At the 2015 World Education Forum, it received a mandate from 160 governments to monitor and report on progress on education SDG 4.0.

- The report provides in-depth analysis and assessment of key education issues and challenges worldwide.
- It also offers evidence-based insights and policy recommendations to improve education systems and outcomes.

Concerns raised in the report

- **Ills of digital learning:** The report highlights that learning benefits diminish if technology is used excessively or without qualified teachers' involvement.
- **Equitable Learning:** The report reveals that inequities in learning emerge when instruction becomes exclusively remote, affecting vulnerable students, especially in rural areas.
- **Evidence-based Approach:** The report urges for sound, impartial evidence on technology's impact in education, as most available evidence originates from technology companies and may be biased.
- **Long-term Costs and Sustainability:** Countries need to consider the long-term costs of digital learning and connectivity. The expansion of the Edtech market should not overshadow unmet basic education needs.
- **Threats posed by AI:** The growth of generative AI and technology necessitates digital literacy and critical thinking skills.
- **Protecting Children's Rights:** During the pandemic, many online education initiatives risked infringing on children's rights.

Key endorsements: Banning smartphones in schools

- The report endorses banning smartphones in schools if technology integration does not improve learning or negatively affects student well-being.
- Research indicates that banning mobile phones from schools can lead to better academic performance, especially among low-performing students.

9. Bedaquiline for TB

Johnson & Johnson's patent on bedaquiline expired recently which will allow generic manufacturers to supply this crucial drug for Tuberculosis.

Tuberculosis (TB)

- Tuberculosis (TB) is an infectious disease that most often affects the lungs.
- TB is caused by a type of bacteria called *Mycobacterium tuberculosis*.
- **Symptoms -**



Prolonged coughing



Fever



Night sweats



Poor appetite



Weight loss



Coughing up blood

- **Transmission** - TB bacteria spread through the air from one person to another
- It spreads through the air when infected people cough, sneeze or spit.
- **Treatment** - Tuberculosis is preventable and curable.
- Globally, DR-TB is a major contributor to antimicrobial resistance.

Drug-resistant TB

A dangerous variant of the tuberculosis (TB) bacteria

Extensively drug-resistant TB (XDR-TB)

- ▶ Resistant to the two most powerful anti-TB drugs of the four first line (*standard*) drugs against TB
- ▶ Resistant to three or more of six classes of second-line drugs (*more expensive, less effective drugs used when first line fails*)
- ▶ First described in 2006 after an outbreak in South African town of Tugela Ferry
- ▶ **More than 5,000 cases reported worldwide**

Multi-drug resistant TB (MDR-TB)

- ▶ Strain that thwarts the two most powerful of first line drugs

Drug resistance is caused by :

- ⊕ Incorrect prescription
- ⊕ Erratic supply of drugs
- ⊕ Poor quality drugs
- ⊕ Patient non-adherence

Regular TB kills around 2 million people a year, mostly in poor countries lacking access to medicine

Source: WHO/NIH 261007 AFP

Each year, nearly half a million people develop drug-resistant TB and nearly 10.4 million people develop drug-sensitive TB.

Bedaquiline

- Bedaquiline is the core drug for the treatment of drug-resistant TB (DR-TB).
- Bedaquiline is a crucial drug in the treatment of multi-drug resistant TB (MDR-TB) patients for whom the first-line drug treatment has stopped working.

- It is also an oral medicine with minimal side-effects as compared to other such medicines like Kanamycin.
- Janssen Pharmaceutical (a subsidiary of J&J) made bedaquiline around 2002 and was approved in 2012.
- So far, J&J has claimed sole ownership of bedaquiline.

What is the issue with J&J patent?

- J&J has filed secondary patents over bedaquiline till 2027, which were granted in 66 low-and middle-income countries.
- It includes 34 countries with high burden of TB, multidrug-resistant TB (MDR-TB) and TB/HIV.
- J&J is maintaining its monopoly over the bedaquiline market through this patents.
- J&J is planning a deal with Global Drug Facility (GDF), a non-profit distribution agency, which could expand access to the drug.
- J&J has sought to extend its patent on bedaquiline and is facing has faced public outrage for it.
- **In India** - The Indian Patent Office rejected J&J's secondary patent which would have extended its monopoly for 4 more years.
- Indian measures against evergreening of patents -
 - **Section 3(d) of the Patents Act of 1970** does not allow 'evergreening' of patents to ensure that the monopoly does not exist.
 - This section prevents innovator pharma companies from extending the patent beyond the stipulated period of 20 years.

What are the implications of J&J's patent expiry?

- On the expiry of Bedaquiline patent, the drug makers can make the generic versions as per the law.
- Generic competition of drug manufacturing will decrease the prices of the drugs.
- **In India** - National TB programmes will benefit from the generic supply of bedaquiline from Indian manufacturers to reduce prices.
- With patent inforce, the drug was procured only through the government and costs about Rs.21,000 for a 6-month course.
- The government has restricted the supply of the drug, in view of the cost.
- With the advent of generics at a lower price, the reach of the drug to the drug-resistant TB patients in the country will expand in due course of time.

Will the J&J-GDF deal make the generic of bedaquiline accessible?

- Some of the countries hardest hit by DR-TB will not benefit from this deal.

- Eastern European countries and China with high burden of TB are out of the agreement.
- Countries like South Africa are not purchasing from GDF so far.
- South Africa cannot access generic Bedaquiline until 2047 as the ever-greening patent is still in force.

10. International Civil Aviation Organization (ICAO)

Recently, The Directorate General of Civil Aviation has adopted guidelines for environmental protection developed by the **International Civil Aviation Organization (ICAO)**.

- These guidelines are to promote sustainable aviation practices and reduce greenhouse gas emissions from the aviation sector.
- Minister of State for the Ministry of Civil Aviation Gen. (Dr) V. K. Singh informed this in a written reply in the Rajya Sabha recently.

About International Civil Aviation Organization (ICAO):-

- **Establishment: 1944.**
- **HQ: Quebec, Canada.**
- The International Civil Aviation Organization (ICAO) is a specialized funding agency of the **United Nations**.
- **Objective:** to help countries share their skies to their mutual benefit.
- **Membership: It has 193 Member States.**
 - **India is one of ICAO's founder members**, having attended the Chicago Convention.

Functions of ICAO:-

- It **changes the principles and techniques** of international air navigation.
- It fosters the **planning and development of international air transport** to ensure safe and orderly growth.
- It **adopts standards and recommended practices** concerning air navigation, its infrastructure, flight inspection, prevention of unlawful interference, and facilitation of border-crossing procedures for international civil aviation.
- It defines the **protocols for air accident investigation** that are followed by transport safety authorities in countries signatory to the Chicago Convention on International Civil Aviation. (DGCA)

11. Quiet diplomacy could ease South China Sea tensions

- During the fifth meeting of the Philippines-India Joint Commission on Bilateral Cooperation in New Delhi on June 29, the Foreign Ministers of India and the Philippines, S. Jaishankar and Enrique Manalo, respectively, discussed enhancing the bilateral partnership between the two countries. The meeting focused on maritime cooperation and addressing the South China Sea issue

Central Idea

- With a shared history of diplomatic relations spanning nearly 75 years and common maritime interests, the External Affairs Minister of India, S. Jaishankar, and the Secretary for Foreign Affairs of the Philippines, Enrique Manalo, laid out a roadmap to enhance the bilateral partnership in the 21st century.

Significance and developments emerged from the meeting

- **Establishment of a resident defense attaché office in Manila:** The decision to open a resident defense attaché office in Manila reflects a deeper commitment to defense cooperation between India and the Philippines. This move will facilitate closer coordination, information sharing, and joint defense initiatives.
- **Increased collaboration between the Coast Guards:** The Coast Guards of India and the Philippines will enhance their collaboration, aiming to strengthen maritime security in the region. This includes joint patrols, information exchange, and joint operations to combat maritime threats.
- **Manila's acquisition of naval assets with concessional credit from India:** To bolster its maritime capabilities, the Philippines will acquire naval assets with the help of a concessional line of credit extended by India. This support will enhance the Philippines' maritime defense capabilities and contribute to maintaining regional stability.
- **Expanded training and joint exercises on maritime security and disaster responses:** Both countries will expand their training programs and conduct joint exercises focused on maritime security and disaster response. This cooperation will enhance operational readiness and preparedness to address maritime challenges, including disaster relief efforts.

The South China Sea issue: A significant topic of discussion

1. **Agreement on regional and multilateral issues:** Both India and the Philippines reached an agreement on regional and multilateral matters, particularly emphasizing the importance of maritime highways like the South China Sea.
2. **India's position on international law and the 2016 Arbitral Award:**
 - India reiterated its consistent position of adhering to international law, including the United Nations Convention on the Law of the Sea (UNCLOS).
 - Notably, India made an unambiguous call to respect the 2016 Arbitral Award on the South China Sea, which represents a departure from India's previous stance.
 - This shift signifies India's recognition of the legitimacy of the Arbitral Award.
3. **Background of the Arbitration Case:** The Philippines had submitted a case for arbitration to the Permanent Court of Arbitration (PCA) to address its disputes with China in the South China Sea. Despite China's formal withdrawal from the arbitration, the proceedings continued under UNCLOS guidelines.
4. **Key findings of the Arbitral Award:**
 - The PCA's Award, released on July 12, 2016, rejected China's claims of historical rights in the South China Sea.
 - The tribunal determined that any claims to resources within the nine-dash line were unfounded.
 - It also found that China had violated the Philippines' sovereign rights in its Exclusive Economic Zone (EEZ) through various actions, including interfering with fishing and petroleum exploration, constructing artificial islands, and failing to prevent Chinese fishermen from operating in the zone.

What is Quiet diplomacy?

- Quiet diplomacy refers to a diplomatic approach that focuses on behind-the-scenes negotiations and discussions conducted discreetly, away from public attention and media scrutiny.
- It involves engaging in diplomatic efforts through confidential channels, informal dialogues, and private meetings to address sensitive issues and resolve conflicts.

How Quiet diplomacy could ease South China Sea tensions

- **Confidence-Building Measures:** Quiet diplomacy can facilitate the implementation of confidence-building measures among the claimant states. This can include agreements on joint military exercises, information sharing, or cooperative initiatives aimed at reducing tensions and building trust.

- **Open Communication:** Quiet diplomacy allows for confidential and discreet communication between stakeholders, such as China and the claimant states. It provides a platform for open dialogue where concerns and perspectives can be expressed, leading to better understanding and the potential for resolving differences.
- **Mediation and Facilitation:** Quiet diplomacy may involve the engagement of neutral third-party mediators or facilitators who can assist in bridging differences and guiding the negotiation process. These mediators can provide a neutral perspective, offer expertise, and help facilitate constructive dialogue among the stakeholders.
- **Informal Track-II Diplomacy:** Quiet diplomacy encourages informal exchanges and dialogues between academic experts, think tanks, and non-governmental organizations. These interactions can provide alternative perspectives, generate innovative ideas, and contribute to a deeper understanding of the issues at hand.
- **Crisis Management:** Quiet diplomacy can be applicable during times of crisis or heightened tensions in the South China Sea. It allows for confidential crisis management talks between relevant parties, enabling swift and discreet negotiations to de-escalate tensions and seek temporary agreements

Way forward

- **Dialogue for Conflict Resolution:** The South China Sea issue requires a political framework and dialogue for resolution. Leaders of ASEAN nations are encouraged to engage in “quiet diplomacy to find a political solution, as legal methods may have limitations. Dialogue provides an opportunity for peaceful conflict resolution through negotiations and diplomatic channels.
- **Emphasis on a Code of Conduct:** The establishment of a legally binding code of conduct is crucial for managing the South China Sea issue. ASEAN leaders are called upon to work towards developing and implementing such a code. A code of conduct can provide guidelines and rules to manage disputes, reduce tensions, and promote stability in the region.
- **Regional Unity and Cooperation:** Regional cooperation and unity among ASEAN nations are essential to address the South China Sea issue effectively. Greater understanding and coordination among ASEAN members can strengthen their negotiating position and foster a united front in dealing with challenges related to territorial claims and maritime security.
- **Respect for International Law:** Upholding international law, including UNCLOS, is emphasized in the article. Countries are encouraged to respect legal and diplomatic channels, adhere to their obligations under UNCLOS, and uphold the rights of coastal states. Adherence to international law is

essential for maintaining stability, resolving disputes, and promoting a rules-based order in the South China Sea.

Conclusion

- By committing to a rules-based order and emphasizing the significance of international law, India underscores its commitment to regional stability and peace. The need for dialogue, political frameworks, and unity among ASEAN nations is crucial to achieving a peaceful resolution in the South China Sea, protecting vital maritime commons, and ensuring the uninterrupted flow of global trade.

12. 1st GSI Survey of Siachen

The article highlights the first GSI Survey of the Siachen glacier in 1958, shedding light on its historical significance and refuting claims of Pakistani presence in the region.

- Siachen Glacier is assigned the number 5Q 131 05 084 by the Geological Survey of India (GSI).
- The first GSI Survey of Siachen took place in 1958, led by V. K. Raina, an Indian geologist.
- The survey holds significant historical and geostrategic importance.

The First Siachen Survey:

- V. K. Raina, an Assistant Geologist with GSI, conducted the survey in June 1958.
- Raina had previously studied the Nubra Valley and participated in the geological survey of the proposed Leh-Manali Highway.
- In 1958, the International Geophysical Year, GSI planned the study of Himalayan glacier systems.
- Raina's team surveyed Siachen, Chong Kumdan, Mamostong, Kichik Kumdan, and Aktash glaciers.
- The survey involved establishing survey and picture points, preparing a large-scale map, and conducting various studies.

Description of the Siachen Glacier:

- The snout of the glacier was a jumbled mass of practically inaccessible ice.
- The glacier exhibited an arc-like depression toward the center and a clear white stream two kilometers upstream.
- Two ice caves were present: one visible from the plateau downstream and the other seen by going up the eastern wall upstream.

- Cairn marks, reference stations, and photographic stations were established to fix positions and capture images.

Pakistan's Nonchalance:

- No mountaineering expedition or visitor encountered Raina's team during the three-month survey.
- Pakistan did not protest or show any interest in India's presence on the glacier.
- The Karachi ceasefire agreement of 1949 delineated the ceasefire line, indicating the region would fall on the Indian side.
- Explorations and scientific visits did not pose a threat or give reason for physical occupation, hence no importance was given to them.

No Claim to the Glacier:

- Pakistan's silence on the 1958 GSI expedition is significant as it establishes its absence from the region.
- The expedition contradicts the claim that Pakistan was present or in control of the glacier from the beginning.
- Pakistan formally staked its claim to the region 25 years later by extending the Line of Control in its protest notes of August 1983.
- India pre-emptively occupied the strategic Salto Heights on April 13, 1984, in response to Pakistan's claim.

13. A New Chapter in India-Africa Ties

Africa Expert Group has released a report titled 'India-Africa Partnership: Achievements, Challenges and Roadmap 2023' which enlisted recommendations to deepen and diversify India-Africa ties.

History of India-Africa relationship

- **Political Relations** - This was started when M.K.Gandhi started his political career during colonization in South Africa.
- Diplomatic relations between India and Africa were established during *the period of colonialism*.
- During the wake of cold war many African Countries joined *Non-Alignment Movement* pioneered by India, Indonesia, Egypt, Ghana and Yugoslavia.
- **India-Africa Forum Summit** is the official platform for the African Indian relations which is held once in every 3 years since 2008.

- **Economic Relations** – India-Africa trade touched \$98 billion in FY22–23 which is a positive economic development.
- **Defence** - *India-Africa Defence Dialogue* was held in the sidelines of DefExpo 2022 in Gandhinagar, Gujarat.
- **Gandhinagar Declaration** was adopted to enhance cooperation in the fields of training & military exercises
- **Cultural relations- Project 'Mausam'** is an initiative of Ministry of Culture which aims to explore the multi-faceted Indian Ocean 'world' and promote research on themes related to the study of maritime routes.
- About 39 Indian Ocean countries selected for this project which contains African countries like Egypt, Kenya, Sudan, Somalia etc.,
- **Education and Health** -Africa is one of the beneficiaries of India's flagship capacity building programme – *Indian Technical and Economic Cooperation (ITEC)*.
- As per National Education Policy 2020 guidelines, *First IIT Campus to be set outside India is at Zanzibar, Tanzania.*
- India supplied 'Made in India' COVID vaccines to 42 African countries under "*One Earth One Health Mission*".
- **Technology- Pan-African e-network** is a joint effort of India and African Union with an aim to provide satellite connectivity, tele-education, and tele-medicine services to the African countries.

Key findings of the report

- **Dynamic Africa-** Africa is undergoing significant changes in its demographics, economy, politics, and society.
- It is gradually moving towards regional integration and is committed to promoting democracy, peace, and progress.
- Incidents like insurgency, ethnic violence, and terrorism is still a challenging issue in Ethiopia, Sudan, and the Central African Republic.
- **Participation of external partners-** China, Russia, the United States, the European Union, Japan, Turkey, and the UAE are actively competing to strengthen their relations with Africa.
- They aim to secure market access, energy and mineral resources, and enhance their political and economic influence in the region.
- **China's role-** It is *Africa's largest economic partner* since 2000. The report identified China as an infrastructure developer, resource provider, and financier in Africa.
- **India's role** - The report notes that India has a substantive partnership with Africa and a rich fund of goodwill, but it is essential for New Delhi to review its Africa policy periodically.

India is a member of The African Development Bank, which brings together 54 African countries and 28 non-African partners. India has a voting share of 0.265%, 6.7 times lower than the 1.8% held by China.

What are the recommendations?

- **Political and diplomatic cooperation-** Strengthen the cooperation by restoring periodic leaders' summits through India-Africa Forum Summit.
- Enhance the cooperation between India and African Union by launching a new annual strategic dialogue in 2023.
- India should forge AU's entry in G20 as a full member.
- **Defence and security cooperation** - Enhance cooperation in counter-terrorism, cyber security and emerging technologies.
- Expand dialogue on defence issues and widen the footprint of maritime collaboration.
- Expand the lines of credit to facilitate defence expenses.
- **Economic and development-** Promote access to finance through the creation of an *Africa Growth Fund (AGF)*.
- A special package of measures to improve exports and build cooperation in the shipping domain.
- A special focus on promoting trilateral cooperation and deepening science and technology cooperation could pay rich dividends.
- **Socio- Cultural Cooperation-** Greater interaction between universities, think tanks, civil society and media organisations in India and selected African countries.
- *Set up a National Centre for African Studies* to promote engagement in education.
- Liberalise visa measures for African students who come to India for higher education.

Roadmap 2030 is a set of nearly 60 policy recommendations to deepen and diversify the India-Africa partnership covering 4 areas.

14. The Need to Focus on Palliative Care

The Government's revised non-communicable diseases guidelines were criticised for the lack of focus on palliative care.

Palliative care

- Palliative care is the branch of medicine focusing on *improving the quality of life* and preventing suffering among those with *life-limiting illnesses*.
- It aims to identify patients at risk of over-medicalisation at the expense of quality of life and financial burden on the family.
- It is an approach to care that addresses the person as a whole, not just their disease
- Palliative care is available at any time, regardless of the stage of the illness or life expectancy whereas *Hospice care* is available only at the end of life.

Why is palliative care so significant?

- **Symptom management**-Palliative care specialists may help people with symptom and pain management.
- **Improved quality of life**- As per a report, amongst the Parkinson's disorder affected people, those who received palliative care scored three points higher in the quality of life.
- **Reduced risk of depression**-Early palliative care is associated with a lower risk of depression in people newly diagnosed with advanced cancer.
- **Longer survival**- Palliative care increases the survival of people with advanced cancer as there is a link between mortality and depression.
- **Emotional Support** -Palliative care can include instructional guidance and emotional support for family members caring for a loved one with a serious illness.

What steps were taken to promote Palliative care?

- **Policy** - Only three states have implemented the palliative care policy - Kerala, Karnataka, and Maharashtra.
- Among them, *Kerala is the only state with a policy which integrates palliative care with the public health system* and it is decentralized down to the primary health care.
- **National Program for Palliative Care**- It was launched in 2012 in line with 2014 World Health Assembly Resolution for achieving universal access to palliative care as part of Universal Health Coverage (UHC).
- **NP-NCD & NCD Guidelines**- In 2023, the revised operational guidelines of National Programme for Prevention of Non-Communicable Diseases for 2023 to 2030 was released.
- **75/25 initiative**- It is an initiative in which *75 million people* with hypertension and diabetes is put on Standard Care *by 2025*, through the primary health care centres.
- **Shashakt Portal**- It was launched for *training of 40,000 primary health care medical officers* on standard treatment workflow.
- **Other programs** that has Palliative care as a component includes

- National Program for Prevention and Control of Cancer, Cardiovascular Disease, Diabetes, and Stroke
- National Program for Health Care of the Elderly
- National AIDS Control Program
- National Health Mission

What are the gaps in the revised NCD guidelines?

- **Accessibility**- Palliative care is accessible to only 1-2% of the estimated 7-10 million people who require it in the country.
- **Misconceptions**- As per *Global Atlas of Palliative Care*, in 2020, the need for palliative care was higher for non-cancer illnesses.
- However, the revised NCD operational guidelines, released in 2023, mentions palliative care is in synonym with cancer only.
- **Infrastructure deficit** – As per revised guidelines, generally palliative care service starts in district hospitals and there is no mention on home based care.
- **Lack of dedicated budget**- There is no specific budget dedicated for the palliative care.
- **Lack of awareness**- It is due to lack of awareness among policy-makers, health professionals and the public about the palliative care and its benefits it can offer to patients and health systems.
- **Indicator to assess the programme's impact**- Including an indicator to assess morphine access is a welcome move, but an indicator focusing only on patients with cancer might lead to an inaccurate assessment of coverage of services.

What lies ahead?

- The 67th World Health Assembly in 2014 called for palliative care to be integrated into health systems at all levels.
- It is high time to realise the ongoing pandemic of non-communicable diseases in India and to strengthen our palliative care services.

15. 25 years of India-France Strategic Partnership

The joint statement 25th Anniversary of the Strategic Partnership between France and India: towards a Century of Indo-French Relations, sets the course for the France-India bilateral relationship in all areas till 2047.

History of the Indo-France bilateral relations

- India and France are long-standing strategic partners in the Indo-Pacific.

- The two countries established their diplomatic relations in 1947 and upgraded it to the strategic level in 1998.
- **Trade** - France has emerged as a key trading partner with annual trade of \$12.42 billion and the 11th largest foreign investor in India.
- **Defence** - France has been a key supplier of defence hardware, especially combat jets, to India since the 1950s.
- Scorpene class submarines and Rafael fighter jets are classic examples of France's defence supplies to India.
- The two countries regularly hold joint exercises in all three forces - Varuna (navy); Garuda (air force); Shakti (army).
- **International efforts** - As part of their joint efforts on climate change, India and France launched '**International Solar Alliance**' in 2015.
- **Nuclear energy** - France has offered to build 6 nuclear power reactors in Jaitapur in Maharashtra which would be the world's most powerful nuclear power plant.
- **Technology** - The Indo-French Road map on Cyber security and Digital Technology was adopted in 2019.
- **Blue Economy** - A roadmap on Blue Economy and Ocean Governance was adopted by France and India in 2022.
- **Green hydrogen** - Indo-French roadmap for decarbonised hydrogen was adopted in 2022.

Prime Minister Narendra Modi described the bilateral relations between India and France as '**strong, trusted and consistent**'.

Highlights of the 'Horizon 2047'

- **The year 2047** will mark 100 years of India's Independence, 100 years of diplomatic relations between the two countries, and 50 years of the Indo-French strategic partnership.
- **3 pillar** - The roadmap for bilateral relations has three pillars focusing on '**security, planet and people**' guiding the bilateral ties for the next 25 years.
- It establishes a strong mechanism to strengthen cooperation in the areas of defence, space, civil nuclear, digital technology, counter-terrorism and the blue economy.

What are the security partnerships between the two countries?

- **Civil nuclear energy** - The two countries established a partnership on Small Modular Reactors (SMR) and Advanced Modular Reactors (AMR)
- **Defence** - Both countries are also working towards adopting a Roadmap on Defence Industrial Cooperation.

- For this India is setting up a Technical Office of the DRDO at its Embassy in Paris.
- **Space** - Scientific and commercial partnership is being enhanced between France's CNES and India's ISRO.
- NSIL (India) and Arianespace (France) also plan to collaborate in commercial launch services.
- India and France will strengthen their synergies in terms of sovereign access to space, finalize the joint Earth observation satellite, TRISHNA and the Space Climate Observatory (SCO).
- **Counter-terrorism** - Strengthening of cooperation between France's GIGN and India's National Security Guard.
- **Civil aviation** - Signing of technical and safety agreements in the field of civil aviation, for the expansion of routes between France and India
- **Critical technology** - Strengthening of cooperation on cutting-edge digital technologies such as AI, supercomputing and quantum computing.
- **Indo-Pacific** - Adoption of a roadmap for joint actions in the Indo-Pacific, covering all aspects of our comprehensive strategy for the region.

Initiatives such as Indo-Pacific Parks Partnership, International Solar Alliance and the Indo-Pacific Oceans Initiative (IPOI) to protect marine and terrestrial biodiversity are carried out to fight climate change.

What are the partnerships for the planet?

- **Plastic pollution** - Commitment to eliminate single-use plastic pollution through a new international instrument to end the problem.
- **Blue economy** - A partnership between French Research Institute for Exploitation of the Sea (IFREMER) and India's National Institute of Ocean Technology (NIOT) on ocean research.
- **Health** - Both the countries agreed to intensify their cooperation in the field of health and medicine and signed a Letter of Intent for Cooperation for the same.

French Development Agency is financing the second phase of India's flagship sustainable cities programme "CITIIS 2.0".

What are the Partnerships for the people?

- **Consular network** - A new Indian Consulate to be opened in Marseille and a Bureau de France in Hyderabad.
- **Education** - Signing of 2 MoUs between the Institut Polytechnique de Paris (IPP), and IIT Delhi and IIT Madras.

- Issuance of a 5-year short-stay Schengen visa for Indian students with a Master's degree from a French university.
- **Culture** - Announcement of France's selection as India's partner for the establishment of a major new National Museum in New Delhi.
- **Research** - France and India will increase funding of the Indo-French Centre for the Promotion of Advanced Research (IFCPAR/CEFIPRA) for new projects.

16. Reforming Anti-defection Laws

Ajit Pawar being sworn in as the Deputy CM of Maharashtra raises several questions about the health of our democracy.

- Ajit Pawar was the Leader of the Opposition in Maharashtra from the Nationalist Congress Party (NCP).
- The intraparty dissent in NCP led to the switch of Ajit Pawar from NCP to the BJP-Shiv Sena government.
- Pawar took 8 MLAs with him from the NCP, which is currently in opposition in the state Legislative Assembly.

What is anti-defection law and how it is governed in India?

- The Tenth Schedule to the Constitution does not allow a legislator to switch party loyalties through voting against party direction on the floor of the House or through actions outside the House.
- The political party can choose to condone the actions of a legislator in case of voting against party direction.
- But a merger of two-thirds or more legislators in that House with any other party is not considered defection.
- **Political party Vs Legislature party** - The SC clarified a few points under the anti-defection law in *Subhash Desai v Principal Secretary, Governor of Maharashtra* (2023).
- The Court drew a distinction between a political party and legislature party.
- Only the political party can appoint the leader of the legislature group and the whip.
- **Issue** - Dispute in determining which is the political party that gets to decide on the appointment of leader of the group and whip.

What is the role of ECI in regulating Political parties?

- Election Commission of India (ECI) fundamentally draws its power from **Article 324** of the Constitution.
- The article provides the power of “superintendence, direction and control of elections” to ECI.
- **Register & deregister** - ECI under **Section 29A** of the Representation of People Act of 1950, has the power to register political parties.
- The Supreme Court in Indian National Congress (I) vs Institute of Social Welfare & Ors (2002) made it clear the ECI cannot deregister a party for violating the Constitution.
- The ECI also cannot deregister a party for breaching the undertaking given to it at the time of registration.
- The ruling makes the ECI a mere spectator to the violation of the core principles of the Constitution which derives its powers from.
- **Adjudicate** - The ECI has the power to decide disputes between factions of a political party, in case of a “split” under Para 15 of the Election Symbols (Reservation and Allotment) Order, 1968.
- The Supreme Court in Sadiq Ali v Election Commission of India (1971) said, in such cases the “test of majority”, “test of party constitution”, and the “test of aims and objectives” can be used.

Why do we need reforms?

- Gaps in anti-defection laws is used to dislodge governments, to break parties apart and to lure leaders.
- **Intraparty regulations** - Lack of regulations in the internal functioning of political parties is the fundamental problem in anti-defection.
- With people coming up with newer forms of subverting the constitutional order and innovative ways of avoiding defection using loopholes in the way parties are organised.
- Solving this could help strike a balance between dissent within the party and constitutional morality.
- **Absence of party constitution** - Not all parties have a constitution, even if they have they are not relevant and comprehensive.
- Not having a constitution may leave the members vulnerable to the realpolitik of defections.

Out of more than 2,500 registered parties, the Election Commission website shows constitutions of 34 parties.

What should be done to solve this conundrum?

- The regulation of internal party democracy can be seen on a large scale in European countries.
- Few have provided the right to dissent and have an internal arbitration body.
- A party constitution that lays down procedures beyond the existing requirement at the time of registration under Section 29A should be mandatory.
- It should outline the role of the political party in relation to the legislature party
 1. Appointment of whip, etc.
 2. Removal and suspension of members
 3. Leadership challenges
 4. Involvement of members in questions of leadership
- The ECI must be empowered to suspend registration or deregister a party on non-compliance with basic requirements.
- An empowered ECI can ensure the enforcement of these rules to promote internal party democracy.

The 170th Law Commission Report had recommended the addition of a Part IVC to the Representation of People Act to regulate the internal functioning of parties.

17. UK signs CPTPP Trade Deal

- The UK has formally signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a major Indo-Pacific trade deal.
- Joining the bloc is seen as the UK's biggest trade deal since leaving the European Union.

CPTPP

- The CPTPP, established in 2018, reduces trade barriers among 11 countries, including Australia, Canada, Japan, Mexico, and Vietnam.
- Objectives of CPTPP include-
 1. **Tariff Reduction and Market Opening:** The agreement requires countries to eliminate or significantly reduce tariffs and make commitments to open services and investment markets.
 2. **Addressing Competition and Intellectual Property:** The CPTPP includes rules on competition, intellectual property rights, and protections for foreign companies.
 3. **Expanding Membership:** While the CPTPP aims to counter China's regional dominance, China and other countries such as Taiwan, Ukraine, Costa Rica, Uruguay, and Ecuador have applied to join.

Importance of CPTPP for the UK

- **Cutting Tariffs and Expanding Trade:** The UK government anticipates reduced tariffs for UK exports to Asia Pacific countries. Joining the CPTPP expands trade opportunities, as the bloc represents 15% of global trade and a combined GDP of £12 trillion.
- **Post-Brexit Trade Strategy:** After leaving the EU, the UK seeks to deepen trade ties with the Pacific region through its “Global Britain” strategy.
- **Seeking Faster-Growing Economies:** The UK aims to establish trade deals with countries and blocs with faster-growing economies than the EU, given limitations in achieving agreements with major powers like China and the United States.

Challenges and Criticisms

- **Economic Impact of Brexit:** Critics argue that trade deals like the CPTPP will struggle to compensate for the economic damage caused by leaving the EU, which remains the UK’s largest trading bloc.
- **Long-Term Productivity Forecast:** Brexit is projected to reduce the UK’s long-term productivity by 4%, according to the Office for Budget Responsibility.
- **Existing Trade Deals and Economic Boost:** The UK already has trade deals with most CPTPP members, and the projected economic boost from joining the agreement is relatively modest at 0.08% annually.

Recent Developments

- **Information Gathering Process:** CPTPP members are assessing aspiring economies’ ability to meet the bloc’s high standards as part of the decision-making process for future membership.
- **Collective Decision-Making:** The decision on new members and the timeline for their inclusion will be made collectively by existing CPTPP participants.

18. Supreme Court Invalidates Extensions of ED Director

The **Supreme Court (SC)** has recently held that **extension** given to the **term of Enforcement Directorate (ED) head** is illegal because it **violates** the mandates of the ‘Common Cause’ judgement.

Details of the SC Judgement:

- The two tenure extensions granted by the government to the Director of Enforcement Directorate (ED) is **illegal**.

- However, SC has **allowed** him to **continue at his present post** till the end of July citing peer review of the international body **Financial Action Task Force (FATF) and smooth transfer of power.**
- The amendments made to the **Central Vigilance Commission (CVC) Act, 2003, The Delhi Special Police Establishment (DSPE) Act 1946, and the Fundamental Rules in 2021** are constitutional, enabling the tenure extension.

Background and link with Common cause case:

- In the **Common Cause v. Union of India and Others, 2021**, SC had issued a specific **mandamus** that **no further extension** shall be granted to **ED Director** and that this was **binding** on the Centre and other parties.
- The government **amended the CVC Act and DSPE Act**, which gave it the powers to **extend the tenure** of the **ED Director and CBI Director.**
- The SC issued that **legislative enactment** can be **struck down** only on two grounds:
 - If the appropriate legislature does not have the **competence to make the law.**
 - If the law abridges any of the **Fundamental Rights** enumerated in Part III of the Constitution or any other constitutional provisions.
- The **amendments** were **held valid** as they did **not** grant arbitrary power to the government to extend the **tenure** of the Director of **ED or CBI.**
- This allowed the **government** to **extend the tenure** of CBI and ED chiefs for a period of **three years** beyond their **two-year tenure** by **granting extensions of one-year each.**

Appointment of the Head of ED and CBI:

- The **panel to select the ED chief** includes:
 - Central vigilance commissioner
 - Other vigilance commissioners
 - Three secretaries in the ministries of home affairs, finance and personnel
- High-level **committee for the appointment of the CBI chief** comprises:
 - The Prime Minister
 - The Chief Justice of India or his nominee
 - The leader of Opposition or the single largest party in Opposition

19. National Multidimensional Poverty Index, 2023

- NITI Aayog released the report 'National Multidimensional Poverty Index: A Progress Review 2023'.
- The report highlighted a record 13.5 crore people have moved out of multidimensional poverty in India between 2015-16 and 2019-21.

National Multidimensional Poverty Index (NMPI)

- NITI Aayog serves as the nodal ministry for the MPI.
- It engages with publishing agencies such as Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development Programme (UNDP).
- It uses the Alkire-Foster (AF) methodology.
- The Baseline Report of MPI is based on the National Family Health Survey (NFHS) 4 conducted during 2015-16.

Indicators used

- The MPI considers three dimensions: health, education, and standard of living.
- It includes indicators such as nutrition, child and adolescent mortality, maternal care, years of schooling, school attendance, cooking fuel, sanitation, drinking water, electricity, housing, bank accounts, and assets.

Key findings of the report

- **Decline in Poverty:** India has witnessed a substantial decline in multidimensional poverty, with a decrease of 9.89 percentage points from 24.85% in 2015-16 to 14.96% in 2019-21.
- **Progressiveness in rural areas:** Rural areas experienced the fastest decline, from 32.59% to 19.28%, while urban areas saw a reduction from 8.65% to 5.27%.
- **Regional Progress:** UP recorded the largest decline in the number of poor, with 3.43 crore people escaping multidimensional poverty. The states of UP, Bihar, Madhya Pradesh, Odisha, and Rajasthan showed the fastest reduction in the proportion of multidimensional poor.
- **Path towards SDG Targets:** The report indicates that India is on track to achieve SDG Target 1.2, which aims to reduce multidimensional poverty by at least half by 2030.

20. India achieves record DPT3 vaccination coverage in 2022: WHO

- The coverage rate for DPT3 vaccines (diphtheria, pertussis, and tetanus) in India reached an all-time high of 93% in 2022, surpassing the pre-pandemic record of 91% in 2019.
- This significant increase from the 85% coverage in 2021 was reported by the World Health Organization (WHO).

DPT3

- DPT3 vaccines refer to a combination vaccine that provides protection against three infectious diseases: diphtheria, pertussis (whooping cough), and tetanus.
- The “DPT” in DPT3 stands for the initials of these three diseases:
 1. **Diphtheria:** It is a bacterial infection that primarily affects the respiratory system. It can cause severe throat and nose congestion, difficulty breathing, and in severe cases, it can lead to heart and nerve damage.
 2. **Pertussis (Whooping Cough):** It is a highly contagious respiratory infection caused by the bacterium *Bordetella pertussis*. It is characterized by severe coughing fits, often accompanied by a “whooping” sound when gasping for breath. Pertussis can be particularly dangerous for infants and young children.
 3. **Tetanus:** Also known as lockjaw, is a bacterial infection caused by the bacterium *Clostridium tetani*. It enters the body through wounds or cuts and produces a toxin that affects the nervous system, leading to muscle stiffness and spasms, particularly in the jaw and neck muscles.

WHO records on immunization

- **DPT3 Coverage Recovery:** The WHO South-East Asia Region saw the DPT3 coverage recover to pre-pandemic levels of 91% in 2022, a significant increase from 82% in 2021.
- **Measles Vaccine Coverage:** The region also witnessed a six percent improvement in measles vaccine coverage, rising to 92% in 2022 from 86% in 2021.
- **Zero-Dose Children:** The number of zero-dose children (those who have not received even the first dose of the DPT vaccine) halved from 4.6 million in 2021 to 2.3 million in 2022.
- **Partially Vaccinated Children:** The number of partially vaccinated children (those who received at least one dose but not the complete three-dose series) decreased from 1.3 million in 2021 to 650,000 in 2022.

21. India to launch Global Biofuel Alliance (GBA)

- The upcoming 14th Clean Energy Ministerial and Eighth Mission Innovation (CEM14/MI-8) conference, taking place in Goa from July 19-22, 2023, aims to establish the Global Biofuel Alliance (GBA).

Global Biofuel Alliance (GBA)

- **G20 Priority:** The GBA is a crucial priority under India's G20 Presidency.
- **Learning from ISA:** The GBA draws inspiration from the International Solar Alliance (ISA), jointly initiated by India and France in 2015 to combat climate change through solar energy adoption.
- **Objective:** This alliance will focus on promoting international collaboration and cooperation to encourage the acceptance and utilization of biofuels.
- **Core Members:** The GBA, comprising Brazil, the US, and India, aims to impact the global energy architecture and achieve net-zero emissions.
- **Membership and Endorsement:** Other nations can join the GBA by endorsing the foundation document, and membership is open to non-G20 countries.

Focus Areas of GBA

- Focus areas of the GBA include:
 1. The GBA will focus on strengthening markets and facilitating global biofuel trade.
 2. Concrete policy lessons will be shared, and technical support will be provided for national biofuel programs worldwide.
 3. The alliance will highlight successful cases and best practices in the biofuel industry.

Significance of GBA

- **Addressing OPEC+:** The initiative signals India's focus on reducing dependence on conventional hydrocarbons and calls for increased production by the OPEC+
- **Transformative Opportunities:** GBA offer transformative opportunities for economic growth, rural development, energy self-sufficiency, reduced air pollution, and clean energy transition.
- **Adoption of Sustainable Biofuels:** The alliance aims to accelerate the adoption of sustainable biofuels.

India's Biofuel Achievements

- **Milestone Achieved:** In the fiscal year 2020-21, India produced 4.08 billion litres of ethanol, achieving a blending rate of 10.02% and resulting in a reduction of 2.7 million tonnes of CO₂ emissions.
- **Goals and Targets:** India aims to achieve a blending rate of 12% by 2022-23 and a goal of 20% blending by 2025, requiring an expanded production capacity of ethanol to 17 billion litres.
- **Focus on Compressed Bio-Gas (CBG):** India actively promotes compressed bio-gas (CBG) derived from waste through the Sustainable Alternative towards Affordable Transportation (SATAT) program.
- **Target Deadline:** India aims to install 5,000 CBG plants across the country by 2024.

Biofuel Advancements in Aviation

- **First Commercial Passenger Flight:** India conducted its first commercial passenger flight using sustainable aviation fuel (SAF) blend produced domestically.
- **Program Committee Established:** The Bio-Aviation Turbine Fuel Programme Committee has been established to advance the use of SAF in the aviation sector.
- **Blending Targets:** India aims to achieve a 1% SAF blend in jet fuel by 2025, requiring 140 million liters of SAF per year, and a more ambitious target of a 5% blend would need approximately 700 million liters per year.

Global response

- **Brazil's Support:** Brazil expressed support for the GBA and its goals to expand and strengthen sustainable biofuels markets.
- **Saudi Arabia's Focus:** Saudi, a major oil producer, has a focus on conventional hydrocarbons and has not favored the GBA.
- **Russia's Opec+ Involvement:** Russia, as part of the Opec+ group, has been implementing production cuts despite fragile global economic recovery.
- **China's Opposition:** China, a major biofuel producer, opposed the India-led initiative and boycotted a G20 meeting on tourism held in Srinagar.

Conclusion

- The establishment of GBA represents a significant step towards promoting international collaboration and the adoption of sustainable biofuels.
- India's achievements in biofuel production and advancements in aviation fuel provide a strong foundation for the alliance's objectives.

22. Enforcement directorate

There is a spike in the activity of the Enforcement Directorate (ED) in Tamil Nadu which can be seen in the arrest and investigation of two Ministers from the state.

Enforcement Directorate (ED)

- Enforcement Directorate (ED) is a premier financial investigation agency and economic law enforcement agency of the Government of India.
- **Headquarter** - New Delhi
- **History** - In 1956, an 'Enforcement Unit' was formed in the Department of Economic Affairs.
- It handled the Exchange Control Laws violations under Foreign Exchange Regulation Act of 1947 (later FERA 1973)
- In the year 1957, this Unit was renamed as 'Enforcement Directorate'.
- In 1960, its administrative control was transferred from the Department of Economic Affairs to the Department of Revenue.
- It was regulated under Foreign Exchange Regulation Act (FERA) of 1973 (repealed later).
- The ED currently draws its statutory powers from 3 different acts -
 1. Foreign Exchange Management Act, 1999 (FEMA)
 2. Prevention of Money Laundering Act, 2002 (PMLA)
 3. Fugitive Economic Offenders Act, 2018 (FEOA)
- **Director** - Director is the head of the Enforcement Directorate assisted by special directors.
- The director is appointed in accordance with the provisions of the Central Vigilance Commission Act 2003.
- The Centre appoints the director on recommendation of a high-level committee headed by the Central Vigilance Commissioner.
- The director has a fixed tenure of 2 years and a maximum 3 annual extensions.

Powers and functions of ED

- **Functions** - ED is mandated with investigation of offence of money laundering and violations of foreign exchange laws.
- Enforces the provisions of the PMLA
 - Conducts investigation to trace the assets derived from proceeds of crime and provisionally attach the property.
 - Ensure prosecution of the offenders.
 - Confiscation of the property by the Special court.
- Enforces the provisions of the FEMA

- Conduct investigation into suspected violations of foreign exchange laws.
- Adjudicate and impose penalties on those adjudged violations.
- Enforces the provisions of the FEOA
 - ED is mandated to attach the properties of the fugitive economic offenders and confiscate their properties for the central government.
- It is also a sponsoring agency under Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA).
- **Quasi-judicial powers** - Section 50 of the PMLA provides powers of a civil court to the ED authorities for summoning persons suspected of money laundering and recording statements.
- The **Vijay Madanlal Choudhary v. Union of India (2022)** case observes that the power under Section 50 of PMLA is of the nature of ‘**inquiry**’ against the proceeds of crime and is not ‘**investigation**’ in strict sense.
- Section 19 and Section 45 of the PMLA permits ED authorities to arrest and grant bail.

What are the differences between CBI and ED?

- Central Bureau of Investigation (CBI) and ED are investigating agencies of the Central Government.
- They both play an important role but have different roles to play.

	CBI	ED
Nature	Not a statutory body	Statutory body
Ministry	Ministry of Personnel, Ministry of Personnel, Pension & Public Grievances	Department of Revenue under the Ministry of Finance
Acts governing	Mainly from 2 acts <ul style="list-style-type: none"> • Foreign Exchange Management Act, 1999 (FEMA) • Prevention of Money Laundering Act, 2002 (PMLA) 	Derives powers from the Delhi Special Police Establishment Act of 1946
Investigates	Anti-Corruption crimes and special crimes under IPC apart from economic crimes.	Only economic crimes. Can carry out searches and confiscate assets.

Economic Crimes	Investigates crime of corruption, economic offences	Investigates offences of money laundering and foreign exchange laws violation
Central Government's role	Needs Central Government notification to initiate investigation	Does not need such notification.

How is a Police investigation different from an ED investigation?

Police	ED
First Information Report (FIR) is required for a cognisable offence before conducting an investigation.	They undertake their investigation for the purpose of gathering materials and tracing the 'proceeds of crime' by issuing summons.
Statement made by an accused to the police is inadmissible as evidence in court.	A statement made to an ED authority is admissible.
A copy of the FIR is accessible to the accused.	The Enforcement Case Information Report is seldom available.

What are the present issues with ED?

- ED cannot be credited with taking timely action against corruption.
- Of late, ED to impart fear among political opponents of the Union government.
- The investigation and prosecution of the predicate offence is done typically by the Central Bureau of Investigation (CBI) or the State Police.
- The ED's focus is shifted from recovering the proceeds of crime to effecting pre-trial arrests and investigating the predicate offence.

In spite of several high-profile arrests, the ED has only filed charge-sheets after concluding investigation in only 1,142 cases out of the 5,906 cases registered since 2005.

- **Famous cases** - The ED has arrested several politicians including
 - Satyender Jain and Manish Sisodia - Ministers of the Delhi government.
 - Nawab Malik - Former Minister from the Shiv Sena.
 - Magunta Raghava Reddy - YSRCP MP Srinivasulu Reddy's son.
 - V. Senthil Balaji and K. Ponmudy - Ministers of the Tamil Nadu government.

What is the way forward?

- In the past, the CBI was used to impart fear among political opponents and in the process, it earned the nickname 'caged parrot'.
- Statutorily empowered body like ED should reorient its approach to not to go down on the same path.
- To justify their actions and demonstrate their fairness and impartiality it should put all facts in the public domain.
- The actions of ED should be timely, fair and impartial to command credibility among the public.
- The ED should focus more on recovering crime proceeds and redistribute the same to victims.
- The ED authorities must satisfy themselves of the need for arrest as under Section 19 of the PMLA.
- Such belief must pass the reasonableness test similar to the test that courts assessing the necessity of remand.

23. NATO Vilnius Summit, 2023: Key Takeaways

- The Vilnius Summit held in July 2023 was significant in assessing the progress made by the North Atlantic Treaty Organization (NATO) in the past year and preparing for future conflicts.
- While expectations were high regarding Ukraine's membership timeline, the summit fell short in this regard.

Key takeaways from Vilnius Summit

(1) NATO's Response to Threats:

- **Russian Threat:** The summit communique acknowledged Russia as the most significant and direct threat to the security, peace, and stability of NATO allies in the Euro-Atlantic area.
- **Concerns over Belarus and Iran:** NATO expressed concerns about Belarus providing territory and infrastructure for Russian aggression against Ukraine. It also highlighted Iran's delivery of Uncrewed Aerial Vehicles (UAVs) to Russia for attacks on critical infrastructure in Ukraine.

(2) Recalibrations in the Baltic Sea:

- **Finland and Sweden's Inclusion:** The summit marked Finland's first participation as a NATO member, while Turkey agreed to ratify Sweden's bid to join the alliance.
- **Curbing Russian dominance:** This paves the way for a strategic recalibration in the Baltic Sea region that was previously dominated by Russia.

(3) Commitments to Ukraine:

- **Membership Timeline:** Despite expectations, no concrete timeline for Ukraine's NATO membership was provided.
- **Concrete Outcomes:** Ukraine secured short-term and long-term security commitments from NATO members, including the creation of the NATO-Ukraine Council and a multi-year program to help upgrade Ukrainian forces.
- **Defense Support:** Member states such as Germany, Norway, and France made commitments to support Ukraine's defense, including financial assistance, military equipment, and bilateral security cooperation.

(4) Concerns over China:

- **Beijing's Threat:** The summit reiterated NATO's recognition of China as a threat to its security, interests, and values. It highlighted China's opaque strategy, intentions, military build-up, and its support to Russia.
- **Indo-Pacific Engagement:** NATO emphasized the importance of the Indo-Pacific region's security, linking it to Euro-Atlantic security.

(5) Defense Spending and Readiness:

- **Burden-Sharing:** NATO acknowledged the need for increased defense spending beyond the 2 percent of GDP baseline due to the more contested security order.
- **Regional Defense Plans:** Allies reached an agreement on regional defense plans to enhance the alliance's readiness. The plans focus on upgrading forces, increasing interoperability, and addressing financial implications.

Conclusion

- Overall, the summit reaffirmed NATO's relevance and strategic priorities in an evolving security landscape.

24. Role of Opposition Party

The 26 Opposition political parties from across India have formed the INDIA coalition (the Indian National Developmental, Inclusive Alliance) for the 2024 Lok Sabha election.

INDIA coalition

- The Indian National Developmental, Inclusive Alliance (INDIA) is a coalition of 26 Opposition political parties (so far) from across India.

- They have joined hands to take on the ruling National Democratic Alliance (NDA) for the 2024 Lok Sabha election.
- The coalition had two meetings so far which saw participation of Chief Ministers of seven states and several former Chief Ministers.
- The parties part of INDIA coalition are -

INDIA Alliance

The Indian National Developmental, Inclusive Alliance, made up of 26 parties, has a collective strength of 142 members in the lok sabha

	INC		PDP
	AITC		CPI (M)
	DMK		CPI
	Aam Aadmi Party		CPI(M-L)L
	Janata Dal (United)		Revolutionary Socialist Party
	Rashtriya Janata Dal		All India Forward Bloc
	JMM		MDMK
	NCP (Sharad Pawar)		VCK
	Shiv Sena (UBT)		KDMK
	Samajwadi Party		MMK
	Rashtriya Lok Dal		IUML
	Apna Dal (Kamerawadi)		Kerala Congress (M)
	J&K National Conference		Kerala Congress (Joseph)

History of opposition in India

- The first general elections to the Lok Sabha after independence were conducted in 1952 and the Congress won the elections.
- The Congress the dominance the Lok Sabha elections during the period 1952-1962.
- None of the opposition parties could win one-tenth of the number of seats.
- In the first general election, CPI won 16 seats and emerged as the largest opposition party.
- In December 1969, the Congress Party's (O) leader Ram Subhag Singh was recognised as the opposition leader for the first time.

Constitutional position of opposition party

- Leader of largest opposition party which is having at least 1/10th seats of the house is appointed as the Leader of opposition.
- It is not mentioned in the Constitution but mentioned in Parliamentary statute.

- Coalition is not possible in the opposition party.
- **Leader of opposition** - The post is recognised by the speaker.
- Leader of opposition (LoP) in Lok Sabha and Rajya Sabha has statutory status since 1977.
- LoP got their statutory recognition through Salaries and allowances of Leaders of opposition in Parliament Act of 1977 (both RS and LS)
- They receive salary and allowances equivalent to Cabinet Minister.
- **Present status** - The post of Leader of Opposition in Lok Sabha is vacant since 2019 parliamentary election as none of the opposition party could fulfil 10% quorum.

Role of opposition in a democracy

- Opposition plays a crucial role in maintaining the democratic character of the system.
- Negates one-party dominance in Parliamentary houses.
- They provide a democratic political alternative in a Parliamentary system.
- They offer a sustained and principled criticism of the policies and practices of the ruling party.
- This kept the ruling party under check and balances the power.
- They uphold accountability of government in the legislature.
- They put forth the public opinion in the Parliament.

Other roles played by the opposition

- Conventionally Deputy Speaker of Lok Sabha is from opposition.
- From 1967, Chairman of Public Accounts committee is from opposition by convention.
- They also forms part of several other Parliamentary committees.
- Opposition or LoP is part of the appointment committees of major bodies such as NHRC, Lokpal, CIC, CVC, CBI, etc.

How the opposition in UK different from India?

- India borrowed the parliamentary system from the British Constitution.
- In the British parliament, the leader of opposition is referred to as the 'shadow prime minister'.
- They also form a shadow cabinet to balance ruling cabinet.
- They not only oppose and criticise the government but always in a state of readiness to take over the government if the government falls.
- **India** - There is no such shadow cabinet in India.
- In a multi-party system, the second largest party in the legislature is the opposition.

What is the significance of Opposition?

- The leader of the opposition is one of the key parliamentary functionaries whose role is not defined in any rule.
- Opposition gives a ready alternate government without fresh elections in case of any failure of the ruling government.
- Strong opposition is necessary for success of parliamentary democracy.
- Opposition's role is crucial in maintaining the productivity of the Parliament.

25. Section 69 (A) of IT Act

- The Indian government has exercised its powers under Section 69(A) of the Information Technology Act, 2000.
- It requested Twitter and other social media platforms to remove a video depicting the naked parade and sexual assault of two Manipur women.

Section 69(A) of the IT Act

- **Empowering Content Takedown:** Section 69(A) allows the government to issue content-blocking orders to online intermediaries like ISPs, web hosting services, search engines, etc.
- **Grounds for Blocking:** Content can be blocked if it is considered a threat to India's national security, sovereignty, public order, or friendly relations with foreign states, or if it incites the commission of cognizable offenses.
- **Review Committee:** Requests made by the government for blocking content are sent to a review committee, which issues the necessary directions. Such orders are typically kept confidential.

Supreme Court's Verdict on Section 69(A)

- **Striking Down Section 66A:** In the case of Shreya Singhal vs. Union of India (2015), the Supreme Court struck down Section 66A of the IT Act, which penalized the sending of offensive messages through communication services.
- **Section 69(A) Validated:** The Court upheld the constitutionality of Section 69(A) of the Information Technology Rules 2009, noting that it is narrowly drawn and includes several safeguards.
- **Limited Blocking Authority:** The Court emphasized that blocking can only be carried out if the Central Government is satisfied about its necessity, and the reasons for blocking must be recorded in writing for legal challenges.

Other Rulings on Section 69(A)

- **Twitter's Challenge:** Twitter approached the Karnataka High Court in July last year, contesting the Ministry of Electronics and Information Technology's (MeitY) content-blocking orders issued under Section 69(A).
- **Court's Dismissal:** In July of this year, the single-judge bench of the Karnataka HC dismissed Twitter's plea, asserting that the Centre has the authority to block tweets.
- **Extending Blocking Powers:** Justice Krishna D Dixit ruled that the Centre's blocking powers extend not only to single tweets but to entire user accounts as well.

Conclusion

- The application of Section 69(A) has been a subject of legal and societal debate, as it aims to balance national security and public order concerns with the protection of free speech and expression.

26. China backing Russia, NATO looking East: Why Indo-Pacific is at centre of global order

- The Russia-Ukraine conflict has made NATO summits more significant than ever. The wide presence of four Asia-Pacific countries: Australia, New Zealand, Japan, and South Korea has made this year's summit more prominent especially for Indo-Pacific

Central idea

- The recent NATO summit was held in Vilnius, Lithuania, marked a significant turning point for the alliance. The summit showcased NATO's increasing focus on the Indo-Pacific region, signifying the importance of this area for Euro-Atlantic security

Indo-Pacific

- The Indo-Pacific is a geographic region interpreted differently by different countries.
- For India, the geography of the Indo-Pacific stretches from the eastern coast of Africa to Oceania whereas, for US, it extends up to the west coast of India which is also the geographic boundary of the US Indo-Pacific command.

NATO's Historical Background and Pivot Towards Asia

- Founded in 1949, NATO emerged as a response to concerns over expanding Soviet influence in Eastern Europe.
- Originally centered on trans-Atlantic security, the alliance has evolved to address pressing global security challenges.
- The recent summit's agenda highlighted issues in the Indo-Pacific, such as North Korea's nuclear activities, ballistic missile tests, and China's military expansion and modernization.

Indo-Pacific Partnerships and Collaborations during the summit

- **NATO and Japan:**
 - Individually Tailored Partnership Program between NATO and Japan was signed for the period of 2023-2026- focuses on cooperation in new technologies, space, and supply chain resilience.
- **NATO and New Zealand:**
 - New Zealand was recognized as a valued partner by NATO during the summit.
 - The alliance praised the collaboration with New Zealand in various areas, including cyber defense, counter-terrorism, arms control, and new technologies.
- **NATO and South Korea:**
 - A significant agreement was reached between NATO and South Korea further strengthening their collaboration in emerging areas, particularly related to hybrid threats.
- **NATO and Australia:** Presence of Australian Prime Minister Anthony Albanese at the NATO summit indicates a willingness to strengthen ties and foster cooperation in areas of common concern

Significance of the Indo-Pacific for NATO

- The Indo-Pacific is home to numerous security challenges that have implications beyond the region.
- These challenges include North Korea's nuclear and missile activities, China's military expansion, territorial disputes, and non-traditional security threats such as cyber-attacks and terrorism.
- China's growing economic, political, and military influence in the Indo-Pacific has global ramifications.
- China's Belt and Road Initiative (BRI) and its assertive actions in the South China Sea have raised concerns among NATO allies about potential disruptions to regional stability and international norms.
- The Indo-Pacific region is a major driver of the global economy, with many NATO member states heavily reliant on trade and economic ties with countries in the area.

- Ensuring the security of critical sea lanes and trade routes is essential for NATO's economic interests and stability.
- Collaborating with Indo-Pacific countries can contribute to a rules-based international order and strengthen NATO's global reach.

Concerns Over NATO's Role in Indo-Pacific

- Ambiguity and uncertainty within the alliance regarding NATO's official presence and role in the Indo-Pacific.
- French President Emmanuel Macron's public opposition to the idea of opening a NATO liaison office in Tokyo highlighted these concerns.
- Establishing an official NATO presence in proximity to China could potentially unsettle the Chinese security establishment and may be perceived as a challenge to China's regional interests.
- Unease among ASEAN and other South Asian countries with strategic interests in the area.
- Some ASEAN countries' centrality in the Indo-Pacific being replaced by bloc politics led by NATO.
- It could stretch the alliance's resources and capabilities- divert attention away from NATO's core mission in the Euro-Atlantic region.

Interesting read: What is Thucydides' Trap?

- Thucydides' Trap is a term derived from the historical work "History of the Peloponnesian War" by the ancient Greek historian Thucydides. Thucydides chronicled the conflict between the city-state of Athens and the rising power of Sparta in the 5th century BC, which eventually led to the Peloponnesian War.
- The central idea behind Thucydides' Trap is that when a rising power challenges an established power, the competition between the two can lead to conflict or war.
- Thucydides famously wrote, "It was the rise of Athens and the fear that this instilled in Sparta that made war inevitable." The rising power's ascent and the fear it generates in the established power create a dangerous and unstable situation that may lead to a conflict as both sides jostle for power and influence.
- In the context of modern times, NATO's involvement in the region could inadvertently contribute to the Thucydides' Trap, where a rising power (China) and an established power (United States) risk conflict
- It serves as a warning to policymakers that managing the rise of a new power and avoiding a potential conflict requires careful diplomacy, strategic communication, and the establishment of mechanisms to peacefully resolve disputes

Conclusion

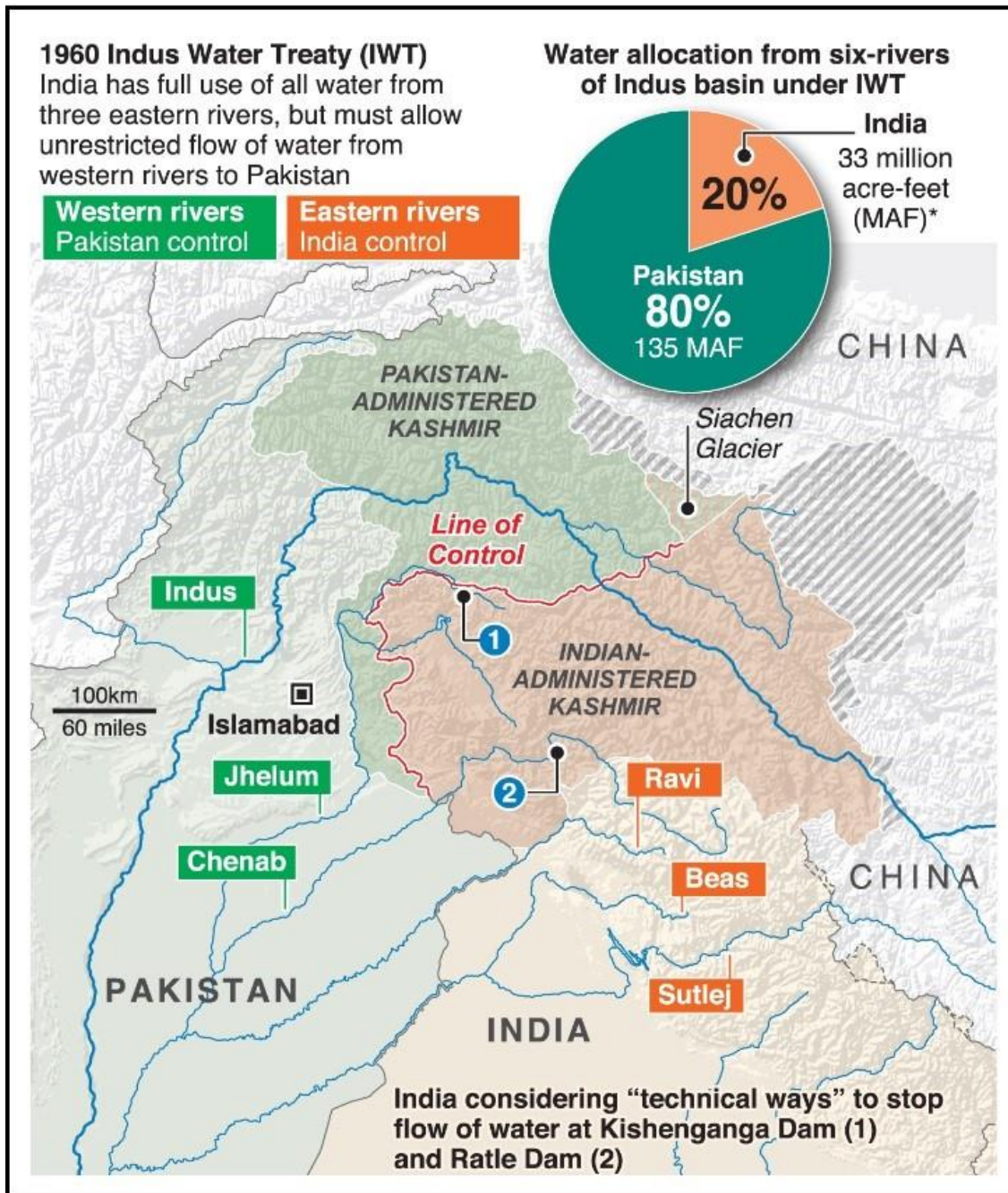
- The recent NATO summit in Vilnius showcased the alliance's Look East moment, highlighting its increased focus on the Indo-Pacific region. Strengthening ties with Indo-Pacific partners is crucial amid the evolving global strategic landscape. However, NATO must navigate carefully and exercise caution while addressing the challenges of the 21st century and the changing dynamics of the international order.

27. Revisit Indus Water Treaty

There is a need to revisit the Indus Water Treaty (IWT) rather than action of court of arbitration.

Indus-Water Treaty

- **Indus Waters Treaty** - The Indus Waters Treaty was signed in **1960** between India and Pakistan.
- It was brokered by the **World Bank**.
- The treaty administers how river Indus and its tributaries that flow in both the countries will be utilised.
- **Rights of water usage** - The treaty divides the Indus system into two segments:
 - **Eastern Rivers** - Sutlej, Beas and Ravi
 - **Western rivers** - Indus, Chenab and Jhelum



- India gets right of unrestricted use over the Eastern Rivers while Pakistan is entitled to unrestricted use of the Western rivers.
- India is under obligation to let flow the western rivers unrestricted.
- However, since Indus flows from India, the country is allowed to use 20% of its water for
 1. Irrigation
 2. Power generation
 3. Transport purposes
- Both India and Pakistan have the right to non-consumptive use and rights of drainage issues and river conservation aspects.

- **Dispute resolution** - A **Permanent Indus Commission** was set up as a bilateral commission to
 1. Implement and manage the Treaty
 2. Solve disputes arising over water sharing
- **Article 8 of the treaty** - Both sides are expected to meet at least once a year to discuss bilateral problems.
- After the Uri terror attack in 2016, India had suspended routine bi-annual talks between the Indus Commissioners of the two countries stating that **blood and water could not flow together**.
- **Withdrawal from the treaty** - Experts suggest that India can exercise the sovereign right of a state under **Article 64 of the Vienna Convention** to withdraw from any international treaty.



What is the dispute redressal mechanism laid down under the Treaty?

- The dispute redressal mechanism provided under Article 9 of the IWT is a graded, three level mechanism under Commissioner, Neutral Expert and the Court of Arbitration.
- **Commissioner** - Whenever India plans to start a project, under the Indus Water Treaty, it has to inform Pakistan that it is planning to build a project.
- If Pakistan oppose it and ask for more details, it has to be clarified between the two sides at the level of the Indus Commissioners.

- **Neutral Expert** - If it is not resolved, then the question becomes a difference, which has to be resolved by the Neutral Expert.
- It is at this stage that the World Bank comes into picture.
- **Court of Arbitration** - If it is not resolved by the Neutral Expert or that the issue needs an interpretation of the Treaty, then that difference becomes a dispute.
- It then goes to the Court of Arbitration.

What is the issue over the hydro-electric project?

- **Construction of hydel projects** - New Delhi accuses Pakistan's refusal in implementing the treaty as it repeatedly raises objections to the construction of hydel projects on the Indian side.
 - **Kishanganga** (Neelum in Pakistan) hydroelectric project in river **Jhelum, Jammu & Kashmir**.
 - **Ratle** hydroelectric project in river **Chenab, Jammu & Kashmir**
- **Authority to solve**- India wants to solve the contention with the help of neutral expert but Pakistan approached the Permanent Court of Arbitration.
- India views that the PCA it is not competent to consider the views of Pakistan.
- However, the court determined that it is competent to consider and determine the disputes set forth in Pakistan's request for arbitration.
- In July 2023, the court unanimously passed a decision which is binding on both parties without appeal rejecting each of India's objections.

Why there is a need to revisit IWT?

- **Future water availability**- World Water Council highlights the need to incorporate mechanisms that allow flexibility to changes in the quantity of water available for allocation among the parties.
- **Adopting the principles of water course**-
 1. Equitable and Reasonable Utilisation (ERU)
 2. No Harm Rule (NHR)
- **ERU** - It represents a compromise between two extreme and uncompromising positions regarding the right conferred upon States, by virtue of their territorial sovereignty, to use shared transboundary water resources found within or passing through their territory.
- **NO Harm Rule**- It is a due diligence obligation which requires a riparian state undertaking a project on a shared watercourse having potential transboundary effect to take all appropriate measures.

- ERU and NHR are binding on both countries as they are customary international law rule generating the binding obligation to both parties.

28. NATO Summit - Vilnius

The latest NATO summit held in Vilnius, Lithuania underscored the new reason for strengthening and expanding the alliance.

North Atlantic Treaty Organization (NATO)

- **NATO** - It is a 31-member alliance, with 29 European nations, and two American nations (United States and Canada).
- It was set up in 1949 by the US, Canada and several Western European nations to provide collective security against the Soviet Union.
- **Collective defence** - Laid out in Article 5 of the North Atlantic Treaty in which members of NATO are committed to mutual defence in response to an attack by any external party.
- **Aim** - To protect peace and to guarantee the territorial integrity, political independence and security of the member states.
- **Headquarters** - Brussels, Belgium.
- **India** - India is not a part of NATO, however, there are plans to include India in NATO Plus.

How is this summit different from the previous summits?

- **Ukraine** - The Ukrainian President Volodymyr Zelenskyy attended the summit.
- This raised anticipation around the possibility of extending NATO membership to Ukraine.
- The 3 priorities of Ukraine such as new weapons packages, security guarantees and an invitation to join NATO, went unfulfilled.
- However, the U.K. did pledge ammunition support to Ukraine.

Takeaways from this NATO summit

- **New members** - Finland and Sweden applied for NATO membership soon after the Russian invasion of Ukraine.
- Finland became the 31st member of NATO in April 2023.
- NATO signed the accession protocol for Sweden to join the alliance in 2022 but their bid is being held up by Turkey and Hungary.
- **Significance of new entrants** - The new entry shows 2 things.

- The Alliance continues to practise Article 10 of the Washington Treaty signed in April 1949 which states that member countries can invite other European countries to become members of NATO.
- Ukraine's potential membership conceptually continues to deter Russia from taking steps against members of NATO.
- **Sweden-Turkey** - Turkey's scaling back of its long-standing opposition to Sweden's inclusion in NATO.
- This shows Turkey's desire to mend relations with the US and improve the bipartisan relations.
- **U.S.'s stance** - U.S. President Joe Biden's speech at the summit extended unwavering support to the alliance as well as Ukraine.
- It is evident that Mr. Biden's approach to NATO is different from that of Trump's who considered withdrawing from NATO.
- This resurrects trans-Atlantic solidarity.
- **China** - The Vilnius summit did not talk directly on the challenges and threats emerging from China's stated ambitions and coercive policies.
- However, it stated that NATO faces threats from China's malicious hybrid cyber operations that pose a threat to the security of the Alliance.
- **Indo-Pacific** - The NATO summit emphasised that the developments in the Indo-Pacific have become increasingly consequential for Euro-Atlantic security.
- The expanding space for Quad countries in Indo-Pacific, along with other regional countries like New Zealand and South Korea also influences Euro-Atlantic security.

1. What has to be done to get to Zero Hunger?

- The **Global Report on Food Crises (GRFC) 2023** released by **Food Security Information Network** found that 691 million to 783 million people worldwide suffered from hunger in 2022, with levels higher than pre-pandemic i.e 2019.

Defining food security?

- According to the **World Food Summit**, food security is defined as having access to sufficient, safe, and nutritious food to lead an active and healthy life.
- Extent of food insecurity is defined by the **Food Insecurity Experience Scale**. This is an analysis technique where 8 questions are directly asked to the target groups to assess difficulties in accessing food.
- **Global Hunger** is tracked by the prevalence of undernourishment in the country.

Key Findings of the Report?

- While prevalence of Hunger is not showing an ever- increasing path year on year, absolute levels of hunger are still above the pre-pandemic levels. This has major implications on achievement of the SDG goal 2 (Zero Hunger).
- The GRFC report found that nearly 2.4 billion people did not have adequate access to food in 2022 (i.e food insecurity)
- Around 9.2% of the world population are affected by hunger in 2022. In comparison, around 7.9% of the population were hungry in 2019.
- **The report shows a decline** in stunting (being short for one's age) among children under five and in wasting (being too thin for a height) in comparison to levels in 2000.
- Almost 3.2 billion people worldwide could not afford a healthy diet in 2020. The cost of a healthy diet increased globally by 6.7% between 2019 and 2021.
- It is projected that almost 600 million people will be chronically undernourished in 2030.

Drivers of food insecurity?

1. **COVID - 19:** The pandemic caused disruptions in food supply due to lockdowns. Recession and economic slowdown associated with it led to unemployment and reduced disposable income.
2. **Ukraine Crisis:** Global supply chain disruptions associated with the conflict have led to reduced access to agricultural commodities. Food inflation is also high affecting the affordability of food.
3. **Government Policies:** Export and import restrictions in world trade, increase in interest rates to curb inflation etc have also affected the access to food.
4. **Urbanisation:** Food insecurity is lower in urban areas as available resources are shipped to urban areas in search of better returns. This leaves the rural areas with very limited food resources.

Possible Solutions?

- Identification of vulnerable populations for a targeted response. Multi Stakeholder approach with government, civil society working together for delivery of government schemes and programmes.
- State support to outlets providing healthier foods which are fresh and minimally processed.
- Provide infrastructure support to street food outlets to improve nutritional quality and safety of food.
- Building rural infrastructure, warehousing and cold storage facilities for better food management and reduced wastage.

- Empowering the local governments in implementing policies for making healthy diets available and affordable for all.

29. Pradhan Mantri Bhartiya Janaushadhi Pariyojana

Recently, the Government has set a target to open ten thousand Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs) under **Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)** by March 2024.

Pradhan Mantri Bhartiya Janaushadhi Pariyojana(PMBJP):-

- **Launched:2008. (PMBJP)**
- **Historical Background:-**
 - It was launched by the Department of Pharmaceuticals under the name **Jan Aushadhi Campaign in 2008.**
 - **2015:** It was re-launched as '**Pradhan Mantri Jan Aushadhi Yojana' (PMJAY).**
 - **2016:** it was again renamed "Pradhan Mantri Bharatiya Janaushadhi Pariyojana" (PMBJP).
- **Ministry: Ministry of Chemicals and Fertilizers.**
- **Implementing Agency: the Pharmaceuticals & Medical Devices Bureau of India (PMBI).**
- **Objectives of PMBJP:** to provide quality medicines at affordable prices to people through special Kendras known as Pradhan Mantri Bharatiya Janaushadhi Pariyojana Kendra.
- **Funding:** Financial Support is provided by the government to eligible NGOs/Trusts/agencies/individuals to establish Jan Aushadhi stores.
- **Benefit of PMBJP:** The scheme ensures easy reach to affordable medicine to the people in every nook and corner of the country.

Salient Features of PMBJP:-

- Ensure **access to quality medicines.**
- **Create awareness about generic medicines** through education and publicity so that quality is not synonymous with only high prices.
- The scheme ensures **easy reach to affordable medicine** to the people in every nook and corner of the country.
- **Create demand for generic medicines** by improving access to better healthcare through low treatment cost and easy availability wherever needed in all therapeutic categories.
- **Janaushadhi Sugam** facilitates the public by **providing a digital platform** at the tip of their fingers.

- **Jan Aushadhi Sugam:** a mobile app that helps in locating the nearest Janaushadhi Kendra and the availability of medicines with its price.
- **Pharmaceutical & Medical Devices Bureau of India (PMBI)** has been established for co-coordinating procurement, supply and marketing of generic drugs through the **Jan Aushadhi Stores. (Pradhan Mantri Janaushadhi Kendra (PMJK))**
- The **quality, safety and efficacy of medicines** are ensured to the required standards before the same are supplied to Supers stockists /Jan Aushadhi Stores from the Warehouse.

31. Uniform Civil Code

Prime Minister Narendra Modi had called for the enactment of a Uniform Civil Code (UCC), pointing out the anomaly of having varying laws for different categories of citizens.

Uniform Civil Code

- Uniform Civil Code (UCC) provides for **one law for the entire country** across all religious communities in their personal matters such as marriage, divorce, inheritance, adoption etc.
- UCC is defined in **Article 44** as part of the **Directive Principles of State Policy (DPSP)**, in part of **Part IV** of the Constitution.
- **Article 44** - It states that 'The State shall endeavour to secure for the citizens a **Uniform Civil Code** throughout the territory of India'.
- UCC aims to enforce a uniform legal framework to all citizens, irrespective of their religion.
- UCC aims to safeguard the fundamental rights of all citizens and reduce social inequalities and gender discrimination.
- **Legality** - The legality of UCC is rooted in the Constitution of India, Constituent Assembly debates and also Supreme Court of India judgments.
- Though DPSP is fundamental to the country's governance, it is not enforceable or justiciable in a court of law.

In Shah Bano Begum Judgement of 1985, where a divorced Muslim woman demanded maintenance from her former husband, the apex court while deciding whether to give prevalence to the CrPC or the Muslim personal law, called for the implementation of the UCC.

What did the Constituent Assembly say about UCC?

- The UCC had been recommended by the authors of the Indian Constitution under the Directive Principles of State Policy.
- **For** - B.R.Ambedkar, the chief architect of the Indian Constitution, stressed the importance of a UCC in ensuring gender equality and eradicating prevailing social evils.
- Other distinguished members of the Constituent Assembly such as Alladi Krishnaswamy Ayyar and K.M. Munshi also advocated the enactment of a UCC.
- **Against** - Many other members including Nazirrudin Ahmad were against it.
- They claimed that the religious laws of different communities should not be tampered with, without their consent.
- Since a consensus on a UCC could not be reached in the Constituent Assembly, UCC was placed under the Directive Principles.
- **Government's stance** - Evolved over years since 1991

What are the arguments in favour of the UCC?

- A common civil code would reinforce the principles of secularism in India.
- UCC is important for national integrity and equality of genders and religions.
- UCC would eliminate discriminatory practices that deprive women of their rights and provide them with equal opportunities and protections.
- Uniformity in personal laws will empower women and ensure gender equality in matters of marriage, divorce, and inheritance.
- UCC will make legislation in terms of succession and divorce easier and reduces complexities, contradictions and legal ambiguities.
- A unified legal framework is required to foster social cohesion and national integration in a diverse society like India.
- Ensures equality before the law for all Indians under **Article 14** of the Constitution.

What are arguments against the UCC?

- UCC could infringe upon religious freedom and might clash with religious practices.
- Implementing UCC would destroy the essential fabric of India, diversity, which is a mosaic of 22 official languages, 398 dialects, and 645 tribes.
- India is a diverse nation and different communities should have the right to maintain their distinct customs and practices.
- A law should not be implemented on minority communities without their consent.

- The “ambit and scope” of religious freedom itself is not yet decided.
- The minority bodies think that a common civil code is not in tune with **Article 25**, which provides protection and freedom for all to practice their religion and customary laws.

What is the way forward?

- **Recognition of difference** - The existence of difference does not imply discrimination, but is indicative of a robust democracy as world moves towards recognising differences.
- **Law Commission Report** - The consultation paper of the 21st Law Commission of India (2018), recommends a balancing act between the equal treatment of all religions and religious diversity by codifying personal laws.
- It has also pointed to the dangers of forcing uniformity and the necessity for voluntary reforms in the matter of personal laws.
- **Reiterate Ambedkar’s position** - If implemented, UCC should also “make a provision that the Code shall apply only to those who make a declaration that they are prepared to be bound by it”.

32. Green Washing

Background:

- The Forest (Conservation) Bill 2023 was filed in the Lok Sabha with the goal of clarifying the Forest Conservation Act of 1980 and exempting some types of forest land from legal protection.
- The bill has received the approval of a parliamentary committee that was formed to study it. This has led to a new round of discussion about the Bill’s provisions and what they represent for India’s forests.

Forest (Conservation) Amendment Bill, 2023

- The goal of the Forest (Conservation) Amendment Bill, 2023 is to make the nation’s forest conservation law more understandable.
- In order to expedite important national initiatives relating to strategy and security, it exempts some types of lands from its coverage.
- The measure will also remove the protection and status of forests from tree plantations on private properties and woods that are next to government-maintained public roads or rail lines.
- The “non-forest purpose” exclusions under Section 2 of the Forest (Conservation) Amendment are also proposed to be redefined by the amendment bill.

Need for the Amendment

- According to the Forest Survey of India's biennial reports, India's forest cover has barely slightly increased.
- Within legally recognised forests, the amount of forest growth is stable or at most incremental.
- The increase in tree cover in orchards, plantations, and rural homesteads supports India's assertion that 24% of its land is covered with trees and forests.
- As part of its international climate commitments, India has promised to raise this percentage to 33% and add a carbon sink that will absorb 2.5 billion to 3 billion tonnes of CO₂ in this way by 2030.
- As private agroforestry and tree plantation activities were not encouraged by the existing Forest (Conservation) Act, 1980, it was insufficient for achieving these goals.

Concerns with Forest (Conservation) Amendment Bill, 2023

- The main complaint is that these changes actually encourage afforestation for commercial purposes rather than helping to regenerate natural forests.
- Environmental specialists worry that destroying these forests without an assessment and a mitigation plan may endanger the region's biodiversity because the bill exempted some forest properties from the FCA.
- The forest cover and wildlife in the northeastern states may be negatively impacted by exempting land near border areas for national security projects.
- A general exemption for initiatives like zoos, eco-tourism facilities, and reconnaissance surveys could have a negative impact on wildlife and forest land.

33. Article 370 Abrogation and its challenge in SC

A five-judge Constitution Bench is set to hear the pleas about the abrogation of Article 370 for the first time since March 2, 2020.

Article 370

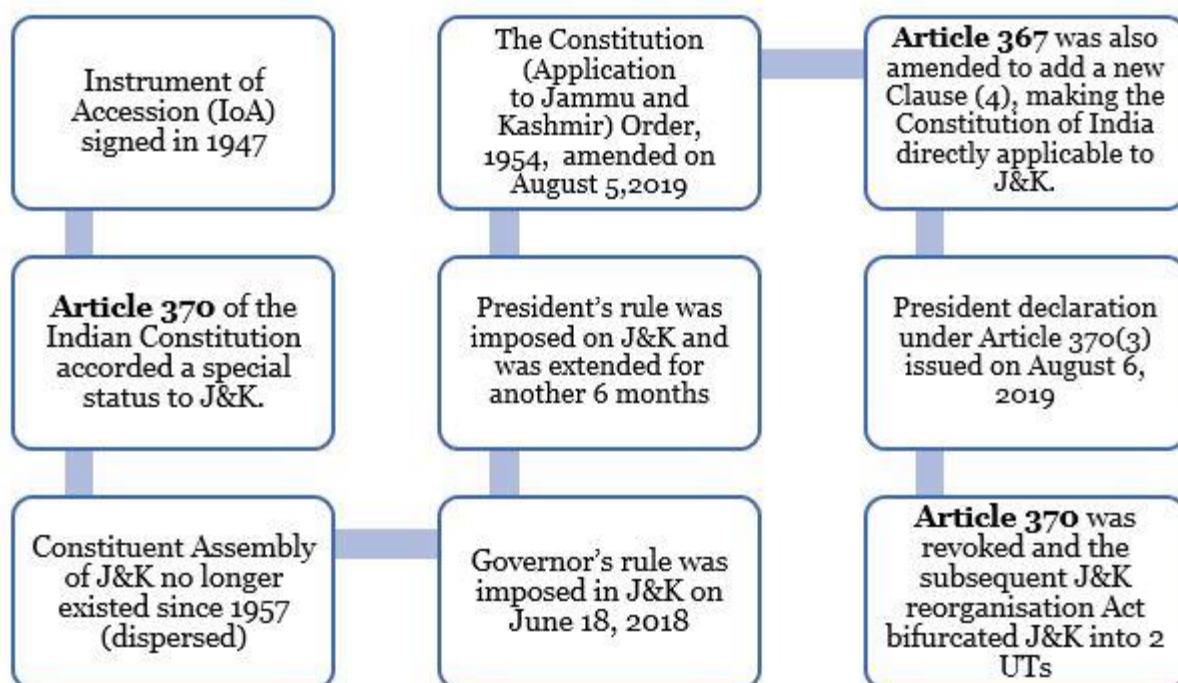
- Article 370 of the Indian Constitution accorded a special status to Jammu and Kashmir (J&K).
- It substantially limited Parliament's power to legislate for the State as compared to other States.
- The provision came into force as a result of the **Instrument of Accession** signed by erstwhile ruler of J&K Maharaja Hari Singh in **1947**.
- It was intended to be a temporary provision to allow the State to transition from an independent princely state to a democratic state under the dominion of India.

How can changes be made to Article 370?

- Any changes to the special status of J&K and provisions of the Article 370 can be made in two ways -
- **Clause (1)(d) of Article 370** empowered the President of India to extend other provisions of the Constitution through an executive order with the concurrence of the government of J&K.
- **Clause 3 of Article 370** empowered the President to 'declare that this article shall cease to be operative' completely or partially but only if the Constituent Assembly of J&K recommended such an action.

How did the abrogation of Article 370 happen?

Timeline: Special Status to J&K



- The Constituent Assembly of J&K and no state government either in J&K and the President had no way to acquire the concurrence of the state government.
- **New way** - The Centre, used the President's powers under Article 370(1)(d) to amend **Article 367**, which provides guidelines to interpret the Constitution.
- A new clause was added to Article 367, replacing "Constituent Assembly of the State" referred to in Article 370(3) by "Legislative Assembly of the State".
- **Promulgate Order** - On August 5, 2019, the President of India under Article 370(1), promulgated the Constitution (Application to Jammu and Kashmir) Order, 2019.
- Thus, the presidential order route under Article 370(1)(d) was used to amend Article 370 itself.

How the state of J&K was downgraded to Union Territory?

- On August 9, 2019, the President gave his assent to the Jammu and Kashmir Reorganisation Act, 2019 (2019 Act).
- The Act bifurcated J&K into two Union Territories (UT)
 - J&K, an UT with a Legislative Assembly;
 - Ladakh, an UT without an Assembly.
- The Union territory of Ladakh comprises Kargil and Leh districts while the Union territory of Jammu and Kashmir comprises all the remaining territories of the erstwhile State of Jammu and Kashmir.

What do the petitions contend?

- The petitions challenge the Presidential Orders of August 5 and 6, 2019, as well as the 2019 Act, contending that they are ‘unconstitutional, void and inoperative.’
- Under **Article 147 of the J&K Constitution**, the Legislative Assembly of J&K had no power to recommend any amendment to any provision of the Constitution of India.
- Hence, the J&K Legislative Assembly wasn’t legally competent to give consent to the President’s order.

The doctrine of colourable legislation is the legal principle that says what cannot be done directly cannot be done indirectly.

- The challenge is also based on the argument that the constitutional changes are “colourable legislation” and thus legally untenable.
- The petitioners have highlighted that the abrogation is a gross violation of the quasi-federal balance and defeats the principle of pluralistic federalism.
- **2019 Act** - The Centre’s decision has been challenged on the ground that it violates **Article 3** of Indian Constitution.
- It mandatory under Article 3, for the President to refer any Bill proposing the reorganisation of a state to its legislature if the Bill “affects the area, boundaries or name of any of the states”.

How about the hearing of the petitions?

- In 2020, the batch of petitions was referred to a five-judge Constitution Bench headed by Justice NV Ramana.
- On March 2, 2020, the bench refused to refer the matter to a larger bench (seven-judge bench).

- Despite several assurances of 'early listing' of these petitions by former CJIs, the case has not come up for hearing post the order declining reference to a larger bench.
- The petitions are being listed for hearing for the first time after March 2020.
- **New Bench** - A five-Judge Constitution Bench, comprising Chief Justice of India (CJI) D.Y. Chandrachud and Justices Sanjay Kishan Kaul, Sanjiv Khanna, B.R. Gavai and Surya Kant, is slated up.
- The five Judges are the seniormost in the Court and members of the Supreme Court Collegium.

34. Poverty's Impact on Brain Development

- In 1844, Frederick Engels observed that poor living conditions had physical effects on the poor, manifesting in various health issues.
- Neuroscientists in the 1960s discovered that growing up in poverty could hinder brain development in rats.
- Recent studies have shown a correlation between low-income families and lower cortical volume, poor academic performance, and smaller hippocampus in human children.

The Link between Poverty and Brain Development

- **Poverty's Effect on the Brain:** Poverty has been found to affect brain development in children and young adults.
- **Cortex and Academic Performance:** Studies in 2015 revealed that children from low-income families had lower cortical volume and performed poorly in academic tests.
- **Importance of the Hippocampus:** Another study in 2015 highlighted the correlation between family socioeconomic status and the volume of the hippocampus, a key region for learning and memory.

New Study on Anti-Poverty Policies and Hippocampus Size

- **The Study:** Researchers from Harvard University and Washington University conducted a study published in May 2023 in the journal Nature Communication.
- **Data:** The study analyzed brain scans of over 10,000 children aged 9-11 from 17 U.S. states with varying costs of living and anti-poverty programs.
- **Findings:** Children from low-income families had a smaller hippocampus, but generous anti-poverty policies significantly reduced this risk.

- **State-Level Public Policies:** The study highlights the potential of state-level public policies to address the correlation between brain development and low income.

Implications for Children's Health and Well-being

- **Psychological Impact:** Impaired hippocampal development is associated with a higher risk of mental health issues such as major depressive disorder and post-traumatic stress disorder.
- **Internalizing and Externalizing Psychopathologies:** The study found a negative association between family income and the incidence of internalizing and externalizing psychopathologies in children.
- **Impact of Anti-Poverty Policies:** Generous cash benefits were associated with larger hippocampal volumes and reduced internalizing problems in low-income households.

Considerations and Limitations

- **Systemic Discrimination:** Poverty is often a result of systematic discrimination, such as racial disparities.
- **Alternative Explanations:** The study aimed to rule out alternative explanations, including racial and ethnic factors, but acknowledges the need for further investigation.
- **Applicability to Other Contexts:** The study's findings may not directly apply to other countries like India, given different macroeconomic conditions.

Role of Welfare and Policy

- **Financial Resources and Stressors:** Access to more financial resources can help shield families from chronic stressors associated with low income, potentially influencing hippocampal development.
- **Generous Anti-Poverty Policies:** Such policies not only increase family income but also enable families to make decisions that reduce stress, such as working fewer hours.
- **Investing in Social Safety Net Programs:** Investments in social safety net programs can mitigate socioeconomic disparities in neurodevelopment, addressing mental health, education, and economic challenges.

Conclusion

- **Longitudinal Study:** The researchers will continue studying the mental health and brain development trajectories of the study's participants to examine the influence of policy changes.

- **Importance of Social Safety Net Programs:** The study underscores the significance of investing in social safety net programs to address the consequences of socioeconomic disparities in brain development.

35. 'Gramodyog Vikas Yojna' of Khadi and Village Industries Commission (KVIC)

Recently, **Honey Bee-Boxes**, Leather Footwear Manufacturing Machine and **Toolkits** for plumber, footwear Repairing were distributed to beneficiaries under the program '**Gramodyog Vikas Yojna**' of **Khadi and Village Industries Commission (KVIC)** Ministry of Micro, Small and Medium Enterprises.

About Khadi and Village Industries Commission (KVIC):

- The Khadi and Village Industries Commission (KVIC) is a **statutory body** formed in April 1957 by the Government of India, under the Act of Parliament, '**Khadi and Village Industries Commission Act of 1956**'.
- It is an **apex organisation** under the **Ministry of Micro, Small and Medium Enterprises**.

Objectives of KVIC:

- **To plan, promote, facilitate, organise and assist** in the **establishment and development** of khadi and village industries in the **rural areas**.
- The commission has three main objectives which guide its functioning:
 - **The Social Objective** – providing **employment** in rural areas
 - **The Economic Objective** - providing saleable articles
 - **The Wider Objective** - **creating self-reliance** amongst people and building up a strong rural community spirit

Functions of KVIC:

- Build up a **reserve of raw materials** and **implements** for **supply to producers**.
- Create common service facilities for processing of raw materials as semi-finished goods.
- Provide facilities for **marketing of KVI products** apart from **training** artisans engaged in these industries and **encouragement of co-operative** efforts amongst them.
- Encourage and promote **research** in the **production techniques** and **equipment** used in the Khadi and Village Industries sector.
- Promote use of **non-conventional energy** and **electric power** to increase productivity, eliminate drudgery and enhance their competitive capacity.

- Provide **financial assistance** to institutions and individuals for development and operation of Khadi and village industries.
- Ensure **genuineness** of the products and **set standards** of **quality** that the products need to conform with.

About Gramodyog Vikas Yojna:

- "**Gramodyog Vikas Yojana (GVY)**" aims to promote **development** of **village industries** through **common facilities**, technological modernization, training etc. & other support and services for promotion of village Industries.
- It is one of the two components of the **Khadi Gramodyog Vikas Yojana**.
 - Khadi Gramodyog Vikas Yojana is a **Central Sector Scheme (CSS)**.
- KVIC organises **short duration specialized skill development programme** followed by distribution of tools and kits to start their micro/ small units activities in local area.
- **Components** of GVY from the activities under Village Industries:
 - Wellness & Cosmetics Industry (WCI)
 - Handmade Paper, Leather & Plastic Industry (HPLPI)
 - Agro Based & Food Processing Industry (ABFPI)
 - **Village oil industry**-portable kachi ghani
 - **Small kits** for deseeding of tamarind etc.
 - Mineral Based Industry (MBI)
 - Rural Engineering & New Technology Industry (RENTI)
 - Service Industry

Other Industries covered under the scheme:

- **Forest based industry**- honey bee boxes
- **Polymer and chemical** Industry
- **Tools kits** are also given in handmade paper, gur, and rural engineering

Beneficiaries:

- Artisans, Unemployed Youth and Self-Help Groups (**SHGs**)

Eligibility Criteria:

- Any person/traditional Artisans with **Knowledge of Skill**, experience in **Art and craft**.

36. Women's reproductive autonomy as the new catchword

- India's progress in family planning initiatives and achievements in areas such as life expectancy, maternal health, and gender empowerment. Instead of ensuring reproductive autonomy for each woman, society has obsessed with total fertility rates and the ideal population size of a family.

Central Idea

- The theme of this year's World Population Day, Unleashing the power of gender equality: Uplifting the voices of women and girls to unlock our world's infinite possibilities, holds significant relevance for India. In order to foster women-led development across various sectors in India, it is imperative to prioritize reproductive autonomy as a core component.

What is mean by reproductive autonomy?

- Reproductive autonomy refers to an individual's right and ability to make informed decisions regarding their reproductive health and choices without interference, coercion, or discrimination.
- It encompasses the freedom to decide whether or when to have children, the number of children to have, and the spacing between pregnancies.
- Reproductive autonomy includes access to comprehensive reproductive healthcare services, including family planning methods, contraceptives, sexual education, prenatal care, safe abortion services, and support for reproductive health decisions.

India's progress in family planning

- **Family planning initiatives:** India has been commended for its family planning initiatives, aiming to provide comprehensive reproductive health services to every potential beneficiary.
- **Reproductive health services:** Efforts have been made to expand the contraceptive basket and provide a range of modern short and long-acting reversible contraceptives, permanent methods, information, counseling, and services, including emergency contraception.
- **Maternal health improvements:** India has made impressive strides in maternal health, as reflected in the significant reduction in maternal mortality rates. The current rate stands at 97 per 100,000 live births, down from 254 in 2004.
- **Gender empowerment:** India has achieved progress in empowering women and girls. The number of child marriages has been cut in half since the early 2000s, and teen pregnancies have significantly decreased.

- **Access to vital services:** India has witnessed improved access to crucial services, including health, education, and nutrition.
- **Longer life expectancy:** Life expectancy at birth has significantly increased in India over the years, with Indians now living a decade longer compared to the 1990s.

What are the Challenges?

- **Lack of physical autonomy:** Despite the progress made, many women in India continue to lack physical autonomy.
- **Limited decision-making power:** According to the National Family Health Survey, only 10% of women in India are independently able to make decisions about their own health.
- **Acceptance of marital violence:** The survey also reveals that 11% of women believe that marital violence is acceptable if a woman refuses to have sex with her husband.
- **Unplanned pregnancies:** Nearly half of all pregnancies in India are unplanned, highlighting a challenge in ensuring effective family planning services and education.
- **Ongoing gender disparities:** While progress has been made, there are persistent gender disparities and inequalities that need to be addressed to achieve true gender equality.
- **Societal attitudes:** Attitudes and societal norms that perpetuate gender-based discrimination and violence continue to pose challenges to women's empowerment.

Opportunities for India

- **Advancing gender equality:** India has a significant opportunity to advance gender equality, which can have far-reaching positive effects on various aspects of society, including economic growth, social progress, and inclusive development.
- **Economic growth potential:** By increasing women's labor force participation by 10 percentage points, India could unlock significant economic growth potential. It is estimated that this could contribute to more than 70% of the potential GDP growth, amounting to an additional \$770 billion by 2025.
- **Human capital development:** Empowering women through education and family planning can lead to the accumulation of human capital, which is crucial for sustainable development and economic progress.
- **Harnessing women's potential:** By enabling women to participate fully in various sectors, including science, technology, agriculture, education, and healthcare, India can tap into the immense talent, ideas, and innovation that women bring to the table.

- **Rights-based legislation and policies:** India has the opportunity to formulate and implement legislation and policies that empower women, girls, and marginalized individuals, enabling them to assert their rights and make life-changing personal decisions.
- **Inclusive economic development:** Promoting gender equality and empowering women can contribute to inclusive economic development by ensuring equal opportunities and participation for all segments of society.
- **Shifting population dynamics:** By focusing on reproductive choices and ensuring reproductive autonomy for individuals, India can shape its population dynamics in a way that respects individual rights and choices, while also addressing demographic challenges.

Way forward

- **Investments in women's lives:** Ensuring gender equality and empowering women requires making investments in every stage of a woman's life, from childbirth to adolescence to maturity. This includes providing access to quality education, healthcare, and support systems that enable women to make informed choices and assert their rights.
- **Legislation and policies:** Formulating and implementing rights-based legislation and policies that empower women, girls, and marginalized individuals is crucial. This involves engaging with these groups, understanding their needs, and creating an enabling environment that supports their rights and decision-making.
- **Comprehensive reproductive health services:** Continued efforts should be made to provide comprehensive reproductive health services that are accessible, affordable, and of high quality. This includes expanding the contraceptive basket, ensuring access to family planning methods, information, counseling, and emergency contraception.
- **Gender-just approaches:** Adopting gender-just approaches and solutions is essential for building a prosperous and inclusive India. This involves challenging societal norms and attitudes that perpetuate gender discrimination and violence, and promoting gender equality as a fundamental value.
- **Population and development discourse:** Reaffirming the commitment to placing individual rights, particularly women's rights and well-being, at the center of the population and development discourse is crucial. Shifting the focus from population stabilization to respecting reproductive choices and promoting reproductive autonomy is essential.

Conclusion

- On this World Population Day, let us reiterate our commitment to placing individual rights, particularly women's rights and well-being, at the forefront of population and development discourse. Embracing gender-just approaches and solutions is essential for building a prosperous India and a better world for all.

37. India-Philippines Relationship

Recently, 5th India-Philippines Joint Commission on Bilateral Cooperation (JCBC) was held in New Delhi.

History of India-Philippines relation

- **Political Relations** – Diplomatic relations between India and Philippines were established in 1949.
- **Economic Relations** – Bilateral trade has increased from 1.89 billion USD in 2015-16 to 2.84 billion USD in 2021-22.
- India's exports to Philippines is more when compared to its exports.
- **Defence** - RIMPAC is a multilateral military exercise between India, Philippines and other countries.
- India and Philippines also participate in ASEAN-India Maritime Exercise.
- Defence ties were significantly enhanced with the signing in 2022 of a contract to supply the BrahMos missile system.
- **Cultural Exchange** - The Cultural Exchange Programme (CEP) between the two countries was renewed for the period 2019-2023.
- **Education and Health** -Philippines is one of the beneficiaries of India's flagship capacity building programme – Indian Technical and Economic Cooperation (ITEC).
- International Rice Research Institute (IRRI) is located in Manila, Philippines.
- India continues to be the largest supplier of pharma products to Philippines.
- Philippines was the first ASEAN Member State to grant Emergency Use Authorization (EUA) for Bharat Biotech's Covaxin.
- **Diaspora** - The Indian community (bulk of Punjabis and Sindhis) in the Philippines is estimated to be around 1,50,000.

What are the recent developments?

- **High level visits** - 4th Joint defence cooperation meeting and 5th joint commission on bilateral cooperation was held in New Delhi.
- **Fintech sector** - An MoU has been signed for partnership in innovative technologies, fintech industry, digital governance, payment linkages and other related areas.
- **Space** - As Philippines works to become a spacefaring country by 2030, more vigorous capacity-building between the Philippine Space Agency and the ISRO are on the horizon.
- **Energy Sector** - The sheer volume of investments and pledges coming into wind power in the first half of 2023 tell of its ascending presence in the energy sector.

What are the concerns?

- **Regional security architecture** - Fluctuation of power between China and USA.
- **China assertive role** - China's aggressive influence over South China Sea.

What lies ahead?

- There is a need to harness the power of the Indo-Pacific as a catalyst for growth, more intensified regional cooperation is essential.
- Stronger economic integration, improved connectivity, and increased innovation are key to support the region as a global economic powerhouse.
- As champions of the rule of law and inclusive multilateralism, the Philippines and India play important roles which would lead to partnership for 21st century.

38. Performance Grading Index (PGI) released for 2021-22

- The annual Performance Grading Index (PGI) released by the Union government ranks the performance of States and Union Territories in school education for the year 2021-22.
- While Chandigarh and Punjab emerged as the top performers, none of the states or UTs achieved the highest grade, Daksh, indicating room for improvement across the board.

Performance Grading Index (PGI)

- The Performance Grading Index (PGI) is a tool to provide insights on the status of school education in States and UTs including key levers that drive their performance and critical areas for improvement.

- The Department of School Education and Literacy (DoSEL) has designed the PGI to catalyse transformational change in the field of school education.

Key Parameters of the PGI

- **Learning Outcomes:** Assessing students' performance in subjects such as language, math, science, and social science.
- **Access to Education:** Evaluating net enrolment ratio, retention rates, transitions between educational levels, and mainstreaming of out-of-school children.
- **Infrastructure:** Examining availability of science labs, computer labs, book banks, vocational education subjects, mid-day meal supply, functional drinking water facilities, and provision of uniforms and free textbooks.
- **Equity:** Considering the performance gap between marginalized communities and the general category, as well as the presence of inclusive infrastructure like ramps and disabled-friendly toilets.
- **Educational Governance and Management:** Assessing digital attendance records, the presence of single-teacher primary schools, vacancies in educational posts, inspections, and teacher evaluations.

PGI Grades and Rankings

- **Daksh:** The highest grade in the PGI, scoring above 940 out of 1,000 points.
- **Akanshi-3:** The lowest grade, with scores up to 460 points.
- **Top Performers:** Chandigarh and Punjab secured the sixth-highest grade, Prachesta-2, followed closely by Gujarat, Kerala, Maharashtra, Delhi, Puducherry, and Tamil Nadu at Prachesta-3.
- **Improvement Needed:** Thirteen states, including Andhra Pradesh, Chhattisgarh, Haryana, West Bengal, and Madhya Pradesh, were categorized as Akanshi-1 states, indicating substantial room for improvement.

Action for Improvement

- **Domain-Wise Action:** The report highlights that states can take specific actions in each domain to improve their overall score in the PGI.

39. PM Modi to host SCO 2023 summit today: What's on the table?

- Prime Minister Narendra Modi's virtual summit with the Shanghai Cooperation Organisation (SCO) holds immense significance. With the participation of key leaders such as Russian President Vladimir Putin,

Chinese President Xi Jinping, and Pakistan Prime Minister Shehbaz Sharif, the meeting is poised to address crucial regional issues.

Significance of the Meeting for India

- **Regional Engagement:** As the host of the SCO meeting, India has the opportunity to actively engage with key regional players, including Russia, China, and Central Asian countries. This engagement allows India to strengthen its relations with neighboring nations and enhance regional cooperation on various fronts.
- **Showcase of Strategic Autonomy:** India's successful visit to the United States prior to the SCO summit highlights its ability to maintain positive relations with global powers while actively participating in regional groupings like the SCO. This demonstrates India's strategic autonomy and self-assuredness, reinforcing its position as a reliable and influential player in global affairs.
- **Voice of Reason:** PM Modi's previous statement to President Putin, emphasizing that this is not the era of war, showcased India's capacity to express its views to influential leaders. It highlighted India's commitment to peaceful resolution and diplomacy, enhancing its international standing.
- **Strengthening Central Asian Ties:** India's participation in the SCO provides a valuable platform to strengthen and expand its relations with Central Asian countries. By actively engaging with them through the SCO, India can foster stronger bilateral ties and explore opportunities for trade, investment, and cooperation in various sectors.
- **Countering Cross-Border Terrorism:** The SCO's focus on combating terrorism and cross-border issues aligns with India's priorities. Through participation in SCO initiatives and discussions, India can emphasize the importance of concerted efforts to address terrorism and promote regional stability.

Changing Dynamics in Central Asia

- **Decline of Russian Influence:** Central Asia, which was traditionally considered Russia's backyard, has seen a decline in Russia's influence in recent years. This decline is partly due to the ongoing Russia-Ukraine war and Russia's annexation of Ukrainian territories. Central Asian countries, such as Kazakhstan, have openly expressed their non-support for Russia's actions, signaling a shift in their perspective.
- **Growing Chinese Presence:** China has been expanding its presence in Central Asia through initiatives like the Belt and Road Initiative (BRI). Chinese investments in infrastructure projects, such as building pipelines, transmission lines, and other connectivity projects, have increased.

- **Common People's Concerns:** The common people in Central Asian countries have concerns about potential economic exploitation and loss of national assets. There have been demonstrations against China's increasing influence, highlighting the need for careful consideration of the long-term implications of Chinese involvement.
- **Search for Diverse Partnerships:** Central Asian countries are looking beyond Russia and China for partnerships. They aim to avoid becoming excessively dependent on a single power and seek relationships with multiple countries. India, Turkey, Iran, the United States, and Europe are among the nations interested in engaging with Central Asian countries and offering alternative opportunities for economic cooperation, security, and development.
- **Strengthening Relations with India:** India has historical, cultural, and civilizational links with Central Asia. Prime Minister Modi's visits to all five Central Asian countries in 2015 demonstrated India's commitment to deepening ties.
- **Multi-Actor Engagement:** Besides India, other countries such as Turkey, Iran, the United States, and Europe are also recognizing the opportunities in Central Asia. They are actively seeking to enhance their relations with the region, understanding the need for a multi-actor approach to regional engagement.

India's progress and expectations

- **Strengthening regional relations:** India's active participation in the SCO has strengthened ties with Central Asian countries and expanded cooperation in various sectors.
- **Counterterrorism and security cooperation:** India's engagement in the SCO highlights its commitment to combating terrorism and promoting regional security.
- **Economic cooperation and trade opportunities:** India seeks to enhance economic ties with Central Asian nations through trade and investment improvements.
- **Regional connectivity and infrastructure development:** India advocates for improved regional connectivity, including projects like the International North-South Transport Corridor and the Chabahar Port, to facilitate trade and economic cooperation.
- **Cultural and people-to-people exchanges:** India focuses on fostering cultural and educational exchanges to deepen mutual understanding and strengthen ties between India and Central Asia.
- **Expanding influence:** Active participation in the SCO allows India to expand its influence in the region and project itself as a reliable and responsible partner in international affairs.

Challenges within the SCO framework

- **Divergent Interests:** The SCO consists of member states with diverse geopolitical interests, historical disputes, and economic priorities. These divergences can sometimes make it difficult to achieve consensus and coordinated action on important issues.
- **Bilateral Disputes:** Some SCO member states have ongoing bilateral disputes, such as the border disputes between India and China, and Pakistan and India. These disputes can create tensions within the organization and hinder collective decision-making.
- **Power Dynamics:** The SCO includes major powers like China and Russia, which may wield more influence and have their own priorities within the organization. Balancing power dynamics and ensuring equitable representation among member states can be a challenge.
- **Security Concerns:** The SCO's primary focus is on regional security, counterterrorism, and combating extremism. However, member states may have varying security concerns, differing threat perceptions, and divergent approaches to addressing security challenges.
- **Economic Disparities:** The SCO encompasses countries with varying levels of economic development and differing priorities for economic cooperation. Achieving comprehensive economic integration among member states can be challenging due to disparities in economic systems, infrastructure connectivity, and trade barriers.

Way forward

- **Strengthening Trust and Confidence:** Member states should work towards building trust and confidence among themselves through increased dialogue, transparency, and shared understanding of each other's perspectives and concerns. Regular high-level exchanges, bilateral meetings, and people-to-people interactions can contribute to enhancing trust and cooperation.
- **Consensus-Building and Decision-Making:** The SCO should prioritize consensus-building among member states on key issues. Ensuring that decision-making processes are inclusive, transparent, and representative will help in addressing divergent interests and maintaining unity within the organization.
- **Resolving Bilateral Disputes:** Member states should make efforts to resolve their bilateral disputes through peaceful means and dialogue. Encouraging direct negotiations, promoting confidence-building measures, and seeking third-party mediation when necessary can contribute to reducing tensions and enhancing cooperation within the SCO.
- **Enhanced Economic Cooperation:** The SCO should focus on deepening economic cooperation among member states. This can be achieved through

the promotion of trade, investment, infrastructure connectivity, and technology sharing.

- **Regional Security Cooperation:** Member states should collaborate closely to address common security challenges, including terrorism, extremism, and drug trafficking. Strengthening intelligence sharing, joint exercises, and capacity-building initiatives can enhance the effectiveness of the SCO in maintaining regional security and stability.
- **Engaging with External Partners:** The SCO should engage with external partners, including observer states and dialogue partners, to explore areas of mutual interest and cooperation. This can help leverage external expertise, resources, and networks to support the organization's objectives while ensuring that the SCO remains independent and maintains its autonomy.

Conclusion

- While the SCO meeting may not directly resolve border standoffs or ongoing wars, it serves as a platform to strengthen regional relations, address cross-border terrorism, and explore avenues for cooperation. By actively engaging with Central Asian countries and leveraging its strengths, India can enhance its influence and contribute to the region's progress

40. Revisiting Masterplan for ULBs

Amitabh Kant, India's G20 Sherpa, stressed at the Urban-20 City Sherpas' meet that a master plan is crucial for any city to manage urbanisation.

Masterplan

- A master plan is a dynamic long-term planning document that provides a conceptual layout to guide future growth and development.
- It includes analysis, recommendations, and proposals for a site's population, economy, housing, transportation, Community Facilities, and land-use.
- Master plan consists of future directions of development, policy and implantation of the same.
- It sets out how a particular area can develop and redevelop into the future.

Significant is a masterplan for ULBs

- A master plan is an instrument of governance for urban local bodies (ULBs).
- Master Plans may not be the panacea but is crucial for any city to manage urbanisation.
- It has an important role in determining the shape of the urban environment.
- Master plans blur the program particular plans to improve urban areas.

- The Ministry of Housing and Urban Affairs has recommended that master plans in cities should be revisited for the improved governance of cities.

What are the challenges?

- Master plan is an archaic concept whose sales-pitch is more spectacular than its performance.
- **Dated instrument** - The legal and institutional frame of the master plan remained unchanged without accommodating later sensibilities for urban service rationalities.
- **Spatial vision** - A master plan is simply a spatial plan of land-use allocation supported by bye-laws and development control regulations.
- **Burden on ULBs** - The ULBs are cultivated and shaped by the agenda of regulating spatial growth and remain slaves to the master plan.
- The edifice of urban governance is built around this spatial vision and provision of urban services.
- **Spatial plans** - The statutory and spatial nature of the master plan can pose constraints on the programmatic plans, especially the spatially associated ones.
- Most water-body related projects negotiate the challenges of encroachment of floodplains as encroachments in ex-post.

Close to 65% of India's urban settlements do not have master plans, according to NITI Aayog.

- **Absence of Master plans** - There is no set criteria for mandating a spatial plan to regulate urban growth.
- The approach is ad-hoc, to be notified by State governments.
- For a variety of reasons primarily lack of human and financial resources, such notifications of mandatory spatial plans are delayed.

What could be done?

- Urban planning in India must be reimagined urgently to accommodate these emerging demands and sensibilities of urban governance.
- Recent moves such as Gati Shakti and Model Rural Transformation Acts are a reflection of this growing demand but are remote and limited.
- **Acceptance** - Acknowledging that the master plan instrument is limited and address the expanded scope of urban governance through new ways.
- **Best practices** - Many States have tried supplementing the inadequacies of the master plan with innovative bye-laws.
- These Indian cities offer enough experiences to learn from.

- **Focus Areas** - The incapacities in urban planning and governance highlighted by the 2021 report of the NITI Aayog must receive priority.
- **Cooperation** - The Centre must work with the States to reconsider the spatial planning framework in India.

GS 3 : Economy, Science and Technology, Environment

1. NIRF India Rankings 2023

The National Institutional Ranking Framework (NIRF) recently released the eighth edition of India Rankings for 2023.

NIRF rankings

- The Ministry of Education in 2015 drafted and implements the National Institutional Ranking Framework (NIRF).
- The Education Ministry releases the NIRF Ranking every year since 2016 and 2023 is the 8th edition.
- The NIRF rankings also known as the **India Rankings**, evaluates the 'quality' of educational programs offered by higher education institutions in colleges and universities in India.
- **Criteria** - NIRF ranks higher education institutions in 5 categories and 8 subject domains.
- The NIRF evaluates institutions on five parameters and 16-18 sub-parameters.
- Ranks are assigned based on the sum of marks secured by institutions on each of these parameters.
- The ranks helps universities in identifying areas for improvement in teaching, research, resources, and infrastructure.

Categories (5)	Subject Domains (8)	Parameters (5)
<ul style="list-style-type: none"> • Overall • Universities • Colleges • Research institutions • Innovation 	<ul style="list-style-type: none"> • Engineering • Management • Pharmacy • Medical • Dental • Law • Architecture and planning • Agriculture and allied sectors 	<ul style="list-style-type: none"> • Teaching, learning and resources • Graduation outcome • Research and professional practices • Outreach and inclusivity • Perception

What is new in the India Rankings for 2023?

- There are 3 distinct additions of the 2023 edition of India Rankings.
 1. Introduction of a new subject namely Agriculture & Allied Sectors
 2. Integration of the 'Innovation' ranking previously executed by the Atal Ranking of Institutions on Innovation Achievements (ARIIA) into the India Rankings.
 3. Expansion of scope of 'Architecture' to 'Architecture and Planning' to include institutions imparting courses in Urban and Town Planning.
- The new additions have increased portfolio of India Rankings to 13 categories and subject domains.

Key findings of this ranking

- **Participation** - According to the Ministry of Education, in this edition of NIRF, 5,543 institutions offered themselves for ranking under overall, category-specific or domain-specific ranking.
- Only 12.3% of higher educational institutions participated in the ranking process.
- There is near to no information on the parameters decided by NIRF for the remaining 87.7% of higher education institutions.
- **Rural-urban Divide** - AISHE data show that about 43% of the universities and 61.4% colleges are in rural areas.

- The list of top 100 colleges shows scant presence of colleges from rural areas.
- **Quantity and Quality** - There is an incongruence between quantity and quality.
- According to AISHE, Uttar Pradesh has the highest number of colleges in the country, followed by Maharashtra and Karnataka.
- The list of top 100 colleges does not feature a single college from U.P. and features only 3 colleges from Maharashtra and 2 from Karnataka.
- **State Universities** - Quality differences are evident between private and government institutions as well.
- The highest rank secured by a private institution is 15 in overall rankings and 6 in university rankings.
- Government institutions finds top place in the list which shows there is a tremendous scope for many more State universities if quality is improved.

The AICTE-prescribes faculty-student ratio of 1:20. Only 33.98% of engineering colleges adhere to it.

- **Faculty strength** - Higher faculty-student ratio shows better quality of institutions.
- The average number of faculty in the top 100 universities is 645, while for the remaining universities it is only 242.
- **Scientific publications** - Faculty strength and quality also get reflected in scientific publications.
- The 12.3% of institutions which have participated in the ranking contribute close to 90% of scholarly output in the country.

As per the All India Survey on Higher Education (AISHE) 2021, there were 1,113 universities and 43,796 colleges in 2020-21.

What could be inferred from the findings of the report?

- The rankings underscore the urgent need for quality enhancement in the higher education system.
- Rankings like NIRF should serve the purpose of being an input for informed **evidence-based policy** decisions.
- China's share of world publications increased from 5% in 2000 to 26% in 2018, facilitated by massive research investments by the Chinese government.
- India's share in the overall world scientific publications is about 4.81% and requires immediate attention.
- India as a nation aspiring to reap rich demographic dividends, needs **higher budgetary outlays** for higher education.

2. Aspartame: the Carcinogenic additive in Diet Cola

- The cancer research arm of the World Health Organization (WHO) is reportedly considering listing aspartame, a popular sugar substitute 'Aspartame' as "possibly carcinogenic to humans."
- This potential listing by the International Agency for Research on Cancer (IARC) has generated controversy as it contradicts previous studies that found no evidence linking aspartame to cancer.

Aspartame

- Aspartame is widely used as an artificial sweetener in various food and beverage products.
- It is made from the dipeptide of two amino acids, L-aspartic acid and L-phenylalanine.
- It is approximately 200 times sweeter than table sugar and is commonly used in diet soft drinks, sugar-free gum, and other sugar-free products.
- It is favored by those seeking to reduce calorie intake or manage diabetes.

Safety Record and Regulatory Approvals

- Aspartame has undergone extensive studies over 40 years, with over 100 studies finding no evidence of harm caused by its consumption.
- The US Food and Drug Administration (FDA) has permitted its use in food since 1981, and it has been reviewed multiple times for safety.
- The European Food Safety Authority (EFSA), as well as national regulators in various countries, also deem aspartame safe for consumption.
- However, individuals with phenylketonuria (PKU), a rare genetic disorder, should avoid aspartame due to the presence of phenylalanine.

Controversies and Impact of WHO's Listings

- Past IARC rulings have raised concerns, led to lawsuits, and influenced manufacturers to seek alternatives due to public confusion.
- The potential listing of aspartame as "possibly carcinogenic" by the IARC contradicts previous scientific consensus on its safety.
- Critics argue that IARC assessments can be confusing to the public and may create unnecessary fear and misinformation.

3. Global Competitiveness Index

India has ranked 40th on the latest world competitiveness ranking released by the International Institute for Management Development (IMD).

- The country has slipped three spots from last year, but is still positioned better than the 43rd rank in 2019-21.

About the report:

- First published in 1989, IMD World Competitiveness Yearbook (WCY) is a comprehensive annual report and worldwide reference point on the competitiveness of countries.
- The report uses a combination of surveys, statistical data and trends to benchmark the competitiveness of 64 countries around the world.
- It analyses and ranks countries according to how they manage their competencies to achieve long-term value creation.
- In addition to GDP and productivity, it looks into how enterprises cope with political, social and cultural factors.
- The Institute is co-headquartered in Switzerland and Singapore.
- The ranking provides a valuable tool for evaluating highly contrasting business environments, for supporting international investment decisions, and for assessing the impact of various public policies.
- The report is produced with the support of a network of 57 local partner institutes. In India, it partners with the National Productivity Council.

Competitiveness criteria:

- The results are based on a mixture of hard data - 164 competitiveness criteria selected as a result of comprehensive research using economic literature, international, national, and regional sources, plus feedback from the business community, government agencies, and academics - and 92 survey questions answered by 6,400 senior executives.
- Hard data accounts for two-thirds of the overall ranking results, whereas the survey data represents one-third.

Global Competitiveness Snapshot:

- Out of the 64 economies ranked in the annual report, Denmark, Ireland, and Switzerland claimed the top three spots.
- The Netherlands, Taiwan, Hong Kong, Sweden, the US, and the UAE rounded out the top 10.
- Ireland experienced a significant leap in this year's ranking, jumping from the 11th position to second place.

- Singapore dropped to the **fourth** position from **third** place.
- **Denmark maintained its top position** by consistently performing well across all measured competitiveness factors, excelling in business efficiency and infrastructure while displaying improved results in government efficiency.

India's Rank:

- **India has ranked 40th** on the **latest world competitiveness ranking** released by the International Institute for Management Development (IMD).
- The country has **slipped three spots** from last year, but is still positioned better than the 43rd rank in 2019-21.
- According to the IMD's World Competitiveness Centre (WCC) report, India **progressed in government efficiency** but **lagged in business efficiency, infrastructure and economic performance**.
- **Key contributing factors** to the country's score were **exchange rate stability, compensation levels and advancements in pollution control**.

4. Rockies, Alps, Himalayas: More rain, less snow in Northern hemisphere mountains as temperatures rise

A new study stated the Himalayas and other mountains across the Northern Hemisphere are likely to see 15 per cent more rain for every 1-degree Celsius rise in temperature due to climate change.

What are the key findings of the study?

Importance of developing climate adaptation plans for mountainous regions

- The importance of developing climate adaptation plans to protect the **natural and built environments**, given that **26% of the world's population** lives in or directly downstream of mountainous regions.
- Data from 1950 to 2019 show that the transition from **snowfall to rainfall** has already begun in the **Northern Hemisphere's Mountain regions**.

Threatened Mountain Regions

- Not all mountain regions are at high risk. The **Himalayas and the North American Pacific Mountain ranges**, including the **Cascades, Sierra Nevada, and coastal ranges** from Canada to Southern California are **more threatened** than the **Rockies or the Alps**.
- The Himalayas is **one of those hotspot** regions where we see an increased risk of rainfall extremes.
 - The Himalayas are likely to see **higher rates of increase** than other mountainous regions.

- The **higher risk** might be due to changes in **atmospheric dynamics**.
- For example, the **Pacific Mountain range** in North America receives most of its snowfall when the temperature is just below zero Celsius.
 - This snowfall will **turn into rain** due to a drop in air temperature.
- Snowfall may occur in **less-threatened mountain ranges** at temperatures well **below zero degrees**.

Effects of climate change on mountain regions

- The Hindu Kush Himalayas have seen a **65 per cent faster loss of glacier mass**. (International Centre for Integrated Mountain Development's (ICIMOD) Report)
- A quarter of snow cover could be **lost under a high emissions scenario**.
- It is predicted that a decline in snowfall between 2070 and 2100 compared to the average snowfall between 1971 and 2000 will be:
 - **30-50 per cent** in the Indus Basin,
 - **50-60 per cent** in the Ganges, and
 - **50-70 per cent** in the Brahmaputra.

5. Threats of Plasticulture

The agriculture food system is increasingly becoming dependent on plastics resulting in more plastic pollution.

Plasticulture

- Plasticulture is a term used to represent the application of plastics in the agricultural sector.
- The proliferation of plasticulture endangers soil, biodiversity and human health.
- In the **farming sector**, plastics are used to pack seeds and fertilisers in single-use plastic sachets, sacks and plastic containers.
- **Other plastic products** used in agriculture are - seedling trays, mulching film, greenhouse film, protective nets, drip irrigation tapes and irrigation pipes.
- Polyethylene, polypropylene, expanded polystyrene, polyvinyl chloride (PVC) and polyethylene terephthalate are few main polymers found in them.

Agricultural value chains used 12.5 million tonnes of plastic products globally in 2019, reported the Food and Agricultural Organization (FAO).

What are the threats posed by plasticulture?

- The application of plastics in the agriculture sector is hailed to contribute towards the 'Second Green Revolution' in the country.
- Soil is becoming poisoned due to the application of chemicals and plastics which eventually threatens the whole ecosystem.

Just 1 kg of thin mulching sheets is enough to cover and contaminate as much as 700 square feet of agricultural land.

- **Microplastics** - The plasticulture has led to microplastics entering every living organism on the planet.
- According to the FAO report, soils are known to contain larger quantities of microplastics than oceans.
- **Soil porosity** - With time the additives and chemicals embedded in mulch films can gradually diminish soil porosity and hinder air circulation.
- **Microbial activity** - It also has the capacity to alter microbial communities, thereby reducing farmland fertility.
- **Poison plastic** - PVC releases toxic chlorine-based chemicals and is a known carcinogen.
- PVCs or low-density polyethylene are primarily used in the plastic mulch films and also in irrigation pipes and drip tapes.
- **Leaching** - Carcinogenic chemicals, specifically phthalate acid esters, from plastic films have high potential of leaching into farm soil.

What are the challenges in reducing plasticulture?

- **Plastics industry** - Constantly promotes its own studies on how plastics boost yields, save water, reduce fertilisers, and cut labour.
- The industry maintains a deafening silence on its negative impacts on soil and environment.
- Furthermore, it has a strong lobby to influence the government.
- **Rules** - The Centre banned single-use carry bags with less than 120 microns, but it provided a 50% subsidy for using single-use mulching sheets as thin as 15 microns.
- **Government initiatives** - Plastics are being promoted by the industries through several government bodies like
 1. In 2001, to promote the use of plastics, Ministry of Agriculture constituted National Committee on Plasticulture Applications in Horticulture (NCPAH).
 2. This was renamed as National Committee on Precision Agriculture & Horticulture.
 3. Currently, 22 Precision Farming Development Centres have been established to promote the use of plastics in horticulture.

Around 99% of plastic is produced from fossil fuels by refining oil, natural gas, or coal.

- **Petrochemical industry** - Growth in the petrochemical industry will also boost plasticulture practices in the country.
- The demand for chemicals and petrochemicals in India is expected to reach US\$ 1 trillion by 2040.
- **Plastic Waste Management** - Management of agricultural plastic waste is close to non-existent and have become immortal and omnipresent.
- Most 'agro plastics' have a limited lifetime (less than a year) hence, farmers manage their agroplastics in two ways: Burning or burying.
- When plastics are **burned**, they emit hazardous substances such as dioxins and furans, which cause cancer.
- **Burying** of plastics releases microplastics which impact human health when agricultural produce is consumed.

About 67% of the people in villages preferred to burn household plastic waste, according to the findings of a survey released in 2022.

What is the way forward?

- An outright ban on non-essential agri plastics.
- Countries like India have pioneered sustainable agricultural practices using locally available and eco-friendly materials, we should make use of it.
- A new 'Extended Legislature Responsibility' clause could be invoked.
- In this the people who have been given the mandate by the citizens take concrete measures to safeguard the planet from the hazards of plastic in agriculture.

6. Deep sea mining permits may be coming soon

- The International Seabed Authority (ISA), the United Nations body responsible for regulating the ocean floor, is poised to resume negotiations on deep sea mining. The potential opening of the international seabed for mining raises concerns about its impact on fragile marine ecosystems and deep-sea habitats

Deep Sea Mining

- Deep sea mining refers to the extraction of mineral deposits and metals from the seabed in the deep ocean. It involves mining operations conducted at depths ranging from a few hundred meters to several kilometres below the surface of the ocean.

- The purpose of deep-sea mining is to obtain valuable resources, including minerals such as nickel, cobalt, rare earth elements, and other metals that are essential for various industries.
- Deep-sea mining operations are carried out using advanced technologies and equipment, such as remotely operated vehicles (ROVs), robotic arms, dredging tools, and underwater drills. These mining methods are still in the developmental stage, and technological advancements continue to evolve.
- **There are three primary types of deep-sea mining:**
 - **Polymetallic Nodule Mining:** Polymetallic nodules are potato-sized mineral concretions that are found scattered on the ocean floor. These nodules contain valuable metals such as manganese, nickel, cobalt, and copper. The mining process involves collecting these nodules by using specialized equipment and machinery.
 - **Seafloor Massive Sulfide (SMS) Mining:** SMS deposits are formed around hydrothermal vents on the ocean floor. They contain high concentrations of metals such as copper, gold, silver, and zinc. The mining process involves cutting and removing the deposits using robotic tools and extracting the minerals.
 - **Cobalt-rich Crust Mining:** Cobalt crusts are accumulations of minerals that form on the hard surfaces of seamounts and underwater plateaus. These crusts contain cobalt, as well as other valuable metals such as platinum, palladium, and tellurium. The mining process involves stripping the crusts from the rocks using specialized equipment.

Current Regulations on Deep Sea Mining

- **Convention on the Law of the Sea (UNCLOS):** The United Nations Convention on the Law of the Sea is an international treaty that sets out the legal framework for the use and protection of the world's oceans, including the regulation of deep-sea mining.
- **Exclusive Economic Zones (EEZs):** Under UNCLOS, coastal states have jurisdiction over their exclusive economic zones, which extend up to 200 nautical miles from their coastlines. Coastal states have the right to explore and exploit mineral resources within their EEZs, including those located on or beneath the seabed.
- **International Seabed Authority (ISA):** The ISA is an autonomous international organization established under UNCLOS. It is responsible for regulating activities related to deep sea mining in the international seabed area, which is beyond national jurisdiction.
- **Common Heritage of Mankind:** UNCLOS declares that the seabed and its mineral resources in the international seabed area are the "common heritage of mankind." This concept emphasizes that the resources should be managed for the benefit of all countries and future generations.

- **Licensing and Contracts:** The ISA issues exploration licenses and contracts to interested entities for deep sea mining activities in the international seabed area. These licenses and contracts establish the rights and obligations of the parties involved and provide a legal framework for mining operations.
- **Environmental Protection:** UNCLOS emphasizes the need to protect the marine environment and preserve the fragile ecosystems of the deep sea. The ISA is tasked with ensuring that mining activities in the international seabed area are conducted in a manner that minimizes environmental harm and adheres to strict environmental standards.
- **Development of Regulations:** The ISA is in the process of developing regulations for deep sea mining. These regulations will cover various aspects, including environmental impact assessments, technology standards, financial obligations, and benefit-sharing arrangements.
- **Precautionary Approach:** Given the limited scientific understanding of deep sea ecosystems, a precautionary approach is emphasized in the regulations. This approach entails taking proactive measures to avoid or minimize potential environmental harm, even in the absence of complete scientific certainty.

Environmental Concerns and Implications?

- **Ecosystem Damage:** Deep-sea mining poses a significant risk of ecosystem damage, particularly in poorly understood deep-sea environments. The extraction of minerals can cause habitat destruction and disturbance, leading to potential loss of biodiversity and disruption of fragile ecosystems.
- **Noise, Vibration, and Light Pollution:** Mining activities generate noise, vibration, and light pollution, which can have adverse effects on marine organisms. These disturbances may disrupt natural behaviors, communication, and feeding patterns of marine species, potentially leading to long-term ecological consequences.
- **Chemical Leaks and Spills:** The mining process involves the use of fuels and chemicals that can potentially leak or spill into the marine environment. Such incidents can introduce toxic substances into the ecosystem, harming marine life and affecting the overall health of the ocean.
- **Sediment Plumes:** Sediment plumes generated during mining operations can have detrimental effects on marine organisms. When valuable materials are extracted, slurry sediment plumes are sometimes pumped back into the sea. These plumes can smother filter-feeding species like corals and sponges and disrupt their feeding mechanisms.
- **Biodiversity Loss:** Deep-sea ecosystems host a wide range of unique and often undiscovered species. The environmental impacts of mining activities can result in biodiversity loss, potentially leading to the extinction or decline

of vulnerable and endemic species. Scientists have warned that the loss of biodiversity in deep sea ecosystems may be irreversible.

- **Insufficient Understanding:** There is limited scientific knowledge about deep sea ecosystems, their biodiversity, and their ecological functions. The lack of understanding makes it challenging to predict the full extent of the environmental impacts caused by mining activities accurately. This uncertainty further raises concerns about the potential consequences of deep-sea mining.
- **Premature Mining:** Some scientists and environmental activists argue that it is premature to engage in deep sea mining when there is still much to learn about deep sea biology, ecosystems, and their interdependencies. They advocate for a cautious approach and call for comprehensive research and assessment before any large-scale mining operations begin.

Conclusion

- The resumption of negotiations on deep sea mining by the International Seabed Authority has sparked debates regarding the balance between resource extraction and environmental protection. While the need for critical materials drives the interest in mining the ocean floor, concerns over potential environmental damage and the limited understanding of deep-sea ecosystems necessitate caution. Establishing comprehensive regulations and environmental safeguards is crucial to mitigate the potential risks associated with deep sea mining

7. Scientists detect Universe's 'Noisy' Gravitational Wave

- Scientists have recently presented compelling evidence suggesting the existence of low-frequency gravitational waves throughout the universe.
- These waves, ripples in the fabric of space-time, are created by the movement, collision, and merging of massive objects.

Gravitational Waves

- **Einstein's Theory of General Relativity:** In 1915, Einstein proposed a revolutionary theory of gravity, describing it as the curvature of space-time caused by massive objects. According to this theory, objects with mass deform the surrounding space-time, creating a gravitational field.
- **Ripples in the Fabric of Space-time:** When massive objects accelerate or experience gravitational forces, they create disturbances in the space-time continuum, propagating as waves. These waves carry energy away from the source and cause a stretching and squeezing effect in space-time.

- **Similarities to Electromagnetic Waves:** While gravitational waves differ in nature from electromagnetic waves, they share some fundamental characteristics. Like electromagnetic waves, gravitational waves have properties such as wavelength, frequency, and amplitude.

Detection and Significance

- **Advancements in Technology:** Detecting gravitational waves is an intricate scientific endeavor requiring sensitive instruments and precise measurements.
- **Groundbreaking Observations:** The first direct detection of gravitational waves occurred in 2015 by the Laser Interferometer Gravitational-Wave Observatory (LIGO) detectors. This discovery confirmed the existence of gravitational waves and earned the Nobel Prize in Physics in 2017.
- **Expanding Scientific Frontiers:** Gravitational waves provide a new way to study the universe, offering insights into the behavior and properties of massive objects, as well as the nature of space and time itself.
- **Unveiling Cosmic Events:** The detection of gravitational waves has opened a new window to observe cataclysmic events, such as the collision of black holes, the merger of neutron stars, and potentially unknown phenomena.
- **Testing General Relativity:** Gravitational waves allow scientists to test and refine Einstein's theory of gravity, probing its limits and providing opportunities for further scientific exploration.
- **Radio Astronomy Studies:** The research involved the collaboration of five international teams, including the Indian Pulsar Timing Array (InPTA), utilizing six large radio telescopes worldwide, including one in Pune.
- **New Approach:** To discover low-frequency gravitational waves, scientists employed a different technology compared to previous studies.
- **Observing Pulsars:** Pulsars, rapidly-rotating neutron stars emitting bursts of radiation, were studied as they serve as precise cosmic clocks.
- **Anomalies in Pulsar Signals:** Over a period of 15 years, researchers observed 25 pulsars and identified slight variations in the arrival time of their signals. These deviations were attributed to deformities in space-time caused by low-frequency gravitational waves.
- **Large Monster Black Holes:** Unlike previously detected ripples, these low-frequency gravitational waves were likely generated by the collision of enormous black holes, millions of times larger than our Sun, typically found at the centers of galaxies.

Significance of the Discovery

- **Long-Awaited Confirmation:** Scientists have been searching for low-frequency gravitational waves for decades, considering them to be a perpetual background noise within the universe.
- **Understanding the Universe:** The discovery expands our knowledge of the nature and evolution of the universe, shedding light on the environment surrounding massive black holes.
- **Implications for Astrophysics:** Gravitational waves offer a new window into the cosmos, enabling scientists to explore phenomena that were previously inaccessible through electromagnetic waves.
- **Cosmic Background Hum:** The detection of these waves provides evidence of the large-scale motion of objects in the universe, offering insights into the dynamics and interactions at play.

Solving the mystery

- **Unveiling the Invisible:** Gravitational waves allow scientists to perceive previously unobservable phenomena, such as black holes, dark matter, and dark energy.
- **Expanding our Understanding:** Analyzing gravitational waves provides insights into the origin, evolution, and structure of galaxies and the universe as a whole.
- **Implications for Spacetime and General Relativity:** Einstein's theory revolutionized our perception of space and time, intertwining them into the concept of spacetime, a flexible and interactive fabric influenced by matter.
- **Answers to Fundamental Questions:** Gravitational waves offer a means to explore the mysteries of the cosmos, addressing questions about the formation of galaxies, the nature of gravitational interactions, and the origin of the universe itself.

8. Reforming Multilateral Banks

There is a need to strengthen and to implement structural changes on multilateral development banks to cope up with the complexities of 21st century.

Multilateral Development Banks (MDB)

- **MDB** - A multilateral development bank (MDB) is an international **financial institution chartered by two or more countries** for the purpose of encouraging economic development in poorer nations.
- It consist of member nations from both developed and developing countries.
- MDBs originated in the aftermath of World War II to rebuild war-ravaged nations and stabilize the global financial system.
- **Aim** - To promote inclusive growth and reduce inequalities.

- To eliminate poverty
- To foster shared prosperity
- **Source of funds** - MDBs raise funds through capital contributions from member countries, borrowing funds from capital markets, and using funds received via loan repayments.
- Since MDBs are not organizations associated with specific countries, they are subject to international law.

While the International Monetary Fund (IMF) and MDBs share similar objectives of promoting global economic stability and development, it is not considered as a MDB as it primarily focuses on macroeconomic stability and provides financial assistance to member countries facing balance of payments problems.

Types of Multilateral Development Banks	
International Development Banks	Regional Development Banks
<ul style="list-style-type: none"> • World Bank • International Bank for Reconstruction and Development (IBRD) • International Finance Corporation (IFC) • International Development Association (IDA) 	<ul style="list-style-type: none"> • European Investment Bank (EIB) • Asian Development Bank (ADB) • New Development Bank (NDB) • Eurasian Development Bank (EDB) • Islamic Development Bank (IsDB) • Asian Infrastructure Investment Bank (AIIB)

Why are MDBs so significant?

- **Concessional financing** - While commercial banks seek to make profits, the goal of MDBs is to issue grants and low-cost loans to middle and low income countries.
- **Development goals** - These banks prioritize development goals such as poverty reduction, infrastructure development, education, healthcare, and environmental sustainability.
- **Technical assistance** - MDBs also offer technical assistance and risk management advisory to member countries, in addition to financial support.
- **Maximization of impact** - They also collaborate with other organizations and mobilize private sector investment to maximize their impact.
- **Stabilization of global economy** - They are seen as an international pillar to stabilize the global economy.
- **Policy advice and reforms** - MDBs offer policy advice to member countries, helping them formulate and implement sound development policies and reforms.

What are the challenges associated with MDBs?

- The new challenge is to broaden the mandate and vision to address the challenges of transboundary issues.
- It also includes the financial crunch due to pandemic and other issues.
- In recent times, Climate change has occupied the forefront place.
- Shared prosperity at intra and inter-country levels has also worsened in recent times.

The World Bank Group estimates that the average annual spending needed to address global challenges of climate change, conflict, and pandemics is \$2.4 trillion per year for developing countries between 2023 and 2030.

What reforms are needed for MDBs?

- **Financing** – There is a need to optimize the current balance sheet and create higher leverage from existing fund.
- It is imperative to broaden the mandate of MDBs.
- Transparency in capital mobilization must be ensured.
- They need to fix annual targets and judge performances by the outcomes secured in this altered framework of accountability.
- There is a need to mobilise private capital.
- **Structural changes** – There is a need to create incentive structure.
- Multilateral institutions must work in close coordination with each other.
- **Opportunity for India** – For India, reforming MDBs would mean advocating the voice of the Global South.
- India under G20 presidency created an expert group to take a holistic approach on a wide range of issues and outline a pragmatic implementable programme on strengthening MDBs.

9. Joint Ocean Expedition Aboard 'Sagar Nidhi'

A collaborative initiative among nations in the Indian Ocean Region, known as the Colombo Security Conclave (CSC), has brought together scientists from Bangladesh and Mauritius for a joint ocean expedition. Embarking on the research vessel 'Sagar Nidhi', these scientists have embarked on a voyage to conduct research and exploration in the vast oceanic expanse. The cruise is being conducted by the Indian National Centre for Ocean Information Services (INCOIS) under the Ministry of Earth Sciences. This expedition is a direct outcome of the maiden CSC

Oceanographers and Hydrographers conference held in Goa and Hyderabad in November 2022.

Undertaking Research for Ocean Data and Management

During this collaborative venture, the participating scientists will focus on researching ocean data to predict and manage changes in the marine environment and ocean parameters. This research aims to contribute to a better understanding of the oceans and their ecosystems, enabling effective management and conservation efforts. By studying ocean data, scientists can gain insights into the impacts of climate change, pollution, and other factors affecting marine life.

Training Provided by Narcotics Control Bureau

In parallel to the ocean expedition, the Narcotics Control Bureau (NCB) is conducting a five-day training program for the countries involved in the Colombo Security Conclave. Sri Lanka, Maldives, and other participating nations are partaking in this initiative alongside India. The training focuses on key areas such as maritime drug trafficking, narco-terrorism, financial investigations, and darknet and cryptocurrency investigations. Through this program, the NCB aims to enhance the capabilities of the participating countries in combating illicit activities and promoting regional security.

10. Deep Sea Mining

The International Seabed Authority (ISA) is preparing to resume negotiations that could open the international seabed for mining, including for materials critical for the green energy transition.

Deep Sea Mining

- Deep sea mining involves removing mineral deposits and metals from the ocean's seabed.
- **Types** - There are 3 types of such mining:
 1. Taking deposit-rich polymetallic nodules off the ocean floor
 2. Mining massive seafloor sulphide deposits
 3. Stripping cobalt crusts from rock
- These nodules, deposits and crusts contain materials, such as nickel, rare earths, cobalt and more.
- **Significance** - These minerals are needed for batteries and other materials used in tapping renewable energy and also for everyday technology like mobiles and computers.

- These are strategically important resources as onshore reserves are depleted and demand continues to rise.
- **Mining technology** - Engineering and technology used for deep sea mining are still evolving.
- Vacuum materials from seafloor using massive pumps, AI-based technology to teach deep sea robots to pluck nodules off the floor, advanced machinery to mine underwater, etc. are being considered.

How is deep sea mining regulated now?

- The high seas and the international ocean floor are governed by the United Nations Convention on the Law of the Seas (UNCLOS).
- It is considered to apply to states disregard of signing and ratification.
- Under the treaty, the seabed and its mineral resources are considered the '**common heritage of mankind**'.
- They must be managed in a way that protects the interests of humanity through the sharing of economic benefits, support for marine scientific research, and protecting marine environments.
- **License** - More than 30 exploration licenses have been issued so far by ISA.
- The Clarion-Clipperton Fracture Zone between Hawaii and Mexico is the most focused area of exploration.

Why is there pressure on the ISA to establish regulations now?

- In 2021 the Pacific island nation of Nauru applied to the ISA to exploit minerals in a specified deep sea area that triggered a clause of the U.N. treaty.
- **Two-year rule** - The clause requires the ISA to complete regulations governing deep sea exploitation by July 2023 (2 years from date of application).
- If ISA fails to approve a set of rules and regulations by July 9, Nauru can submit an application to conduct the mining without any governing regulations.
- Other countries and private companies can start applying for provisional licenses.

What are the environmental concerns?

- The full extent of implications for deep sea ecosystems is unclear, as only a small part of the deep seabed has been explored.
- But scientists have warned that biodiversity loss due to mining is inevitable and potentially irreversible.
- **Damage from mining** - Can include noise, vibration and light pollution.

- There is a possibility for leaks and spills of fuels and other chemicals used in the mining process.
- **Sediment plumes** from the some mining processes are a major concern as it can harm filter feeding species like corals and sponges.
- **Need for regulation** - Without any environmental protocols, the damages and their implications might be huge.
- Countries including France, Germany and several Pacific Island nations have officially called for a ban, pause or moratorium on deep sea mining at least until environmental safeguards are in place.
- **Against** - Some companies such as Google, Samsung, BMW and others have backed the WWF's call to pledge to avoid using deep sea mined minerals.
- **For** - Many countries view deep sea minerals as a strategic source to energy transition.
- Countries such as Norway, are also proposing to open their waters to mining.

What is next?

- The earliest that mining under ISA regulations could begin is 2026.
- Applications for mining must be considered and environmental impact assessments need to be carried out.
- The ISA's Legal and Technical Commission oversees the development of deep sea mining regulations.
- The Commission is about to meet in early July to discuss the yet-to-be mining code draft.

11. Tomato Crop affected by different Mosaic Viruses

- Tomato growers in Maharashtra and Karnataka have reported significant yield losses due to the impact of two different Mosaic Viruses.
- The cucumber mosaic virus (CMV) has affected tomato crops in Maharashtra, while the tomato mosaic virus (ToMV) has been blamed for crop losses in Karnataka and other South Indian states.

	Cucumber Mosaic Virus (CMV)	Tobacco Mosaic Virus (TMV)
Target Plants	Various plants, including cucumbers, tomatoes, peppers, lettuce, and ornamentals	Plants in the Solanaceae family, including tobacco, tomatoes, peppers, etc.

	Cucumber Mosaic Virus (CMV)	Tobacco Mosaic Virus (TMV)
Transmission	Aphids, seeds, mechanical contact, infected plant debris	Direct contact, mechanical transmission, contaminated plant material
Symptoms	Mosaic patterns, yellowing, stunted growth, leaf curling, distorted fruits or flowers	Mosaic patterns, yellowing, leaf curling, stunted growth
Impact on Crops	Reduced yield and quality	Reduced yield, impact on flavor and quality
Longevity	Not specified	Long-term viability in dried plant debris, tobacco products, contaminated surfaces
Control Measures	Vector control, seed selection, crop rotation	Crop rotation, sanitation, virus-free seeds/seedlings, cultural practices
Curability	No cure, management focuses on prevention	No cure, management focuses on prevention

Impact on Tomato Crops

- **Symptoms of ToMV:** Infected plants exhibit alternating yellowish and dark green areas, blisters on leaves, leaf distortion, twisting of younger leaves, necrotic spots on fruits, and reduced fruit setting.
- **Symptoms of CMV:** Leaf distortion, with top and bottom leaves most affected, mosaic-like patterns of yellow and green spots in cucumber, fruit deformation, and reduced production in tomato.

Control Measures

- **ToMV:** Ensuring biosafety standards in nurseries, seed treatment, careful inspection of saplings before planting, continuous monitoring for infection, and removal of infected plants are crucial.
- **CMV:** Due to its wide host range, controlling aphids becomes essential. Measures include spraying quick-acting insecticides or mineral oils, monitoring aphid migration, and clearing fields of weeds and plant material that may harbor the virus.

12. Internationalising the rupee without the 'coin tossing'

- The recent announcement by the Indian government regarding a long-term road map for the internationalization of the rupee holds immense potential for the country's economic growth. This move aims to revive the rupee's historical prominence as a widely accepted currency in the Gulf region and strengthen its position in the global foreign exchange market.

Historical Context

- **Indian Rupee as Legal Tender in the Gulf Region:** In the 1950s, the Indian rupee held the status of legal tender in several Gulf countries, including the United Arab Emirates, Kuwait, Bahrain, Oman, and Qatar. It was widely used for various transactions, and these Gulf monarchies purchased rupees using the pound sterling.
- **Introduction of the Gulf Rupee:** To tackle challenges related to gold smuggling, the Reserve Bank of India (Amendment) Act was enacted in 1959. This legislation led to the creation of the Gulf Rupee, which was intended for circulation only in the West Asian region. The central bank issued notes specific to the Gulf region, and individuals holding Indian currency were given a six-week window to exchange their rupees for the new Gulf rupee.
- **Devaluation of Indian Rupee and Transition to Local Currencies:** In 1966, India devalued its currency, which eventually had repercussions on the acceptance of the Gulf rupee. The devaluation eroded confidence in the stability of the Indian rupee, prompting some West Asian countries to replace the Gulf rupee with their own sovereign currencies. The introduction of sovereign currencies in the region was driven by both economic factors and concerns about the Indian rupee's stability.
- **Impact of Demonetisation:** In 2016, the Indian government implemented a demonetisation exercise, which involved invalidating high-value currency notes, including the ₹1,000 and ₹500 denominations. This move aimed to curb black money, corruption, and counterfeit currency. However, it also had an impact on the confidence in the Indian rupee, both domestically and among neighboring countries such as Bhutan and Nepal.
- **Withdrawal of ₹2,000 Note:** In recent times, the decision to withdraw the ₹2,000 note from circulation has further affected confidence in the rupee. This move has led to concerns and uncertainties among the public and businesses, particularly regarding the stability and continuity of currency denominations.

What does it mean by Internationalizing the Indian Rupee?

- Internationalizing the Indian Rupee refers to the process of increasing the acceptance, use, and recognition of the Indian rupee as a global currency. It

involves making the rupee more widely used and traded in international markets, increasing its convertibility, and promoting its adoption for cross-border transactions, trade settlements, and investment activities

Advantages of internationalization of the rupee

- **Enhanced Trade and Investment:** Internationalization of the rupee can facilitate smoother trade transactions between India and other countries. This can lead to increased bilateral trade, attract foreign investment, and boost economic growth.
- **Reduced Exchange Rate Risks:** Internationalisation reduces exchange rate risks associated with fluctuations in major global currencies. When the rupee becomes more widely accepted and used in international transactions, it reduces the vulnerability of the Indian economy to external currency volatility.
- **Lower Transaction Costs:** Greater international acceptance of the rupee can reduce transaction costs for businesses and individuals engaged in cross-border trade and remittances.
- **Strengthening Financial Markets:** A more internationalized rupee would lead to the development of deeper and more liquid rupee-denominated financial markets. This includes rupee bond markets and derivatives markets. It helps diversify funding sources and provide greater stability and opportunities for investors and businesses.
- **Reserve Currency Status:** The internationalisation of the rupee can potentially lead to its recognition as a reserve currency. Reserve currency status enhances a country's monetary and financial influence globally and promotes stability in international financial systems.
- **Boosting India's Global Standing:** Internationalisation of the rupee signals the country's economic strength, reforms, and openness to international trade and investment. It can improve India's reputation as an attractive investment destination and strengthen its role in regional and global economic decision-making forums.

The Challenge of International Demand for the rupee

- **Low Daily Average Share:** The daily average share of the rupee in the global foreign exchange market is approximately 1.6%. This indicates that the rupee is not extensively traded or widely used for international transactions compared to currencies like the US dollar or the euro.
- **Limited International Transactions:** Although India has taken steps to promote the internationalisation of the rupee, such as enabling external commercial borrowings in rupees and encouraging trade in rupees with select countries, the volume of such transactions is still limited. For instance, India

continues to purchase oil from Russia in dollars, and efforts to settle trade in rupees with Russia have faced challenges.

- **Capital Account Convertibility Constraints:** India imposes significant constraints on capital account convertibility, which refers to the movement of local financial investments into foreign assets and vice versa. These restrictions are in place to mitigate risks of capital flight and exchange rate volatility, given India's current and capital account deficits. However, they limit the ease of converting rupees into other currencies, reducing international demand.
- **Lack of Reserve Currency Status:** For a currency to be considered a reserve currency, it needs to be fully convertible, readily usable, and available in sufficient quantities. The rupee does not currently enjoy reserve currency status, and its limited convertibility and usage hinder its attractiveness for central banks and international institutions to hold significant amounts of rupees as part of their foreign exchange reserves.

Learning from China's Experience

- **Phased Approach:** China adopted a phased approach to internationalise the Renminbi (RMB). It initially allowed the use of RMB outside China for current account transactions, such as commercial trade and interest payments, and gradually expanded it to select investment transactions. This gradual approach helped in managing risks and ensuring a smooth transition.
- **Offshore Markets and Clearing Banks:** China established offshore markets, such as the "Dim Sum" bond and offshore RMB bond market, which allowed financial institutions in Hong Kong to issue RMB-denominated bonds. Additionally, China permitted central banks, offshore clearing banks, and offshore participating banks to invest excess RMB in debt securities. These measures enhanced the RMB's liquidity and facilitated its usage in international transactions.
- **Currency Swap Agreements:** China entered into currency swap agreements with several countries, including Brazil, the United Kingdom, Uzbekistan, and Thailand. These agreements enabled the exchange of equivalent amounts of money in different currencies, facilitating trade and investment transactions in RMB and reducing reliance on other currencies.
- **Free Trade Zones:** China launched the Shanghai Free Trade Zone, which facilitated free trading between non-resident onshore and offshore accounts. This zone provided a platform for international businesses to transact in RMB and boosted the currency's international usage.
- **Reserve Currency Status:** China's efforts towards internationalisation of the RMB led to its recognition as a reserve currency. By the second quarter of 2022, the RMB's share of international reserves reached approximately 2.88%.

This status further solidified the RMB's acceptance and usage in global financial markets.

Way forward: Reforms for Rupee Internationalisation

- **Full Convertibility:** The rupee should be made more freely convertible, with a goal of achieving full convertibility by 2060. This would involve allowing financial investments to move freely between India and abroad, removing significant restrictions on currency exchange and capital flows.
- **Deeper and More Liquid Rupee Bond Market:** The Reserve Bank of India (RBI) should focus on developing a deeper and more liquid rupee bond market. This would enable foreign investors and Indian trade partners to have more investment options in rupees, enhancing the attractiveness and usage of the currency.
- **Trade Settlement in Rupees:** Indian exporters and importers should be encouraged to invoice their transactions in rupees. Optimising the trade settlement formalities for rupee import/export transactions would facilitate greater usage of the rupee in international trade, reducing reliance on foreign currencies.
- **Currency Swap Agreements:** India can establish additional currency swap agreements with trading partners. These agreements would allow India to settle trade and investment transactions in rupees, eliminating the need for reliance on reserve currencies like the US dollar.
- **Tax Incentives for Foreign Businesses:** The government can provide tax incentives to foreign businesses operating in India, encouraging them to utilize the rupee in their operations. This would boost the demand for the rupee and promote its usage in international transactions.
- **Currency Management Stability:** The RBI and the Ministry of Finance should ensure consistent and predictable issuance and retrieval of notes and coins, promoting currency management stability. This stability is crucial for building confidence in the rupee's value and maintaining trust among market participants.
- **Exchange Rate Regime Improvement:** Improving the exchange rate regime by adopting transparent and market-based mechanisms can enhance the stability and credibility of the rupee's exchange rate. This would instill confidence among investors and businesses dealing in rupee-denominated transactions.
- **Higher Profile in International Organizations:** Efforts should be made to push for making the rupee an official currency in international organizations. This would raise the profile and acceptability of the rupee globally, contributing to its internationalisation.
- **Pursuing Expert Committee Recommendations:** Recommendations from expert committees, such as the Tarapore Committees, should be pursued.

These recommendations include reducing fiscal deficits, lowering gross inflation rates, and addressing banking non-performing assets. Implementing these measures would enhance macroeconomic stability and strengthen the rupee's attractiveness.

Conclusion

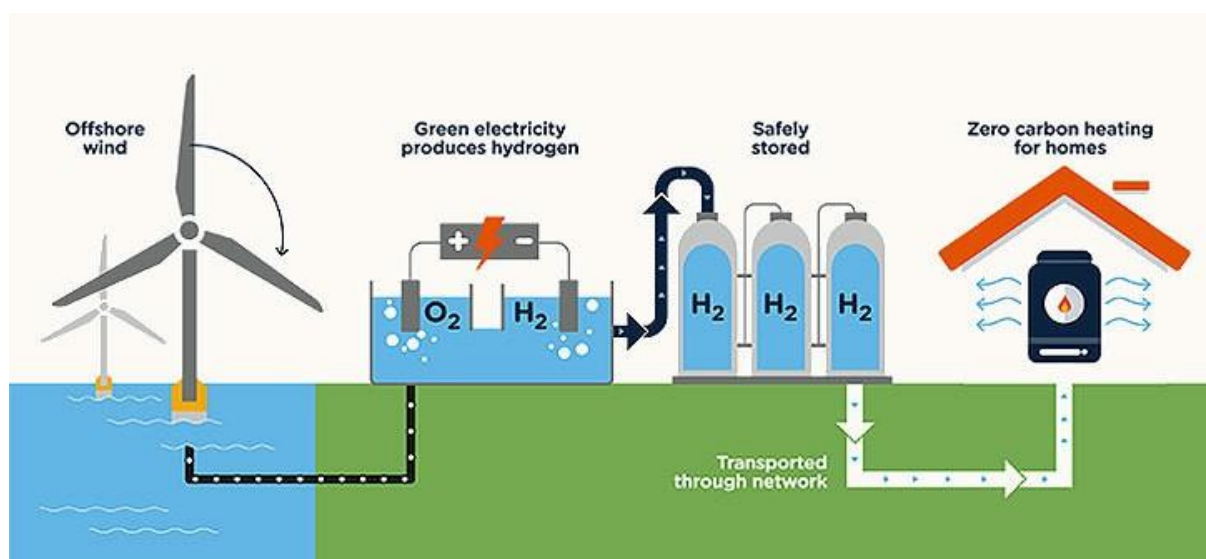
- The government's road map for the internationalisation of the rupee holds immense potential for Indian businesses, financial stability, and the government's ability to finance deficits. With predictable currency management policies and a phased approach, the rupee's journey towards internationalisation can contribute to India's economic growth and strengthen its position in the global economy.

13. Issues with Green Hydrogen

Recently, Government has announced an Rs 17,490 crore Green Hydrogen Package.

Green Hydrogen

- Hydrogen is an abundant, cheap and clean-burning which is described as the fuel of the future.
- It is produced using **electrolysis of water** with electricity generated by renewable energy.
- The carbon intensity ultimately depends on the carbon neutrality of the source of electricity (i.e., the more renewable energy there is in the electricity fuel mix, the "greener" the hydrogen produced).



What is the need for Green hydrogen?

- **Energy dense** - It stores the energy in dense chemical form which is suitable for energy intensive applications like aircraft or automobile fuel.
- **Energy carrier** - It acts as an energy carrier which is crucial to achieve deep decarbonisation of hard to abate sectors.
- **Decarbonising Transport**- It power fuel cells in vehicles, trucks, and ships.
- **Dealing with Climate Change** - It can replace coke in steel-making, facilitating the production of green steel. These applications doesn't emit carbon dioxide.
- Green hydrogen will aid contribute to India's Panchamrit to deal with the challenge of climate change.

Panchamrit

- By **2030**, India will
 - Reach its non-fossil energy capacity to 500 GW
 - Meet 50% of its energy requirements from renewable energy
 - Reduce the total projected carbon emissions by 1 billion tonnes
 - Reduce the carbon intensity of its economy by less than 45%.
- By the year **2070**, India will achieve the target of Net Zero.

What are the challenges associated with green hydrogen production?

- **High cost**- High overall costs of the system including capital, operational, maintenance, and running costs.
- Green steel cost exceeds 40-60% of regular steel.
- **Low production efficiency**- One-third of energy is lost in production.
- Electrolysers are expensive as they are yet to be standardised and mass-produced.
- **Pressure on drinking water supply**- Primary raw material is clean water which puts pressure on the municipal water supply.
- Low user acceptance and social awareness.
- **Highly volatile**- Loss of 70 % of hydrogen during production to end use.
- Hydrogen is very light and hence leaks at each stage, from production to end-use.
- **Low supply chain efficiency**- The low density of hydrogen necessitates compression, which increases costs.
- Transportation requires specialised infrastructure due to hydrogen's flammability and corrosiveness.
- Energy losses can occur at various stages throughout the supply chain.
- **High safety concern**- Storage tanks must be designed to handle high pressure and low temperatures.
- Hydrogen is highly flammable and corrosive and needs special containers or pipelines to withstand high pressure and wear and tear.

National Green Hydrogen Mission was launched in 2023 to make India a hub for production and export of Green Hydrogen.

What are the options that lies ahead for India?

- **Investment-** Capital must be invested in Research and Development like stabilising grid power rather than incentives.
- **Reduce import bill-** Hefty bills due to over reliance on export of oil must be reduced.
- **Cost optimisation-** Cost can be optimised by combining use of grid power, grey and blue hydrogen.
- **Decreasing cost-** Government can explore different financing options to make it viable like public-private partnership.
- **Policy push-** Policy push on both demand and supply side, addressing high cost in demand side and infrastructure bottlenecks
- **Regulations -** Proper standards and regulations are required for quicker adoption of green hydrogen economy.

14. The challenge of Antimicrobial Resistance (AMR), and how to confront it effectively

- Antimicrobial Resistance (AMR) is today reckoned among the most ominous threats confronting Global Public Health. There is an urgent need for a collective and comprehensive approach to address the global threat of AMR and the role of various stakeholders in prevention, control, and surveillance efforts is crucial.

Definition:

- Antimicrobial resistance, means that certain drugs that were once effective in treating infections caused by bacteria, viruses, fungi, or parasites no longer work because the pathogens have become resistant to them.
- In simpler terms, it is when the germs that make us sick become “immune” to the medicines we use to treat them.

Prevalence of AMR:

- According to recent estimates, in 2019, 1.27 million deaths were directly attributed to drug-resistant infections globally. By 2050, up to 10 million deaths could occur annually.
- If unchecked, AMR could shave US\$ 3.4 trillion off GDP annually and push 24 million more people into extreme poverty in the next decade.

- A 2022 study by the Indian Council of Medical Research (ICMR) revealed that resistance to broad-spectrum antimicrobials increases by 5% to 10% every year.

AMR: A concern for global public health

- **Rising Resistance:** The infections caused by the pathogens including bacteria, viruses, fungi, and parasites, are increasingly developing resistance to antimicrobial drugs which is becoming more challenging to treat effectively.
- **Treatment Failures:** AMR can lead to treatment failures, as commonly used antibiotics, antivirals, antifungals, and antiparasitic drugs may no longer be effective against resistant strains.
- **Healthcare Impact:** AMR increases the complexity and cost of treatment, prolongs hospital stays, and requires the use of stronger and more expensive drugs. Healthcare-associated infections caused by drug-resistant pathogens are a particular concern.
- **Limited Drug Pipeline:** The development of new antimicrobial drugs has slowed down in recent years. There is a lack of new effective treatments to replace those that are losing effectiveness due to resistance.
- **Global Spread:** AMR is a global issue that knows no boundaries. Resistant pathogens can spread between countries through travel and trade, and international cooperation is crucial.

Current Scenario of AMR prevention and National Action Plans

- Over the last ten years, the prevention, control, and response to AMR has been a high priority for most national governments, international organisations (such as the WHO, FAO, OIE), healthcare communities, and civil society, etc.
- In 2015, the WHO launched the Global Action Plan (GAP) on AMR, which provides a strategic framework for countries to develop their national action plans
- National action plans have been prepared by many countries so far.
- India's NAP was approved in 2017. It is understood that NAP 2.0 is now envisaged.
- AMR is an important priority in the G20 health agenda under India's presidency.

India's national action plan to combat AMR

- **Coordinated Action:** India's NAP emphasizes coordinated action by the government and non-government sectors. It involves a whole of government

approach, involving sectors like Health, Animal Husbandry, Fisheries, Agriculture, Dairy, Pharmaceuticals, and Biotechnology.

- **Advocacy and Awareness:** The plan focuses on advocacy and awareness-building activities to educate healthcare professionals, policymakers, and the general public about responsible antimicrobial use and AMR prevention.
- **Community Involvement:** India's NAP It emphasizes engaging and empowering communities to promote responsible use of antimicrobials.
- **Infection Prevention and Control:** The NAP emphasizes infection prevention and control measures to reduce the spread of AMR. This includes promoting appropriate hygiene practices and implementing infection control protocols in healthcare settings.
- **National AMR Surveillance Network (NARS Net):** India has established the National AMR Surveillance Network to monitor and track the prevalence and patterns of AMR across the country. This surveillance system helps in generating data for evidence-based interventions.
- **Research and International Collaboration:** India's NAP emphasizes the importance of research on AMR and encourages international collaboration in this field.

Need for a concerted, combined effort to address AMR

- **One Health Approach:** AMR requires a One Health approach, recognizing the interconnectedness of human health, animal health, and the environment. Collaborative efforts among human and veterinary healthcare sectors, agriculture, environmental agencies, and other stakeholders are necessary to tackle AMR comprehensively.
- **Stakeholder Involvement:** The sectors responsible for food, drinking water, and the environment should share equal ownership in addressing AMR. Regulating antibiotic access and usage in non-human consumption sectors, such as animal husbandry and poultry, is vital.
- **State and Local Engagement:** Implementation of infection control measures, regulation of pharmacies, treatment of sewage and pharmaceutical effluents, and AMR surveillance are primarily implemented at the state level.
- **Environmental Considerations:** Efforts should be made to prevent the contamination of the environment by untreated wastewater and effluents, including those from antibiotics manufacturing units and healthcare facilities. Effective sanitation and waste treatment infrastructure are necessary to combat AMR.
- **Surveillance and Data:** Robust surveillance systems are crucial to monitor AMR patterns and trends. Collecting and analyzing data on antimicrobial use, resistance prevalence, and treatment outcomes helps inform evidence-based interventions.

What's more?

- Parallel efforts on a war footing are needed for the discovery and commercialization of new antibiotics and new antimicrobials. Such efforts must be incentivized.
- Social media and its numerous platforms have captured the imagination of people around the world. The influence of social media on our mind and behaviour cannot be denied. We
- Considering its influence on our mind and behaviour, social media and its numerous platforms must be leveraged to spread the message of AMR.
- Objective should be to inculcate community realisation for rational and correct use of antimicrobials.

Conclusion

- Addressing the global challenge of AMR demands a collective and coordinated effort involving various stakeholders. Embracing novel solutions, such as new diagnostics, alternative treatments, and technology-driven interventions, is essential. By embracing these measures, we can protect public health, alleviate economic burdens, and secure a healthier future for all.

15. Changes to Liberalised Remittance Scheme (LRS)

The Central Government has announced that it has postponed the imposition of increased 20% TCS (Tax Collected at Source) by 3 months to October 1, 2023.

Liberalised Remittance Scheme (LRS)

- It is a foreign exchange policy initiative introduced by the Reserve Bank of India (RBI) in 2004.
- **Aim** - To simplify and streamline the process of remitting funds outside India.
- Under LRS, resident individuals can freely remit funds up to a certain limit for various permissible transactions involving a current or capital account.
- Prior to LRS, the remittance is controlled by FEMA 1999.
- This scheme helped Indians overcome international fund transfer restrictions as set by the **FEMA (Foreign Exchange Management Act), 1999**.

Key features of the LRS Scheme

- **Eligibility**- It is available to all resident individuals, including minors and students.

- The scheme is not available for Corporates, Partnership firms, Hindu Undivided Family etc.,
- The eligible citizens must have an Indian bank account, a valid Permanent Account Number (PAN), and a passport.
- **Foreign currency** - The remittances can be made in any freely convertible foreign currency.
- **Usage**- They can use the remitted amount for educational, business, personal, or other purposes.
- **Current limit**- The current limit for LRS is **\$250,000** for a given financial year for permissible transactions.
- A resident individual can remit a higher amount after taking prior permission from the RBI.
- **Exception**- Remittances cannot be used for buying lottery tickets, margin trading, real estate etc.
- **Taxation** - Liberalised Remittance Scheme is taxable through Tax collected at Source (TCS).
- The tax does not apply to Indian individuals if they furnish a declaration that the purchased goods would be utilised for manufacturing, processing or producing articles or things (for purpose of generating power) and not for further sale.

What is TCS and its threshold?

- **TCS** - TCS refers to tax collected by the seller of a commodity at the time of sale.
- It is over and above the price of the commodity and is required to be remitted to the government's account.
- **TCS threshold**- 5% TCS is applicable for remittances exceeding the **limit of Rs 7, 00,000**, other than the purchase of tour program packages.
- **Union Budget 2023 Proposal**- TCS has been increased from 5% to 20% for overseas tour package exceeding the limit of Rs 7, 00,000.
- The same was to apply for payments other than education and medical treatment.
- Purpose- To widen the tax base and to reduce the possibilities of tax avoidance.

What are the new changes?

- **TCS threshold** - The implementation of Union Budget proposal has been delayed for 3 months till October 1, 2023.
- **Credit card** - The government also announced that transactions facilitated using international credit cards while being overseas would not fall under the LRS umbrella.
- Thus transactions via credit cards when travelling abroad will not attract TCS.

Why is LRS so significant?

- **Diversification of Investment**- It promotes investing in foreign assets such as stocks, bonds, mutual funds, and real estate.
- **Overseas education**- It enables individuals to remit money for education. It provides the window of opportunity to pursue education in abroad.
- **Medical treatment**-It allows individuals to remit money for medical treatment outside India.
- **Travel**- It enables individuals to remit money for travel-related expenses such as tickets, hotel bookings, and other expenses.
- **Start-ups and business investments**- It enable individuals to invest in foreign businesses, start-ups, and joint ventures thus aiding in the expansion of their businesses globally.
- **Gift and donations**-It enable individuals to gift or donate money to their family members or charitable organisations outside India.

16. World Investment Report 2023

The **World Investment Report 2023** was released by United Nations Conference on Trade and Development (UNCTAD).

Key Findings of the World Investment Report 2023:

- Despite accounting for half of global inflows, foreign direct investment (FDI) in **developing Asian countries** remained flat year on year in 2022, at **\$662 billion**.
- **India and the Association of Southeast Asian Nations (ASEAN)** were the most thriving recipients, with increases of **10 and 5%**, respectively, and strong growth in project announcements.
- FDI inflows were **higher in developing countries** compared with those in developed economies.
- Globally, FDI declined **12% to \$1.3 trillion in 2022** after a strong rebound in 2021 following the steep drop due to the coronavirus pandemic.
- **China** is the **second largest FDI host country** in the world, and it saw a **5% increase**.

- **FDI in the Gulf region** declined, but the number of project announcements increased by **two-thirds**.
- Inflows in many **smaller developing countries** were stagnant, and FDI to the **least developed countries (LDCs)** declined.
 - Least developed countries (LDCs) are low-income countries confronting **severe structural impediments** to sustainable development.

Investment Gap in Sustainable Energy for Developing Countries

- The UNCTAD called for **urgent support to developing countries** to bridge the gap by attracting massive investment in clean energy.
- Investment gap across all sectors of the Sustainable Development Goals has **nearly doubled since 2015**.
- Developing countries need renewable energy investments of about **\$1.7 trillion** annually but attracted foreign direct investment in clean energy worth **only \$544 billion** in 2022.
- Then report called for **de-risking of energy transition investment** in developing countries through **loans, guarantees, insurance instruments and equity participation** of the public sector, public-private partnerships and blended finance, and multilateral development banks.
 - It also mentioned a “**new model of climate-aligned dealmaking.**”
- Investment gap across all sectors of the **Sustainable Development Goals** has increased to more than **\$4 trillion per year** from **\$2.5 trillion in 2015**.
- The largest gaps are in **energy, water, and transport infrastructure**.
- The increase is the result of both **underinvestment and additional needs**.

About United Nations Conference on Trade and Development (UNCTAD):

- The United Nations Conference on Trade and Development (UNCTAD) is a **permanent intergovernmental body** established by the **United Nations General Assembly** in 1964.
- It is headquartered in **Geneva, Switzerland**.
- India is one of the organization's **founding members**.

Reports published by UNCTAD:

- Trade and Development Report
- Trade and Environment Review
- World Investment Report
- Economic Development in Africa Report
- Least Developed Countries Report
- UNCTAD Statistics

- Digital Economy Report (formerly known as the Information Economy Report)
- Review of Maritime Transport
- International Accounting and Reporting Issues Annual Review
- Technology and Innovation Report

17. Carbon capture and storage (CCS)

The Intergovernmental Panel on Climate Change (IPCC) found that Carbon Capture and storage (CSS) and carbon dioxide removal (CDR) both are needed to counter the current emissions.

About Carbon Capture and Storage (CCS):

- CCUS refers to a set of **technologies** that enable the **mitigation of carbon dioxide (CO₂)** emissions from **large point sources such as power plants, refineries** and other industrial facilities, or the removal of existing CO₂ from the atmosphere.
- Its application consists of **three stages: capture, transport and storage (or usage) of CO₂**.
 - The main methods for capturing CO₂ are: **post-combustion; pre-combustion; and oxy-fuel combustion.**
 - Currently operational facilities fitted with CCUS can capture around **90% of the CO₂ present in flue gas.**

Potential of CCUS for tackling climate change:

- CCUS can be used in **global decarbonization efforts** to produce low-carbon electricity and hydrogen.
- It will make **energy supply more diverse and flexible**
- It can be utilized for **deep-decarbonization of Hard-to-abate industries** like **Iron and steel, cement, chemical** industries.
- **Combining CO₂ with steel slag** - an industrial byproduct of the steel manufacturing process.
- Indian Oil Corporation Limited (IOCL) used CCS for **Enhanced Oil Recovery (EOR)** by **injecting CO₂**.
- CO₂ can also be **captured directly from the atmosphere** by drawing in air using fans and passing it through an environment consisting of **solid sorbents or liquid solvents** but it is more expensive.

Key Concerns regarding CCS:

- CO₂ usage does **not necessarily reduce emissions** nor deliver a net climate benefit, with regard to indirect and other effects.
- The technology is in **nascent stage** and needs more research and testing.
- CCUS facilities are capital-intensive to deploy and **energy-intensive to operate**, making them particularly expensive when energy costs are high.
- **Risks and uncertainties in technological performance** of CCUS operations.
- Due to **tight climate targets** and **increasing carbon prices**, reducing emissions is not always favourable.
- **CO₂ leakages** from storage sites could lead to **environmental damages** and the **reversal of intended emissions savings**.

Difference between Carbon Capture and storage (CSS) and carbon dioxide removal (CDR):

- **CCS** on fossil power plants or heavy industry **captures CO₂ before it enters the atmosphere**.
- It is a method to reduce CO₂ emissions and can help achieve **deep decarbonization** in existing power and industrial sectors.
- **CDR** is a term used to encompass a wide array of approaches that **remove carbon dioxide (CO₂) directly from the atmosphere** and durably store it to **create negative emissions**.
- Storage can occur in **geological, biobased or ocean reservoirs** or in value-added products, like **low carbon concrete**.

Way Forward:

- There is a need for strong **regulations for projects' selection, management, and monitoring** of storage sites.
- Provisions on **subsidy or incentives** for green steel and green cement can **accelerate the development of CCS**.

18. 6 years of GST

Touted as one of the biggest tax reforms, India's Goods & Services Tax (GST) turned six years this year.

Goods and Service Tax

- **History** - The idea of a Goods and Services Tax (GST) for India was first mooted during the Prime Ministership of Shri Atal Bihari Vajpayee.

- The Constitution (**122nd Amendment**) Bill was introduced in 2014 in the Lok Sabha and was passed by Lok Sabha in May 2015.
- The Constitutional amendment was passed and notified as Constitution (**101st Amendment**) Act 2016 which paved way for introduction of Goods and Services Tax in India.
- GST was launched with effect from **1st July 2017**.
- **Goods and Services Tax** - GST completely transformed the indirect tax structure of India.
- GST was born out of subsuming of 17 taxes and 13 cesses levied by the Central and State governments.
- Apart from zero-rated goods, the new structure has just four tax slabs 5%, 12%, 18 and 28%.
- **GST Council** - The GST Council is a joint forum of the Centre and the States which makes recommendations to the Union and the States on GST.
- Every decision of the GST Council is taken at its meeting by a majority of not less than 3/4th of the weighted votes of the Members present and voting.

Why was GST launched?

- GST was launched with the motto, "**One nation, One market, One tax**".
- It aimed to bring unity and benefits for all stakeholders, governments, taxpayers, and administrators alike.
- It also simplifies the compliance for businesses and makes the tax system more transparent with several features.
- **Features of GST** -
 - Unified taxpayer base governed by a uniform set of laws and procedures;
 - Common management of business records and filing returns;
 - An uninterrupted input tax credit chain through the mechanism of Integrated Goods and Services tax (IGST);
 - Completely automated and faceless administration with all processes being online.

What are the benefits?

- Despite the introductory challenges, one cannot deny the benefits that GST has provided to businesses and the Indian economy.
- **Few highlights** of the GST regime
 - Single indirect tax regulatory framework for businesses
 - GST eliminated the cascading effect of taxes and reduced manufacturing costs.
 - Reduction of cascading effect of taxes
 - Digitization of compliances

- Federal cooperation and enhanced economic integration of the States.
- **Revenue standpoint** - this tax reform has witnessed a considerable increase in average revenue per month including in most cases during the pandemic year 2020-21.
- It simplified the processes of return filing through technological advancement in GST continues.
- E-invoicing today covers a taxpayer base which contributes more than 80% of GST revenue.

What are the challenges?

- Initially the tax regime's technical, structural and procedural challenges took a while to sort out.
- Bogus firms and fake invoices causes revenue loss and also adversely affects the competitiveness of honest taxpayers.
- Dispute resolution remains a pain point for industry, with GST appellate tribunals still not set up.
- There is no road map in sight on the rate rationalisation exercise or the inclusion of excluded items such as electricity, petroleum and real estate, without which the efficiency gains from the GST remain constricted.
- The GST Council needs to meet more often and turn its to-do list into a must-do list expeditiously.
- Extension of GST Compensation cess levies till at least March 2026, instead of the initial 5-year tenure.

What is the way forward?

- The risk parameters for the new applicants are continuously refined through use of data analytics and AI to control the rogue players.
- Taxation of online gaming activities and transactions involving cryptocurrency are few new areas that deserve attention under GST.
- Setting up of Centralised Authority to address the issues arising from contradictory orders passed by the Authority for Advance Rulings (AARs) in different states.
- A National Appellate Authority for Advance Ruling with the inclusion of judicial members in bench may improve this tax reform.
- A white paper for each industry with clarifications on major issues should help further improve the certainty index.
- Operationalization of the GST Appellate Tribunal to help taxpayers in getting quicker cost-effective resolution.

19. Chandrayaan

The article discusses India's lunar missions, including Chandrayaan-1 and Chandrayaan-2, and highlights the upcoming mission, Chandrayaan-3, emphasising the importance of lunar exploration and strategic investment in high-tech areas.

- The Moon captivates people with its serene beauty and connection to nature.
- Studying the Moon's origin, characteristics, and potential for human habitation is a scientific pursuit.
- India, with its strong industrial and technological support base, is well-positioned to study the Moon.

Chandrayaan-1: India's First Lunar Mission

- Launched in October 2008, Chandrayaan-1 successfully orbited the Moon and deployed an impact probe.
- The mission confirmed the presence of water molecules on the Moon, crucial for future manned missions.
- Despite some technical issues, the mission achieved its scientific objectives and garnered international recognition.

Chandrayaan-2: Challenges and Discoveries

- Launched in July 2019, Chandrayaan-2 aimed to land a rover on the Moon but encountered a software glitch.
- Citizen participation, exemplified by Shanmuga Subramanian's identification of the lander debris, enhances scientific endeavours.
- Lessons learned from Chandrayaan-2 contribute to improved design and planning for future missions.

Chandrayaan-3: Advancing Lunar Exploration

- Chandrayaan-3, scheduled for launch on July 14, 2023, aims to demonstrate safe landing and roving on the Moon.
- The mission will study the lunar surface's chemical composition, seismic activity, and plasma concentration.
- The propulsion module will carry a payload for tracking radiation from Earth, aiding the search for life on habitable exoplanets.

Importance of Lunar Missions

- Collaborative international efforts in lunar missions foster scientific exchange and camaraderie between countries.

- Exploring the Moon's south polar region holds the potential for understanding the origin of the Solar System and primordial material.
- Space technologies utilized in lunar missions also benefit society, including weather prediction, resource assessment, and communication.

Strategic Investment in High-Tech Areas

- Investing in emerging technologies, such as lunar exploration, positions a nation as a leader in the field.
- Balancing resources between futuristic technologies and those immediately relevant enhances a country's scientific and technological base.
- R. Chidambaram highlighted the strategic advantage gained through participation in emerging technologies.

20. FL 2027 patent case: Delhi HC Vs PepsiCo

The Delhi High Court upheld an order by the Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA), revoking the registration of patent for a potato variety (FL-2027) to PepsiCo India Holdings Pvt. Ltd.

Potato plant variety FL-2027

- FL 2027 (commercial name FC-5) is a potato variety with high dry matter and low sugar content better suited for making chips.
- It was developed in 1996 by a US breeder employed in PepsiCo Inc.
- This processing-grade variety is used in manufacturing potato chips sold under its Lay's brand.

What is the rights of PepsiCo over FL 2027 in India?

- PepsiCo India Holdings (PIH), the subsidiary of PepsiCo Inc., was granted a certificate of registration for FL 2027 on February 1, 2016.
- The validity period was 6 years from the date of registration and extendable up to 15 years.
- During the validity period nobody else could commercially produce, sell, market, distribute, import or export it without the breeder's authorisation.

How farmers in India cultivate patented FL 2027 variety?

- Farmers in India cultivate these potato varieties under a contract and has a buyback agreement with PepsiCo India Holdings (PIH).
- The company supplies the FC5 seed variety to a group of farmers who grow the potatoes exclusively for PepsiCo and sell them back at a fixed price.

PepsiCo established its first potato chip plant in India in 1989.

- **Controversy** - In 2019, PepsiCo sued some Indian farmers for cultivating the FC5 potato variety, accusing growers of infringing its patent.
- Within months, PepsiCo withdrew lawsuits against farmers.

What is the case about?

- Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA) had granted registration for patent for potato variety FL 2027.
- **Revoke** - PPVFRA revoked the same through an order passed on December 3, 2021 based the Protection of Plant Varieties and Farmers Rights Act, 2001 (PPV&FR).
- It also rejected PepsiCo India's application for renewal of its registration on February 11, 2022.
- **Delhi HC** - PepsiCo challenged both the order and the letter before the Delhi High Court.
- The court, in its ruling, upheld the PPVFRA's decision of revoking the IP protection rights of PepsiCo over FL 2027.

Why did PPVFRA revoke the registration?

- **Section 34** (grounds for revocation of registration) of the **Protection of Plant Varieties and Farmers Rights Act, 2001** (PPV&FR) provides grounds under which registration can be revoked.
- Any protection granted for a plant variety is subject to the applicant making a complete disclosure of his claimed invention or development.
- In relation to **Section 34(a)** (incorrect information furnished), PPVFRA revoked the protection granted to a breeder.
- **Application Date** - PepsiCo had sought the registration of FL 2027 as a "new variety" in its application on February 16, **2012**.
- **Incorrect Category** - A "new variety" had to conform to the criterion of novelty.
- FL 2027 could satisfy only the criteria of distinctiveness, uniformity and stability (DUS) and eligible to be only granted registration as an "extant variety".
- **Commercialisation Date** - In that the company had given the date of its commercialisation in India as December 17, **2009**. (more than one year before registration)
- **Incorrect Info** - The variety had already been commercialised in 2002 in Chile leading to furnishing of incorrect information by the applicant.
- PPVFRA also stated that Indian regulations do not permit patents on seed varieties.

Novelty criteria - The propagated or harvested material from the variety should not to have been sold in India earlier than one year before the date of filing the application for registration.

21. Species in news: Atlantic Menhaden

- Researchers have discovered that the population of ospreys, a fish-eating bird, is facing a decline due to the decreasing numbers of Atlantic menhaden, their primary food source.
- The depletion of menhaden, a small silvery fish, is attributed to commercial fishing practices.
- The decline in osprey reproduction reflects the broader ecological impact of reduced menhaden numbers.

Atlantic Menhaden

- Atlantic menhaden, scientifically known as *Brevoortia tyrannus*, is a species of fish belonging to the Clupeidae family.
- They are commonly found along the Atlantic coast of North America, ranging from Florida to Nova Scotia.
- Atlantic menhaden play a vital ecological role and have significant commercial and ecological importance.

Importance of Atlantic Menhaden

- **Role in Coastal Ecosystem:** Menhaden play a crucial role in the ecology of coastal waters along the Eastern Seaboard, providing sustenance for larger fish, marine mammals, and birds.
- **Nutrient-Rich and Filtering Capacity:** Menhaden are nutrient-rich, containing omega-3 fatty acids, and they filter substantial quantities of ocean water while consuming smaller organisms like plankton.

Commercial Fishing Impact

- **Increased Catch Allowance:** The Atlantic States Marine Fisheries Commission raised the allowable catch of menhaden to 233,550 metric tons for the next two years, a 20% increase from previous years.
- **Fishery Quota:** The commission maintained a quota of 51,000 metric tons for the Chesapeake Bay's reduction fishery, where menhaden are used for bait and fish products.

- **Ecological Concerns:** Critics argue that the removal of significant menhaden quantities is degrading the ecosystem, negatively affecting species like ospreys and striped bass that rely on menhaden.

Low Reproductive Numbers and Menhaden Depletion

- In mid-June, researchers found only three young ospreys out of 84 nests checked in Mobjack Bay, part of the Chesapeake Bay.
- Scientists at the College of William & Mary, monitoring the local osprey population for over 50 years, recorded the lowest reproductive number.
- The decline in breeding success is attributed to the depletion of Atlantic menhaden, the osprey's primary food source.

Lawsuit and Ecosystem Protection

- **Recreational Fishermen Lawsuit:** A group of recreational fishermen from Maryland sued the Virginia Marine Resources Commission, claiming it contributed to the menhaden decline by endorsing quotas that harm fish populations and the recreational fishing industry.
- **Commercial Fishing Practices:** Critics highlight the negative impact of industrial techniques used by companies like Omega Protein, which catch menhaden in unsustainable quantities, contributing to the decline of other species and damaging ecosystems.
- **Restoring Menhaden Stocks:** Non-profit organizations advocate for rebuilding menhaden populations along the Atlantic and Gulf of Mexico coasts to maintain a balanced ecosystem.

Positive Signs beyond Chesapeake Bay

- **Menhaden Recovery:** Outside the Chesapeake Bay, menhaden populations have increased since the Atlantic commission took measures to address overfishing in 2012, leading to a recovery of the fish population within two years.
- **Ecological Impact:** The recovery of menhaden populations has brought back various predators such as humpback whales, tuna, sharks, and bald eagles off the coasts of New York and New Jersey.

22. Counting down: Launch of Chandrayaan-3 Mission

- The Indian Space Research Organisation (ISRO) is set to launch the Chandrayaan 3 mission on July 14 from the Satish Dhawan Space Centre, Sriharikota.

- This mission follows the Chandrayaan 2, which encountered technical issues and crash-landed on the moon in September 2019.

Chandrayaan-3: Mission Details and Landing

- **Launch Vehicle:** Chandrayaan 3 will be launched aboard the Geosynchronous Satellite Launch Vehicle Mark III (GSLV Mk III) rocket.
- **Landing Site:** The spacecraft is expected to land near the moon's South Pole.
- **Operational Duration:** Chandrayaan 3 will operate on the lunar surface for one lunar day, equivalent to 14 Earth days.

Significance of the Lunar South Pole

- **Scientific Interest:** The lunar South Pole is a compelling location due to the presence of towering massifs and permanently shadowed craters that may contain volatile compounds and water-ice deposits.
 - **Planetary Formation Insights:** Studying the South Pole-Aitken Basin's age and impact melt could provide insights into planetary formation.
 - **Valuable Resource:** Volatile deposits at the South Pole could serve as a valuable resource for future exploration and astrobiology investigations.
- **Solar Power Potential:** Some mountain peaks near the pole receive extended periods of sunlight, making them potential sites for continuous solar power supply.
- **Fossil Record:** Craters at the South Pole may contain a fossil record of the early Solar System, providing valuable scientific data.

Trajectory and Landing Procedure

- **Similar to Chandrayaan 2:** Chandrayaan 3 will follow a trajectory similar to Chandrayaan 2, utilizing a propulsion module to orbit Earth before heading to the moon.
- **Lunar Orbit and Landing:** Once within the moon's gravitational pull, the module will lower itself to a 100 x 100 km circular orbit. The lander will then detach and descend to the lunar surface.

Scientific Payloads

- **The Lander:** The lander, named 'Vikram,' will deploy four scientific payloads to study the moon's surface temperature and subterranean characteristics.
- **The Rover:** The rover, named 'Pragyan,' will conduct chemical and visual tests as it roves around the lunar surface.

Objectives of Chandrayaan 3

- **Safe Landing Demonstration:** Chandrayaan 3 aims to demonstrate safe and soft landing on the lunar surface.
- **Rover Roving Capability:** The mission will showcase the capability of the rover to traverse the lunar surface.
- **In-situ Scientific Experiments:** Chandrayaan 3 will conduct in-situ scientific experiments on the moon.

Development and Delay

- **Development Phase:** The development phase for Chandrayaan 3 began in January 2020, with scientists and engineers working on the spacecraft's design and assembly.
- **Manufacturing Delays:** The COVID-19 pandemic caused delays in the manufacturing and testing of the propulsion systems.
- **Launch Schedule:** The launch, initially planned for early 2021, was postponed due to the pandemic. The spacecraft is now set to launch in July 2023.

Importance of Chandrayaan 3

- **India's Third Lunar Mission:** Chandrayaan 3 is India's third lunar mission and the second attempt at a soft landing on the moon.
- **Renewed Interest in Lunar Exploration:** In recent years, there has been a renewed interest in exploring the moon following Chandrayaan-1's discovery of water on the lunar surface.

Conclusion

- Chandrayaan 3 represents India's continuous efforts to explore the moon and achieve a soft landing.
- The mission's success will contribute to scientific advancements and further our understanding of the lunar surface.
- As space agencies around the world plan future lunar missions, humanity's return to the moon seems imminent after more than five decades.

23. 50th GST Council meeting

The Goods and Services Tax (GST) Council's 50th meeting addressed crucial issues, including the constitution of Appellate Tribunals and tax treatment for the online gaming industry.

Appellate Tribunals:

- Appointment norms for tribunal members have been cleared.

- The first set of tribunals is to be operational in 4-6 months.
- States proposed 50 tribunal benches, phased implementation in State capitals and cities with High Court benches.

Read more on GST Appellate Tribunal.

Tax Treatment for Online Gaming Industry:

- Finalized 28% GST levy on the face value of bets in online games, casinos, and horse racing. However, the industry expressed concerns, terming it detrimental to the sector and jobs.
- The Ministry of Electronics and IT is formulating a policy for online gaming, and the possibility of further review.

Tax Exemptions, Rate Reductions, and Clarifications:

- Lower 5% GST on food and beverages in cinema halls, unfried snack pellets, fish soluble paste, and imitation zari yarn.
- Rectification of past tax payment incongruencies and exemptions for drugs imported for cancer and rare diseases.

Conclusion: The 50th GST Council meeting addressed important concerns, such as Appellate Tribunals and tax treatment for online gaming. It granted tax exemptions and clarified rates, but concerns persist regarding delayed rate adjustments and the lack of focus on comprehensive reforms.

24. AT-1 Bonds

- **Subscription Disappointment:** State Bank of India (SBI)'s additional tier-1 (AT-1) bond issue saw a very low response from investors, raising ₹3,101 crore against an issue size of ₹10,000 crore.
- **Market Sentiment Impact:** The lackluster response is expected to dampen market sentiment and make fundraising more challenging for other PSU banks, potentially leading to delays in their fundraising plans.

AT1 Bonds

- **Definition:** AT-1 bonds, or Additional Tier-1 bonds, are unsecured, perpetual bonds issued by banks to strengthen their core capital base in compliance with Basel-III norms.
- **Complex Hybrid Instruments:** AT-1 bonds are complex instruments suited for institutions and knowledgeable investors who can analyze their terms and determine if the higher rates compensate for the higher risks involved.

- **Face Value:** Each AT-1 bond typically carries a face value of ₹10 lakh.
- **Acquisition Routes:** Retail investors can acquire these bonds through initial private placement offers by banks or by purchasing already-traded AT-1 bonds in the secondary market based on broker recommendations.

Key Features and Importance of AT1 Bonds

- **Perpetual Nature:** AT-1 bonds do not have a maturity date. Instead, they include call options that allow banks to redeem them after a specific period, usually five or ten years. Banks can choose to pay only interest indefinitely without redeeming the bonds.
- **Flexibility in Interest Payments:** Banks issuing AT-1 bonds can skip interest payouts or even reduce the bonds' face value if their capital ratios fall below certain thresholds specified in the offer terms.
- **Regulatory Intervention:** If a bank faces financial distress, the RBI has the authority to ask the bank to cancel its outstanding AT-1 bonds without consulting the investors.

25. New Scorpene Class Submarines for Navy

- **Procurement Announcement:** The three additional Scorpene submarines will be procured under the Buy (Indian) category. The Mazagon Dock Shipbuilders Limited (MDL) in Mumbai will build the submarines.

Scorpene Submarines and Project-75

- **Project-75:** MDL is already building six Scorpene class submarines under Project-75, with technology transfer from the French defense firm.
- **Commissioned Submarines:** Five out of the six Scorpene submarines have been commissioned, with the final one expected to be commissioned early next year.
- **Delays and Challenges:** Project-75 faced significant delays, as the first submarine was originally scheduled for delivery in 2012.

Need for Additional Submarines

- **Addressing Delays and Fleet Strength:** The procurement of three additional submarines is necessary to compensate for the delayed deliveries under Project-75 and strengthen India's submarine fleet.
- **Current Fleet Status:** The Indian Navy currently operates 16 conventional submarines, but it needs a minimum of 18 submarines to carry out its full spectrum of operations.

- **Refit Challenges:** Around 30% of submarines are under refit at any given time, further reducing the number of operational submarines.
- **Employment Opportunities:** Procuring additional submarines with higher indigenous content will create employment opportunities and enhance MDL's submarine construction capabilities.

Capabilities of Scorpene Submarines

- **Attack Submarines:** Scorpene submarines are designed as conventional attack submarines to target and sink enemy naval vessels.
- **Weapons and Surveillance:** They can launch a variety of torpedoes and missiles, equipped with surveillance and intelligence-gathering systems.
- **Specifications:** Scorpene submarines are approximately 220 feet long, with a height of about 40 feet. They have a top speed of 11 knots when surfaced and 20 knots when submerged.
- **Diesel-Electric Propulsion:** These submarines use diesel-electric propulsion systems, providing an endurance of around 50 days.

Comparison with Nuclear Submarines

- **India's Current Nuclear Submarines:** India currently operates two nuclear-powered submarines (SSBMs) of the Arihant class.
- **Endurance and Speed:** Nuclear submarines have theoretically unlimited endurance and can operate for up to 30 years without refuelling. They can also achieve higher speeds.
- **Cost and Expertise:** Nuclear submarines are expensive and require specialized expertise to operate.
- **Advancements in Conventional Submarines:** Diesel-electric technology has significantly improved the range and stealth of conventional submarines.
- **Air Independent Propulsion (AIP):** Retrofitting Scorpene submarines with AIP systems will enhance their endurance and stealth capabilities.

Conclusion

- India's decision to procure three additional Scorpene submarines enhances its naval capabilities and strengthens the indigenous manufacturing sector.
- The addition of these submarines will help meet the requirements of a growing fleet and improve operational readiness.

26. EV Tires: A lesser-known Pollution Headache

- **Meeting EVs' Needs:** Tire manufacturers strive to develop the perfect tire that balances performance and durability for electric vehicles (EVs).

- **Weight and Torque Considerations:** EVs' increased weight and torque require sturdier tires to handle the load and efficiently transfer power to the road.
- **Leading Manufacturers' Efforts:** Tire companies are improving designs and developing chemical formulas to meet the demands of EVs.

Environmental Impact of Tires

- **Beyond Tailpipe Emissions:** Tires significantly contribute to environmental degradation beyond exhaust emissions.
- **Tire Wear and Particle Shedding:** Worn tires release tiny particles, which can become airborne or settle on soil, posing risks to air and land quality.
- **Microplastic Pollution:** Tire particles entering waterways contribute to the growing problem of microplastic pollution.
- **VOCs and Smog:** Tires contain volatile organic compounds (VOCs) that react in the atmosphere, contributing to smog formation and air pollution.

Tire Emissions and Electric Vehicles

- **Surpassing Tailpipe Emissions:** Tire particulate pollution has exceeded emissions from vehicle tailpipes.
- **EVs' Weight Impact:** EVs' additional weight results in higher tire wear emissions compared to traditional vehicles.
- **Tesla Model Y vs. Kia Niro:** A study showed that the Tesla Model Y exhibited 26% greater tire wear emissions than the Kia Niro.

Environmental Hazards and Solutions

- **Water Pollution and Microplastics:** Tire particulate pollution contributes to water pollution and the accumulation of microplastics.
- **Health Hazards and 6PPD:** The chemical 6PPD in tires poses risks to aquatic life, edible plants, and human health.
- **Balancing Climate Goals and Tire Emissions:** Addressing tire emissions is crucial when transitioning to electric vehicles to mitigate overall pollution levels.
- **Reducing Car Use vs. Economic Activity:** Balancing environmental concerns and economic activity while reducing car usage is essential for sustainable mobility.

Market Mechanisms and Individual Actions

- **Incentivizing Innovation:** Market mechanisms can encourage tire companies to invest in developing low-emission tire formulations.

- **VOC Toxicity Variations:** Stricter industry standards are needed to regulate volatile organic compound (VOC) toxicity levels in tires.
- **Individual Actions for Tire Wear Reduction:** Responsible driving habits can reduce tire wear and particulate emissions.
- **Maximizing Lifespan:** Using tires to their full lifespan minimizes particulate emissions during the initial usage period.

Conclusion

- **Innovating for a Sustainable Future:** Tire design and manufacturing must balance EV performance and pollution reduction.
- **Collaborative Efforts Needed:** Market, industry, and individual actions are crucial to address tire and EV-related challenges.
- **Striving for Sustainable Mobility:** Comprehensive solutions integrating technology, environmental considerations, and responsible behavior can mitigate the environmental impact of tires.

27. A New Palette for Creative Economy

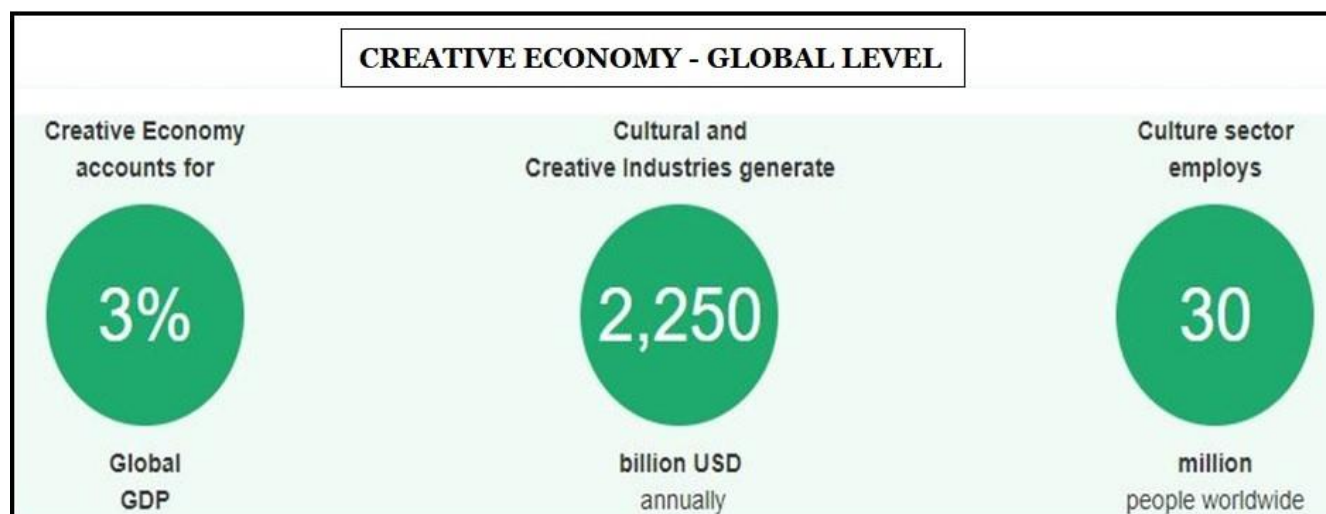
There is a need to implement a collaborative model to meet the challenges faced by creative economy.

Creative economy

- Creative economy is an evolving concept which builds on the interplay between human creativity and ideas and intellectual property, knowledge and technology.
- Also called as Orange economy, it is a knowledge based economic activity.
- Creative industries include film, television, publishing, museums, music, arts, computer programming, crafts, architecture and design.
- They are considered as an important source of commercial and cultural value.

What is the status of creative economy?

- The creative economy is one of the world's most rapidly growing sectors, contributing 3% of the global GDP.
- According to EXIM Bank study, Creative economy in India accounts for 121 billion of exports in 2019.
- India ranks 6th globally outside USA with respect to top international box office market by revenue.



What is the significance of creative economy?

- **Preservation of art** - Artists and artisans play a vital role in preserving traditional art forms and contribute immensely to the cultural economy.
- **Creative supply chains** - It will make a country or region more attractive destination for investment in film, TV series and further increase growth in supply sectors like music.
- **Shared IP** -It will create major revenues across multiple creative industries from Pokemon to Harry Potter.
- **Creative technology** -There is increasing overlap between digital and creative industries, which is further enhanced with Artificial intelligence, VFX.
- **Regional development** - It will likely play more important role in a greater range of regions over time.
- **Policy for Skill Enhancement**- There will technical skill policy development to improve the education system to support the creative economy which is increasing in demand.
- **Global competitiveness** - This is further promoted by increase in incentives and rewards to the countries which performs well in this industry.
- **Overall development** - It helps in the creation of jobs, economic growth, tourism, exports, and overall societal development.

What are the challenges faced by the artisans in India?

- **Appointments** - As there is no systematic or rotational mechanism in place for selection of artists, it creates inequality in representation.
- The selection process is often random or based on subjective criteria, which makes the artists unable to gain from sponsored platforms.
- **Poor support**-There are no serious efforts by private or public institutions to promote contemporary artists as brands.

- **Crime in art world-** It includes art theft, copyright infringement, forgery, fraud, and illicit trafficking.
- **Lack of audit-** There is no institutional infrastructure, expertise and technology to verify the original artwork. This gap leads to injustice towards genuine artists.
- **Other Challenges-** Unaccounted money preserved through artworks, dissemination of disinformation about cultural history, etc.

What efforts were taken in this regard?

- **UNESCO**
 - **MONDIACULT 2022-** It is a World Conference on Cultural Policies and Sustainable Development.
 - **Creative Cities Network-** It is created in 2004 which covers 7 creative fields
 - In India 6 cities has been selected
 - Srinagar - Crafts and Folk art category was the last addition (2021).
- **UNCTAD -United Nations Conference on Trade and Development**
 - **Creative Economy Program-** It is initiative of UNCTAD which generates economic information through a trade lens, to understand past trends and project into the future.
 - **Creative Economy Outlook 2022 -** It is published by UNCTAD which provides latest data and trends on fast growing creative economy sector.
 - **Bridgetown Covenant-** It is the outcome of the Creative Industries and Trade Digitalization Forum and calls UNCTAD to place greater emphasis on societal and developmental benefits.
- **United Nations General Assembly (UNGA)**
 - UNGA recognises 2021 as International Year of Creative Economy for Sustainable Development.

How to address the challenges faced by the creative economy?

- **Robust security architecture-** It is possible by deploying advanced technology for authentication and tracking which would foster healthy creative economy.
- **Regular audits-** There must be regular audits of acquired artworks to enhance trust and preserve the collection's integrity.
- An institutional record of incoming and outgoing artworks with a verified identification mark is required.
- **Enhancing India's soft power -** It can be done through a capacity-building centre which would create an ecosystem of innovative technology-based start-ups in the arts and crafts sector.

- **Fulfilling the artists' needs** – Artists' needs must be bridged by training, professional development, market access, and participation in larger communities and networks.
- **Use of ICT** - Data analytics should be used to foster creative ecosystems that contribute to a sustainable world.
- **Public-Private Partnership**- PPP is required to empower artists, bridge industry gaps, and contribute to the overall development of the creative economy.

28. Lightning not a Natural Disaster: Centre

- A senior government official stated that lightning deaths can be prevented through education and awareness, and thus, the government is against declaring it a natural disaster.
- **State Demands:** States like Bihar and West Bengal have requested that lightning-related deaths be considered natural disaster, making victims eligible for compensation from the State Disaster Response Fund (SDRF).
- **Increased fatalities:** According to the National Crime Records Bureau, lightning caused 2,880 deaths in 2021, accounting for 40% of all accidental deaths from “forces of nature.”

Lightning

Lightning is a rapid and powerful discharge of electricity in the atmosphere, often directed towards the Earth.

- **Genesis:** Lightning discharges occur in giant, moisture-bearing clouds that are several kilometers tall.
- **Ice Crystal Formation:** Water vapor in the clouds condenses into small ice crystals as temperatures drop below 0°C.
- **Electron Release and Collision:** Collisions between ice crystals generate a release of electrons, leading to a chain reaction and the formation of a positive and negative charge within the cloud.
- **Types:** Lightning can occur within clouds (inter-cloud and intra-cloud) or between the cloud and the ground (cloud-to-ground).

Intensity of Lightning Strikes

- **Voltage and Amperage:** A typical lightning flash can reach around 300 million volts and 30,000 amps, significantly higher than household current.

- **Comparisons:** Household current is 120 volts and 15 amps, highlighting the immense power of lightning.

Mitigating Lightning Incidents

- **Early Warning System:** India has established an early warning system for lightning, saving numerous lives.
- **Focus on Rural Areas:** Over 96% of lightning deaths occur in rural areas, necessitating mitigation and awareness programs targeted at these communities.
- **Deployment of Protection Devices:** Low-cost lightning protection devices need to be deployed more widely, especially in rural areas.
- **Lightning Action Plans:** States are encouraged to develop and implement lightning action plans, similar to heat action plans, to mitigate lightning-related risks.
- **International Centre for Excellence:** Efforts are underway to establish an international center for excellence in lightning research to enhance detection and early warning systems.

29. Controversy over Forest (Conservation) Amendment Bill 2023

A Joint Parliamentary Committee (JPC) has approved the version of Forest (Conservation) Amendment Bill, sent by the government with almost no comment, revisions or suggestions.

Forest (Conservation) Act of 1980 about

- The Act was enacted to protect India's forests from being exploited for industrial uses and to aid reforestation.
- It also empowers the Central government to regulate the extraction of forest resources from timber and bamboo to coal and minerals by industries as well as forest-dwelling communities.
- However, such protection was only available for areas already marked out as 'forest' in Central or State government records.
- **Expanding Forests -** The Supreme Court judgment in **TN.Godavarman Thirumulpad v Union of India (1996)** case expanded the scope of such protection.
- Under it, areas conforming to the 'dictionary' meaning of forests were protected even if it is not notified by government or in historical records.

What is the need for amendment?

- **Improve tree cover** - India's forest policy of 1988 prescribes a third of the country's geographical area to be under forests.
- In real, only 21% is under such cover and it is about 24% including tree cover outside areas under recorded forest, plantations and orchards.
- **Improve carbon sink** - Under the Act, a private plantation or a reforested piece of land could be retrospectively marked as forest which forces the private planters to lose their right over the land.
- The amendment would encourage private parties who wanted to develop plantations in degraded forests or restore tree patches.
- **Regulate States' action** - States also apportioning forest tracts meant for plantations to companies for mining operations.

The Forest Rights Act protects the rights of tribals and forest-dwellers dependent on forests for their livelihood.

What is the Forest (Conservation) Amendment Bill, 2023 about?

- The Forest (Conservation) Amendment Bill, 2023 seeks to amend the Forest Conservation Act, 1980.
- The key changes to the Act include inserting a 'preamble' and amending the name of the act.
- **Preamble** - It underlines India's commitment to preserving forests, their biodiversity and tackling challenges from climate change.
- **Name change** - The name of the Act from the existing Forest (Conservation) Act is changed to **Van (Sanrakshan Evam Samvardhan) Adhiniyam** (Forest Conservation and Augmentation).
- **Scope** - The Act would only apply to lands notified in, any government record, as 'forest' on or after 1980.
- Does not apply to legally diverted forest land for non-forest use between 1980 and 1996.
- **Exempts** - Forest land situated 100 km away from international borders and to be used for 'strategic projects of national importance' or land ranging from 5-10 hectares for security and defence projects.

What are the objections to the changes?

- **Composition of JPC** - The Joint Parliamentary Committee (JPC) which was looking at amendments to the Bill consists of 31 members.
- The majority of the members (18 out of 31) are from the ruling party.
- **Independent views** - The committee has made no collective, independent assessment in the draft version of the report.

- There are dissent notes filed by 6 members who are all incidentally from Opposition parties.
- **Environmental threat** - Exemptions without an appropriate 'assessment and mitigation plan' will threaten the biodiversity.
- Clearing such forests might trigger extreme weather events in already vulnerable and sensitive areas.
- **Cut-off date** - It restricts the act's ambit only to areas recorded as forests on or after October 25, 1980.
- This would potentially divert significant sections of forest land and many biodiversity hot spots to be exploited for non-forestry purposes.
- **Sanskritisation** - There is also dissent against the move to rename the bill in Sanskrit.
- **Concurrent subject** - The forest conservation comes under the domain of both the Centre and States and the amendments tilted the balance towards the Centre.

Forests comes under the List III (Concurrent List) of the Seventh Schedule of the Constitution.

How has the Ministry responded?

- The Environment Ministry has submitted detailed explanations to the Joint Parliamentary Committee addressing the concerns raised.
- It emphasises that the new amendments do not dilute the Godavarman judgment.
- It says that there are provisions in place to ensure that land will not be 'misused.'
- The exemptions along the international borders would be restricted to 'specific linear projects of strategic importance' identified by the Central government.
- Such exemptions wouldn't be available to private entities.

30. Role of Moon in the Development of Life on Earth

Moon, the only natural satellite of Earth played vital role in the geology of Earth and evolution of life.

What is the Earth's Moon and how did it form?

- **Moon** - It is the Earth's most constant companion, which orbits at a mean distance of about 384,400 km.

- **Tidal locking-** The Earth and Moon are tidally locked. Their rotations are so in sync we only see one side of the Moon.
- Humans didn't see the lunar far side until a Soviet spacecraft flew past in 1959.
- **Features-** The Moon has a solid, rocky surface cratered and pitted from impacts by asteroids, meteorites and comets.
- **Size-** It is approximately **1/4th the size** of Earth in terms of diameter.
- In surface area, the Moon covers about 1/16th of Earth's total surface area and it roughly has 1.2% of Earth's mass.
- The moon's gravitational force is only about **16.6 % of Earth's gravity** which means a person would weigh 6 times less on the moon than they do on Earth.
- Moon takes 27 days to revolve around Earth, its lunar cycle is 29.5 days (i.e., from one new moon to other new moon)

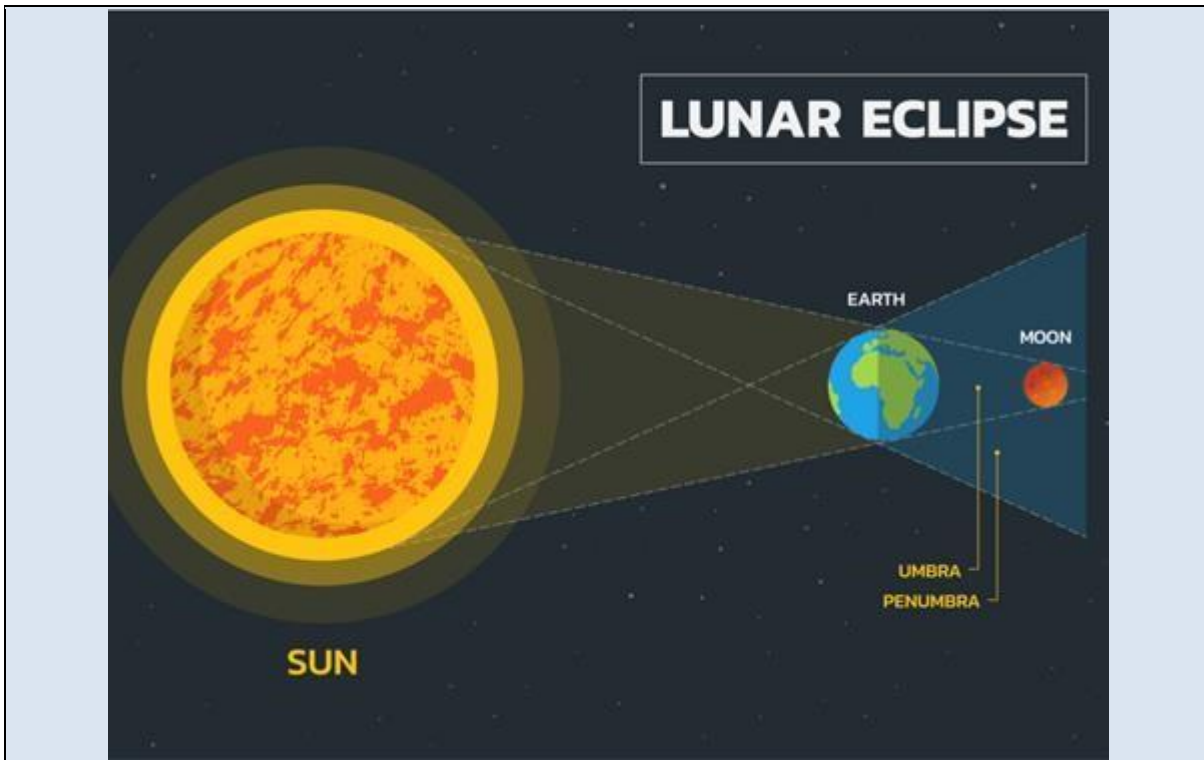
- **Formation of Moon -** Moon was formed when a Mars-sized object (**Theia**) smashed into the Earth about 4.5 billion years ago.
- This enormous collision spun out a cloud of debris that evolved into the moon.
- As per research, Theia came from outer solar system that collided with the Earth.

Lunar Eclipse

The lunar eclipse of the Moon is caused by Earth which completely blocks the direct Sun rays which reach the Moon, with the only light reflected from the lunar surface being refracted by Earth's atmosphere.

Types

- **Total lunar eclipse-** It occurs when the Moon and Sun are on opposite sides of Earth.
- **Partial lunar eclipse-** It happens when only part of Earth's shadow covers the Moon.



Role of Moon in the development of life on Earth

- **Effect of tides on evolution** - Tides resulting from the gravitational force of the moon affect animal life in the intertidal zone (where the ocean meets the land between high and low tides).
- Big tidal ranges have been responsible for forcing bony fish into shallow pools on land, prompting the evolution of weight-bearing limbs and air-breathing organs.
- The tides eroded the coastal areas, adding minerals to the oceans an essential element for life to evolve quickly.
- **Effect of lunar cycle on reproduction-** The reproductive cycles of many marine creatures are closely synchronised with lunar phases.
 - **Example** - The mass spawning of corals on the Great Barrier Reef is triggered by the Moon.
- Nocturnal animals behave differently depending on where the moon is in the sky during lunar phase.
- There is also a link of lunar rhythms with human behaviour, activity and even fertility.
- Some scholars arguing that human reproductive behaviour was originally synchronous with the moon, but got modified recently by modern lifestyles.
- **Impact on climate change-** Moon's gravitational pull helps transport heat away from equator to the poles, shaping earth's climate.

- The absence of moon would lead to extreme climate change as there would be huge differences between temperatures and daylight throughout the year.
- Moon also stabilises the Earth's rotation on its axis by slowing Earth's rotation on its axis.
- **Impact of Moon's light-** The ability to see and to be seen enhances in the moonlight.
- Studies have documented changes in the success rates of predators and foraging patterns of prey animals due to this added night time illumination.
 - Studies have shown that lions are less likely to hunt during the full moon and lion attacks on humans happen 10 days after the full moon.
- **Water distribution-** It is with the formation of the Moon, water came to Earth for the first time in 4.4 billion years ago.
- Theia's collision with Earth led to the formation of moon provided sufficient carbonaceous material to account for the entire amount of water on Earth.
- **Tectonic plates-** The moon's pull of gravity might have set the Earth's tectonic plates.
- It raises the level of the world's oceans towards the equator.

What is the need for exploring the Moon?

- **Scientific Knowledge-** To pursue scientific activities that address fundamental questions about the history of Earth, the solar system and the universe.
- **Human Settlement-** To extend human presence to the moon to enable eventual settlement.
- **Test Bed -** To test the technologies, systems, flight operations and exploration techniques to reduce the risks and increase the productivity of future missions to Mars and beyond.
- **Economic Expansion-** To expand Earth's economic sphere, and conduct lunar activities with benefits to life on the home planet.
- **Water Exploration -** To utilise the remnants of water in the shaded spots would remain a permanently frozen mixture of dust and ice.
- **Mineral Exploration -** To tap the billions of dollars of untapped mineral resource that the moon holds.
- **Public Engagement-** To use a vibrant space exploration program to engage the public and help develop high-tech workforce to address the challenges of tomorrow.
- **Global Partnerships-** To provide a challenging, shared and peaceful activity that unites nations in pursuit of common objectives.

31. Cheetah Reintroduction Project

Following the death of two cheetahs in three days at Kuno National Park in Madhya Pradesh wildlife officials suggested to remove radio collars from 10 free ranging cheetahs.

Project Cheetah

- Project Cheetah is India's cheetah relocation programme.
- This is the first intercontinental reintroduction of a wild, large carnivore species.
- The project is to bring in 5-10 animals every year, over the next decade, until a self-sustaining population of cheetahs is established.
- **Historic cheetah in India** - Asiatic Cheetahs were once abundant in India but the last cheetah in the country died in 1952.
- **Reintroduced cheetah** - The animals brought from Namibia and South Africa are the Southeast African cheetahs.
- **Location** - Under Project Cheetah, the animals are translocated from the forests of South Africa and Namibia to the Kuno National Park in Madhya Pradesh.
- Since last year, Kuno National Park has received 20 cheetahs with the aim of establishing a free-ranging population.
- **Authorities** - The National Tiger Conservation Authority (NTCA) is the apex body entrusted with the implementation of Project Cheetah.
- NTCA comes under the Ministry of forest, environment and climate change.
- The Cheetah Conservation Fund (CCF) is also assisting the Indian government in reintroducing cheetahs in India.

What is the debate?

- 20 cheetahs were translocated from South Africa and Namibia to Kuno National Park.
- Of the 20, six imported cheetahs including three new-borns have died.
- **Reasons** - The two cheetahs that died recently have a similar organ damage.
- The radio collar can be a contributing factor for the cheetah deaths.
- There is a possibility for an infection breaking out because of the radio collar due to the monsoon.
- Because of high moisture, the cheetah may scratch its skin, which can break out an infection.

What are the criticisms against this project?

- **Scientific basis** - Wildlife specialists said that India's cheetah reintroduction strategy was based on an unfounded assumption.
- They also claimed that the plan disregards critical scientific results from recent demographic research on free-roaming cheetahs.
- **Choice of site** - Several wildlife and conservation experts contend that Kuno National Park may not be a suitable habitat for accommodating a large population of cheetahs.
- **Spatial requirements** - Cheetahs typically require expansive habitats spanning thousands of square miles to roam freely but the area of Kuno NP is expected to be below 500 square miles.
- **Habitat requirements** - Kuno is inadequate to accommodate such a large number of cheetahs.
- The Supreme Court bench expressed concern over the high density of cheetahs in a particular location.
- **Alternatives** - It further suggested exploring alternative habitats that may be more suitable than Kuno.
- There are plans to develop a second reserve in Gandhisagar, Madhya Pradesh and also establish a cheetah rehabilitation centre.
- **Approach** - The preservation of carnivores in environments that are heavily influenced by human activity needs a multidisciplinary approach.
- **Prolonged captivity** - Quarantining cheetahs for extended periods have affected their adaptive capabilities and given them psychological adjustment problems, making them more vulnerable.

What are the arguments in support of this project?

- **Too early to judge** - The Cheetah Conservation Fund (CCF) has expressed the progress in India is positive.
- It underscored that the cheetah's home ranges can be accurately determined only after they firmly established their territories.
- **Knowledge** - India is advancing its knowledge and understanding of cheetahs in a diverse range of veterinary concerns and behavioural patterns linked to cheetahs that roam freely.
- This knowledge positively impact the long run success of the project.
- **Breeding conducive** - Cheetahs from 2 distinct countries possess varied genetic makeup whose diversity can be preserved from careful breeding.
- Cheetah exhibit high reproductive rates in favourable ecological conditions and the successful birth of 3 female cubs suggest the conducive environment of Kuno NP.
- **Protracted process** - The efficacy of wildlife breeding initiatives necessitates an assessment conducted over extended time periods.

- Like Project Tiger, conservation projects of rhinoceros and Asiatic lion a genetically viable population of cheetahs for a prolonged period is possible.
- Hence, it is premature to make a judgement on the programme.
- **Damages** - Fatalities are inevitable in any animal's reintroduction project.
- **Ecological Benefit** - The cheetah reintroduction project enhances the value of grasslands and savannahs which has been neglected for a long time.
- **Biodiversity benefit** - The Cheetah is the flagship species of grasslands and its conservation will enhance the grassland biodiversity.

32. A roadmap to eliminate poverty in India

- With the receding impact of Covid-19 and hopeful prospects for an amicable resolution to the Russia-Ukraine War, India must now focus on charting its future growth strategy

Central idea

- India's current per capita income estimated at \$2,379 in 2022-23, which needs to be raised by nearly six times over the next 25 years. This ambitious goal will pave the way for a higher standard of living and the eradication of poverty. However, achieving this vision requires a comprehensive understanding of the challenges ahead and the necessary actions to overcome them.

Per capita income

- Per capita income refers to the average income earned by individuals in a specific geographic area. It is calculated by dividing the total income of a population by the total number of individuals in that population.
- Per capita income provides an indicator of the average standard of living and economic well-being within a given population.

Gross Fixed Capital Formation (GFCF)

- GFCF refers to the total value of investment in fixed assets within an economy, such as machinery, equipment, buildings, and infrastructure, during a specific period.
- It represents the net increase in the stock of fixed capital goods.
- GFCF is an essential component of aggregate demand and is considered a driver of economic growth.

- Higher levels of investment in fixed assets contribute to increased production capacity, improved productivity, and long-term economic development.
- The GFCF ratio is often expressed as a percentage of GDP, indicating the proportion of total investment in fixed assets relative to the size of the economy.

Incremental capital-output ratio (ICOR)

- The ICOR is an economic indicator that measures- amount of investment required to generate an additional unit of output.
- It represents the ratio between the change in capital investment and the corresponding change in output or GDP.
- It provides insights into the efficiency of capital utilization and the productivity of investment in an economy.
- A lower ICOR indicates that a smaller amount of investment is required to generate a given increase in output, indicating higher efficiency and productivity of capital.
- A higher ICOR suggests that a larger amount of investment is needed to achieve the same level of output growth, indicating lower efficiency of capital utilization.

Growth Target and Investment Requirements

- To sustain continuous growth of 7 percent over the next 25 years, India must maintain a GFCF rate of 28 percent.
- According to the latest release of NSO, the GFCF rate in current prices for 2022-23 is 29.2 per cent of GDP.
- While the commonly assumed incremental capital-output ratio (ICOR) of 4 suggests improved capital efficiency, recent trends indicate an average ICOR of 4.65 from 2016-17 to 2022-23.
- Acknowledge the evolving ICOR and work towards an estimated investment rate of 30-32 percent of GDP.
- Both public and private investments, especially from the corporate and non-corporate sectors, need to increase.
- Direct investments into sectors that promote growth and generate employment opportunities
- Welcoming Foreign direct investment in emerging technological sectors

What global factors at present poses challenges?

- The overall climate for peace- necessary for growth- deteriorated- Ukraine-Russia conflict.

- Prolonged tension and conflicts- negative impact on global stability and economic growth.
- Shifting attitude of some countries towards global trade.
- Developed countries, which previously advocated for free trade, are now imposing restrictions on imports- challenges for developing countries like India, particularly as they strive to compete in the world market.
- Supply disruptions of critical imports, such as oil, can cause setbacks for developing and developed countries alike.
- The absorption of new technologies, such as Artificial Intelligence (AI)- impact on the industrial structure and employment landscape- challenge for populous countries like India
- Balancing economic growth with environmental sustainability may require compromises and adjustments in the growth rate.

What strategy India must follow to sustain its growth?

- India's economic transformation in 1991 marked a departure from the past, embracing a more market-oriented approach.
- India needs to adopt a multi-dimensional approach that encompasses agriculture, manufacturing, and exports.
- Given India's strength in the services sector, it is essential to preserve and enhance this advantage.
- Prepare to absorb new technologies, including Artificial Intelligence (AI),
- Reorienting the educational system to equip students with required skills and
- Identifying labour-intensive economic activities to address potential job losses due to adoption of technology

Conclusion

- India has made significant strides in building a strong and diversified economy over the past 75 years. However, India's per capita income remains low compared to many countries, emphasizing the need for sustained growth. By addressing domestic challenges, seizing opportunities, and prioritizing inclusive development, India can realize its vision of a prosperous and equitable future.

33. Local Currency Settlement System

Recently, a MoU has been signed between India and UAE on Local Currency Settlement System.

Picture of India- UAE trade

- India-UAE trade rose to USD 85 billion in 2022, making the UAE as India's 3rd largest trading partner for 2022-23.
- India's the 2nd largest export destination and it is UAE's 2nd largest trading partner.
- UAE accounts for 9% of its total foreign trade and 14% of non-oil export, it is the 7th largest FDI investor in India.
- **Major imports-** In 2022, major imports were petroleum crude and petroleum products.
- **Major exports-** In 2022, major exports were petroleum products.

Local Currency Settlement System (LCSS)

- Local Currency Settlement (LCS) means settlement of a bilateral transaction between two countries is conducted in the respective currency of each country where the settlement is conducted within their jurisdiction.
- The pact signed between UAE and India is to promote the use of the rupee and UAE Dirham (AED) for cross-border transactions.
- **Coverage-** It covers all current account transactions and permitted capital account transactions.
- **Mechanism-** It would enable exporters and importers to invoice and pay in their respective domestic currencies, this would enable the development of an INR-AED foreign exchange market.
- **Framework-** The RBI plan to settle international trade in the local currency which will let importers make payments in the rupee.
- The rupee will be credited to the special account of the correspondent bank of the partner country and the exporters will be paid from the balances in the designated special account.
- The Central bank is also in the process of issuing a Standard Operating Procedure to all banks so that e-BRC (electronic bank realisation certificate) becomes easy to use.

What are the advantages of local currency settlement system?

- **De-Dollarization-** It reduces the dependency on dollar payments for international transactions and strengthens the value of rupee.
- **Strengthen bilateral ties-** It is the reflection of mutual confidence and underlines the robustness of the economies and enhances the economic engagement between both the countries.
- **Increase economic partnership-** In 2022, India became the first country with which the UAE has signed a Comprehensive Economic Partnership Agreement (CEPA).

CEPA is the free trade agreement between India and UAE that was signed in 2022 and covers the trade in services and investment, and other areas of economic partnership.

- **Optimisation-** It would optimise transaction costs and settlement time for transactions, including for remittances from Indians residing in UAE.
- It could act as an important step in internationalisation of rupee.
- **Mitigate currency risk-** The use of the rupee in cross-border transactions mitigates currency risk and confers protection from currency volatility.
- **Foreign exchange** - It would enable the development of an INR-AED foreign exchange market.
- It will make India less vulnerable to external shocks as the need to hold foreign reserves will be reduced.
- **Competitive pricing-** As the use of the rupee becomes significant, the bargaining power of Indian businesses would improve.
- **Promote economic growth-** It leads to increase in the investment and remittances of both countries.

What are the challenges?

- **Rupee acceptability-** US dollar accounted for 60% of the global reserves and Euro accounted for 20% of the global reserves, the share of rupee in international market is very low.
- **Trade deficit-** If there is trade surplus we can invest the remaining amount in the country we trade with, but trade deficit is problematic.
- **Emerging NPAs-** Increase in non-performing assets in the banking system will affect the financial stability of the country.

What lies ahead?

- As recommended by RBI, a standardised procedure must be adopted to ensure local currency settlement system.
- There is a need to reduce trade deficit (by boosting the exports and improving the manufacturing sector) to leverage the benefits of local currency settlement system.

34. GM Mustard

A determined battle by environmentalists in the Supreme Court of India against genetically modified (GM) herbicide-tolerant (HT) mustard is all that stands between GM food and Indian farmers and consumers.

GM crops

- A crop which has a gene artificially inserted into it from another species to give some desired properties (pest resistant, herbicide tolerant, etc.) is known as GM crop.
- Soya bean, maize, cotton, and canola are the most widely grown GM crops around the world.
- **Bt cotton** - It is the only GM crop that is allowed in India.
- It has two alien genes from the soil bacterium *Bacillus thuringiensis* (Bt) that allows the crop to develop a protein toxic to the pest pink bollworm.
- **GM Mustard** - It is the first GM food crop that India has permitted for commercial release.
- It is a product of crossing two plants containing alien 'barnase' and 'barstar' genes derived from a soil bacterium.

Dhara Mustard Hybrid (DMH -11)

- Mustard is generally a self-pollinating plant.
- Genes from soil bacterium makes mustard plant better suited to hybridisation.
- Centre for Genetic Manipulation of Crop Plants (CGMCP), University of Delhi developed the Barnase-Barstar technology.

The science behind DMH-11

To create Dhara Mustard Hybrid-11, the team improvised on a 1990s breeding innovation pioneered in Belgium called the barnase/barstar male sterility technique. It works on the principle of removing male fertility in one parent and restoring it in the offspring

Pollen-free parent (FEMALE) **Pollen-producing parent (MALE)**

Stigma, Sterile anther, Ablated tapetum, Barnase-RNA fragment

Fertile anther, Developing pollen, Tapetum, Barnase-Intact RNA

F1 HYBRID Barstar/barnase complex

Source: MoEFCC

What are the pros and cons of GM Crops?

Benefits of GM Crops

- Better Pest and Disease Resistance.
- Greater tolerance of stress, such as drought, low temperatures or salt in the soil.
- High yield and faster growth, they can be cultivated and harvested in areas with shorter growing seasons.
- Can be made resistant to specific herbicides.

- Can cause Unpredictable side effects.
- Can cause ecological damage.
- Lead to over use of herbicides.
- Not accessible to every poor farmers.
- Problem with Intellectual property rights.

Drawbacks of GM Crops

What are the regulatory and approval authority for GM crops in India?

- The Acts and rules that regulate GM crops in India include:
 1. Environment Protection Act, 1986 (EPA)
 2. Biological Diversity Act, 2002
 3. Plant Quarantine Order, 2003
 4. GM policy under Foreign Trade Policy
 5. Food Safety and Standards Act, 2006
 6. Drugs and Cosmetics Rule (8th Amendment), 1988

Mandate of Ministries/Departments

Ministry of Environment, Forest and Climate Change	<ul style="list-style-type: none"> Primarily responsible for conservation and protection of environment, ensuring environmental and human health safety before release of GMOs / LMOs. Nodal agency for implementing Rules, 1989 and the Cartagena Protocol on Biosafety
Department of Biotechnology (Ministry of Science & Technology)	<ul style="list-style-type: none"> Nodal department for promoting biotechnology programs Provides scientific support in implementation of biosafety regulations Provide services in areas of research, infrastructure, generation of human resource
Ministry of Agriculture	<ul style="list-style-type: none"> Policies aimed at agriculture growth. Indian Council of Agricultural Research (ICAR) responsible for monitoring agronomic benefits of GM technology. Monitoring post-release performance of GM crops.
Ministry of Health and Family Welfare	<ul style="list-style-type: none"> Policies aimed at protecting and monitoring human health. Food Safety and Standards Authority of India responsible for regulating genetically engineered foods.
Ministry of Commerce and Industries	<ul style="list-style-type: none"> Enhance trade with other countries through export/import policies. Nodal agency for implementing DGFT notification on GMOs
Central Board of Excise and Customs, Department of Revenue, Ministry of Finance	<ul style="list-style-type: none"> Enforcement of regulation pertaining to transboundary movement of GMOs/LMOs at point of entry

Genetic Engineering Appraisal Committee (GEAC)

- GEAC is responsible for appraisal of proposals relating to the release of GM organisms and products into the environment.
- It functions in the Union Ministry of Environment, Forest and Climate Change.
- It operates as per the Rules, 1989, under the Environment Protection Act, 1986.
- It applies to large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.

What is the issue around GM Mustard?

- GM Mustard is the first genetically modified food crop permitted for commercial release thus it requires attention towards environmental, agricultural and public health.

- The government is pushing ahead with GM mustard disregarding both science and the law.
- The full biosafety database of GM mustard is not placed in the public domain.
- It has not adequately responded to criticisms that already available non-GM mustard hybrids have better yields than GM mustard.
- There is a growing evidence of long-term ecological and health risks of HT crops.
- The government has argued that GM mustard should not be considered HT at all in the Supreme Court hearing.

HT crop - A crop that can withstand herbicides. (HT - Herbicide Tolerant)

What are the reports on GM crops?

- Two Standing Committees of the Parliament independently and comprehensively examined GM crops and food.
- The 2 reports concerning GM foods are by
 1. The Standing Committee on Agriculture in 2012
 2. The Standing Committee on Science and Technology, Environment and Forests in 2017.
- **Report takeaways** - The two committees unanimously highlighted major weaknesses in the regulatory system, and called for utmost caution before releasing GM food.
- **REC Report** - The Supreme Court also appointed a Technical Expert Committee (TEC) in the public interest litigations.
- The TEC warned of serious harm to the environment, rural livelihoods and sustainable agriculture if they were released.

What is the way forward?

- If the Supreme Court allows GM mustard to go through, it will likely pave the way for the release of other HT crops such as cotton, rice, and maize.
- The government needs to approach the issue of HT crops transparently and robustly with an emphasis on precaution.
- GM food crops involves public health, environmental protection and agricultural livelihoods.
- The government should address the science-based concerns of GM crops.
- It should also comprehensively strengthen regulation before allowing GM food.

35. Tomato Price Hike

Tomato prices have reached sky-high in two months and yet the inflation rate of its prices is negative.

How is tomato produced in India?

- India grows two major crops of tomato annually
 1. Kharif - comes to markets from September
 2. Rabi - hits the market between March and August annually
- Andhra Pradesh, Madhya Pradesh, Karnataka, Odisha, and Gujarat accounts for close to 50% of total production of tomato.
- The production accounts for 90% along with the states Chhattisgarh, West Bengal, Tamil Nadu, Bihar, Maharashtra, Uttar Pradesh, Haryana, and Telangana.
- In the summer, Andhra Pradesh's Madanapalle region alone accounts for tomato cultivation in the entire country.
- In 2021-22, the tomato production dropped to 20.69MT and 20.62MT in 2022-23.

What is fuelling the price rise?

- There are multiple factors for the drop in overall tomato production this year.
- The two key reasons are extreme weather conditions and low commercial realisation of the crop for farmers in the months before June.
- **Weather** - The heatwaves and high temperatures in April and May and the delayed monsoon showers in southern India and Maharashtra led to pest attacks in tomato crops.
- **Supply crunch** - Farmers sold inferior tomatoes at low prices and even some abandoned their crops between last December and April which led to supply crunch.
- **Heightening reasons** - Tamil Nadu, Gujarat, and Chhattisgarh saw a 20% drop in production, which aggravated tomato supplies in the 2022-23 crop year (July-June).
- The lean production period for tomato (July-August) has compounded the issue.
- **Crop shift** - Many tomato farmers in the Kolar district of Karnataka shifted to beans owing to the higher prices it fetched last year which reduced sizeable tomato supplies.
- **Seasonal price volatility** - The data on tomato prices of the last 5 years shows that the rates had risen every year at this time.

A July 2022 study by ICRIER notes how tomato prices have been following a cyclical phenomenon, with the same situation arising every alternate year. The year 2021 also saw prices drop to as low as 2-3 Rs. per kg for farmers.

Do tomato price volatility impact CPI?

- There are concerns over the high seasonal price volatility of tomatoes and its impact on the overall Consumer Price Index (CPI).
- The contribution of TOP (tomato, onion, potato) to the overall CPI has been quite volatile, even with a low weightage of 2.20.
- In June 2022, at 8.9%, tomato had the largest contribution among 299 commodities in the CPI basket.

Why there is volatility in tomato prices?

- A NABARD study notes that tomato is the most volatile out of all the three TOP (tomato, onion, potato) agri-commodities.
- **Reasons for volatility** - Tomato is more perishable than onion and potato.
- Supply chain issues in transporting the vegetable from areas where it is grown to regions where it is not grown.
- The cyclical price drop led to a lot of farmers cultivating tomatoes in lesser land area and shifting to other crops.

Why the inflation rate of tomato is negative despite price hike?

- The inflation rate in tomato prices is negative.
- The inflation rate suggests that tomato prices are crashing despite actual soaring in prices.
- The tomato prices have been experiencing 'deflation' since November 2022.
- **Inflation rate** - It is based on the value of an index and is calculated on a year-on-year basis in India.

How can volatility be controlled?

- **Produce** - Increase tomato yields in India (now at 25 tonnes per hectare (t/ha)) at par with the global average of 37 t/ha.
- Encouraging cultivation in structures called poly houses and greenhouses (like done in European countries) to can control pest attacks.
- **Storage and Processing** - Since tomato is highly perishable, improved value and supply chains can help with the problem.
- Increasing the processing capacity for tomatoes and building more processing units.

A 2022 study estimated that farmers' share of what consumers pay for tomatoes is only 32%.

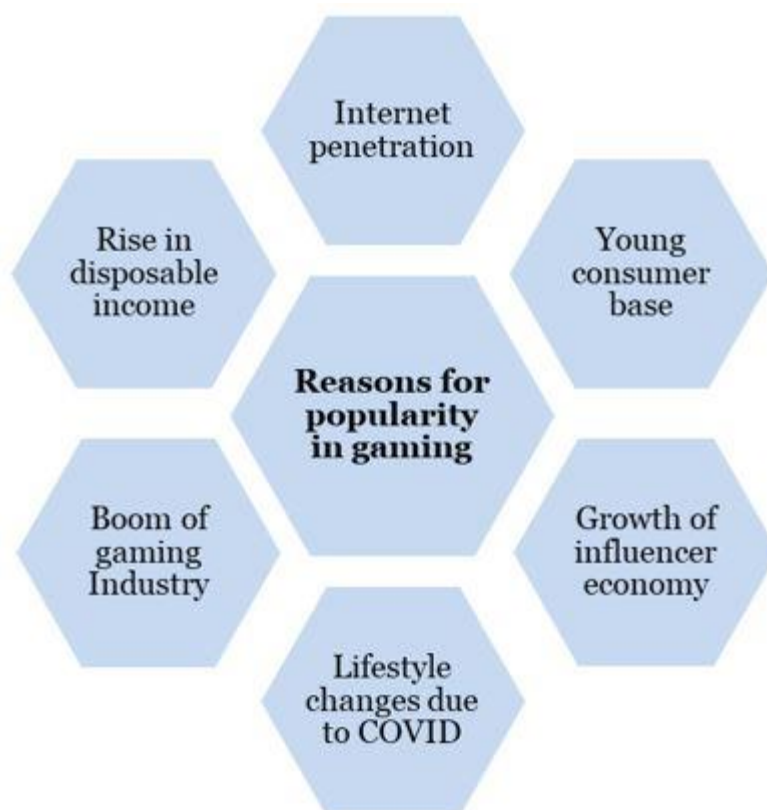
- **Farmers' income** - Eliminating middlemen and encouraging Farmer Producers Organisations (FPOs) to sell produce directly to increase farmers' share.
- Amending rules of Agricultural Produce Market Committees (APMC) to reduce commission and other fees has also been suggested.

36. GST on Online Gambling

The GST Council has said that the government will impose a goods and service tax of 28% on the turnover of online gaming companies, horse racing and casinos.

What is the market overview of gaming in India?

- **Online gaming market** - The revenue of the Indian mobile gaming industry is expected to exceed 1.5 billion dollar in 2022, and is estimated to reach 5 billion dollar in 2025.
- While India's gaming market is currently smaller than the US and China, it is worth about US 1.5 billion dollar and is expected to triple in size to reach US 5 billion dollar by 2025.
- India's percentage of new paying users (NPU) in gaming has been the fastest growing in the world.
- **Types of Online game** - Games of skill and Games of chance
 1. **A game of skill** - It is the one in which a player's superior knowledge, training, attention, experience, personal traits, and abilities are crucial to success.
 2. Example - Fantasy sports (Dream 11 and MPL fantasy cricket), casual games, and card games (Rummy or Poker)
 3. **A game of chance** - It is the one in which chance rather than skill determines the outcome.
 4. Example - Playing cards, roulette, rolling a dice, or even picking a numbered ball are reflected upon as chance-based games.



What is the decision of GST meeting?

- The latest provision means that tax will be levied on the entry bet at 28% rather than the earlier tax which is levied on the Gross Gaming Revenue (GGR) at 18%.
- It is considered to do away with the distinction between game of skill and game of chance, thus, treating all games as demerit goods, thereby attracting a 28% GST rate.
- The government will bring amendments to the GST-related laws to include online gaming and horse racing in Schedule III as taxable actionable claims.
- As per GST, an actionable claim is defined as goods under the Central Goods and Services Tax Act, 2017.
- It is a claim to an unsecured debt or a claim to any beneficial interest in movable property that is not in the possession of the claimant.
- So far, lottery, betting, and gambling were classified as actionable claims. Now, horse racing and online gaming will be added.

All India Gaming Federation (AIGF), founded in 2016, is a self-regulatory apex industry body for online skill gaming in India.

What are the advantages of the move?

- **Transparency** - The move will simplify the mechanism, eradicate complexity and imbibe transparency.
- **Check on addiction**- The Government quoted that the increase in taxation would reduce children addiction to online gaming.
- **Tax payments** - The move would result in a 55% increase in GST payments.

What are the issues in this aspect?

- **Entire gaming industry as gambling**- The Government considers the entire gaming industry as gambling, which is not only against the established jurisprudence but may also fall foul of the CGST Act 2017 itself.
- Even within the games of skill, all the games cannot be equated.
- **Impact on online gambling companies**- It will increase the tax burden where the tax exceeds the revenue and boost the growth of illegal gambling platforms.
- **Game of chance vs Game of skill**- Under the CGST Act, actionable claims are sought to be excluded from the ambit of GST, except for lotteries, betting and gambling.
- 'Betting and gambling' must be interpreted as betting on a game of chance and not staking or betting on a game of skill.
- **Games of skill vs. Casino games**- It is extremely difficult to distinguish between incidence of taxation on casino games with some games of skill like rummy and poker, which are played both online and on the casino floors.
- **Offends Article 14**- It offends the fundamental principle that 'equals are to be treated equally and unequals are to be treated unequally' and falls foul of Article 14 of the Constitution of India.
- **Against judgements**- Various Court judgements have reaffirmed the states of online skill-based games as legitimate business activity protected as fundamental right under the Constitution.
- **Increase in black market activities** - The tax could hinder the Digital India Initiative, leading to an increase in black market activities and criminal offences, due to a 400-500% increase in the GST burden.
- **Benefit offshore gambling sites** - The change may benefit offshore gambling sites, leading to a significant tax loss for the government and exposing Indian gamers to unregulated websites.
- **Deter foreign investment** - The industry also fears that the change could deter foreign investment.

37. World's Largest Office Space: Surat Diamond Bourse

- The Surat Diamond Bourse (SDB), hailed as the world's largest office space project, is set to be inaugurated by Prime Minister.

Surat Diamond Bourse

- The SDB is a large-scale project located in Surat, Gujarat, India.
- It is claimed to be the world's biggest office space in a single project.
- It is built to expand and consolidate the diamond trading business from Mumbai to Surat.
- Surat is renowned as a major hub for cutting and polishing diamonds, and the development of SDB aims to bring all diamond-related activities and infrastructure under one roof.

Key features

- **Location:** The SDB is situated at DREAM (Diamond Research and Mercantile) city in Surat.
- **Size:** The bourse spans an area of 66 lakh square feet (approximately 6.6 million square feet), making it one of the largest office spaces in the world.
- **Design:** The thematic landscaping of the project is based on the 'panch tatva' theme, representing the five elements of nature – air, water, fire, earth, and sky.
- **Infrastructure:** The SDB consists of nine towers, each with ground plus 15 floors. It will accommodate over 4,200 offices with sizes ranging from 300 square feet to 7,500 square feet.
- **Security:** Given the high-security nature of the diamond industry, over 4,000 CCTV cameras have been installed at different locations inside and outside the SDB.
- **Shifting from Mumbai:** The bourse seeks to address the space crunch and expensive office real estate in Mumbai, where much of the diamond trading currently takes place.

Economic significance of SDB

- **Businesses:** The complex will house various diamond-related businesses, including the sale of rough and polished diamonds, diamond manufacturing machinery, diamond planning software, diamond certificate firms, lab-grown diamonds, and more.
- **Employment:** The SDB is expected to generate significant employment opportunities, providing direct employment to over 1 lakh people in various roles related to the diamond industry.

38. Niti Aayog's Export Preparedness Index, 2022

- Tamil Nadu has emerged as the most export-competitive state in India, securing the top spot in the Export Preparedness Index 2022 by Niti Aayog.

Export Preparedness Index (EPI)

- EPI is a comprehensive tool aimed at gauging the export readiness of India's states and union territories (UTs).
- The index analyses various parameters, enabling the identification of strengths and weaknesses in each region and offering valuable insights for effective policy formulation.
- EPI focuses on four pillars:
 1. **Policy:** This pillar evaluates the effectiveness of a state's trade policy, providing strategic direction for both exports and imports.
 2. **Business Ecosystem:** The efficiency of a business ecosystem is crucial for attracting investments and fostering an enabling infrastructure for startups and entrepreneurship.
 3. **Export Ecosystem:** This pillar assesses the business environment specific to exports, determining the level of support and facilitation provided to exporters.
 4. **Export Performance:** The sole output-based parameter, this pillar examines the reach of export footprints in states and UTs, measuring their actual export achievements.
- **10 Sub-pillars include:** Export Promotion Policy; Institutional Framework; Business Environment; Infrastructure; Transport Connectivity; Export Infrastructure; Trade Support; R&D Infrastructure; Export Diversification; and Growth Orientation.

States performance

- **Export-Competitive State: Top Contenders:** Maharashtra, Karnataka, and Gujarat (last year's leader) followed closely, while Haryana claimed the fifth position.
- **Coastal States' Dominance:** Coastal states dominated the top rankings, with four out of the top five positions occupied by them. Andhra Pradesh also secured the ninth spot.

- **Gujarat- Leading Merchandise Exporter:** Gujarat holds the top position as the leading merchandise exporter, accounting for one-third of India's total merchandise exports.
- **Top Five Exporting States:** Maharashtra, Tamil Nadu, Karnataka, and Uttar Pradesh complete India's top five exporters.
- **Seven States' Dominance:** An impressive 75% of India's total exports are contributed by just seven states.

Reasons for export boost

- **Export Promotion Policies:** The top-performing states have implemented export promotion policies at both state and district levels.
- **Diversified Export Basket:** These states have a diverse export basket, showcasing their global footprint.
- **Promoting Unique Products:** Successful states focus on promoting products unique to their region. Tamil Nadu and Karnataka lead in exporting geographical indication (GI) products.

India's Export Performance

- **Resilient Exports:** Despite pandemic challenges and supply-side issues, India's goods exports remained robust, reaching an all-time high of \$447 billion in FY23.
- **Target for FY24:** The government refrained from setting a specific export target for FY24 due to global headwinds but may aim for \$450 billion to \$500 billion in goods exports.
- **Services Exports:** Services exports amounted to \$323 billion in FY23, bringing India's overall exports to \$770 billion.

39. Captive bred vultures take wing in forest expanses

Success of soft release of vultures:

- Eight Oriental White-backed Vultures were released into the wild in 2020 from Pinjore.
- Five of the vultures have survived, and two have successfully nested in the wild.
- Birds released in 2021 are also doing well and are able to find their own food. 29 of the 31 birds released in 2021 are still alive.
- One of the vultures fitted with tracking devices flew into Nepal and re-entered India. This vulture was released from the **Rajabhatkhawa vulture center** (part of the Buxa Tiger Reserve, West Bengal).

Why is conservation of vultures necessary?

- The birds have been under threat of extinction since the 1990s due to the use of non-steroidal anti-inflammatory drugs (NSAIDs) such as diclofenac in cattle which these vultures feed on.
- According to a study by the **Bombay Natural History Society (BNHS)**, the estimated population of vultures in India in 1993 was around 40 million. However, the population of three species – Oriental White-backed, Long-billed, and Slender-billed – has declined by over 97% since the 1990s.
- **Conservation Status:**
 - - According to the International Union for the Conservation of Nature (IUCN), the oriental white-backed, long-billed, and slender-billed species are considered **critically endangered**.
 - **Schedule I** of the Wildlife Protection Act, 1972, which grants them the highest level of protection.
 - **The BNHS and Royal Society for Protection of Birds (RSPB) have been managing four Jatayu conservation breeding centers across the country in partnership with state governments.** Through this conservation breeding program, over 700 birds have been bred in captivity since 2004.

Way Forward:

- The success of the release and nesting of the vultures has inspired conservationists to establish soft release centers in Madhya Pradesh, Assam, Rajasthan, and three tiger reserves in Maharashtra.
- The Drugs Technical Advisory Board (DTAB) has recently recommended a ban on the use, sale, and manufacture of veterinary drugs **aceclofenac and ketoprofen** for animal use, which will help in vulture protection.
- Actions to achieve as part of the **Action Plan for Vulture Conservation in India: 2020-2025**
 - Prevention of poisoning of cattle carcasses, the principal food of vultures
 - Enhancement of Conservation Breeding Programme in the country
 - Regular monitoring of vultures across the country
 - Enhancing the vulture safe zone network by creating at least one vulture safe zone in each state and continuing to work on the existing efforts of vulture safe zones.
 - Determining and preventing other causes of mortality in vultures

40. Advance Authorisation Scheme

Recently, the Directorate General of Foreign Trade (DGFT) implemented the **Advance Authorisation Scheme**.

- The Scheme was implemented under the Foreign Trade Policy.
- It allows duty-free import of inputs for export purposes.

Advance Authorisation Scheme:-

- **Launched: 2015. (Advance Authorization Scheme (AAS))**
- **Ministry: Ministry of Commerce and Industry.**
- **Objective:** to make India's products competitive in the global market.
- It is a type of **duty exemption scheme** introduced by the Government of India under the **Foreign Trade Policy 2015-2020. (New Foreign Trade Policy)**

Salient Features of AAS:-

- Under this scheme, **exemption from the payment of import duties is given** to raw materials/inputs required for the manufacture of export products.
- They are **not allowed to sell the products in the domestic market.**
- **Validity:** Advance Authorization is valid for **12 months from the date of issue** of such Authorization.
- **Composition fee formula:** The revised composition fee formula is based on a specific rate for different levels of the 'CIF (cost, insurance, freight) value of authorization.
- The fees levied under these **3 slabs:-**
 - **₹5,000** for a cost, insurance, freight (CIF) value of advance authorization license valued at up to ₹2 crores.
 - **₹10,000** for a value between ₹2 crore and 10 crores
 - **₹15,000** for value over ₹10 crores.
- The simplification of calculations for composition fees helps in **automation and faster service delivery** by making the process more efficient and easier to understand.
- The eligibility of inputs is determined by **Sector-specific Norms Committees** based on input-output norms.
- The quantity of inputs allowed for a given product is based on specific norms defined for that export product, which considers the waste generated in the manufacturing process.
- DGFT provides a sector-wise list of Standard Input-Output Norms (SION) under which the exporters may choose to apply.

Benefits of Advance Authorization Scheme:-

- When duties paid on raw materials are saved, it automatically brings down the cost of the final export product.

About Directorate General of Foreign Trade:-

- It is an attached office of the **Ministry of Commerce and Industry**.
- **Headed by: Director General of Foreign Trade.**
- **HQ: New Delhi.**
- Inception:
- Keeping in line with liberalization and globalization and the overall objective of increasing exports, DGFT has since been assigned the **role of “facilitator”**.
- **Objective:** implementing the Foreign Trade Policy and promoting India’s exports.

Functions of DGFT:-

- It also **issues licenses to exporters**.
- It **monitors their corresponding obligations** through a network of 25 Regional Offices.
- All regional offices provide facilitation to exporters in regard to developments in International Trade i.e. WTO agreements, Rules of Origin and anti-dumping issues, etc.
- It **helps exporters in their import and export decisions** in an internationally dynamic environment.