

Monthly

prepp

Current Affairs

Notes

January 2023



Sinking Joshimath



Vagir, Navy's 5th Scorpene Class Submarine

Annual Status of Education Report

असर
ASER 2022 RURAL

Facilitated by PRATHAM

ASER Report 2022



Spot Bellied Eagle Owl In Seshachalam Forest

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GENERAL STUDIES 1

Important Geophysical Phenomenon such as earthquakes, Tsunami, Volcanic Activity etc

'Sinking' Joshimath

Priority: High



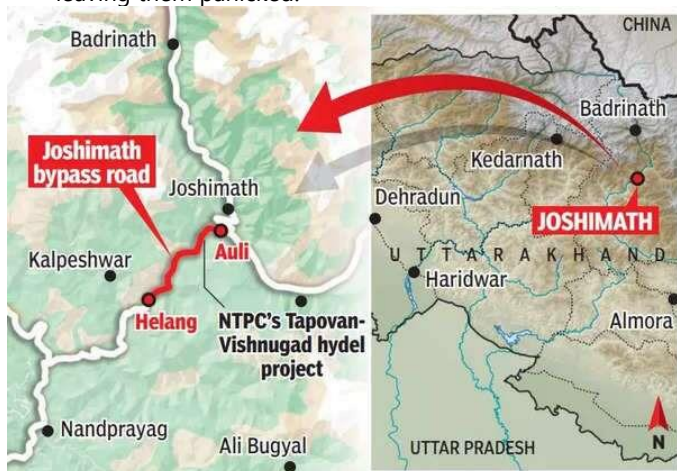
Primary Source: The Hindu

Prepp Prelims Booster: Sinking Joshimath

Prepp Mains Booster: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclones etc; GS 3 - Disaster and disaster management;

Context:

- Recently, residents of the holy town of Joshimath in Uttarakhand have been concerned after spotting cracks in the town's buildings and streets, which they have described as the town "gradually sinking".
- Due to earth subsidence that caused 561 homes in Joshimath to develop cracks, the Uttarakhand government prohibited development work in the area on January 5 in response to protests from the terrified inhabitants.
- Many families living in the area were shifted to a community hall and a primary school after their homes developed deep cracks, leaving them panicked.



Reasons

- Natural:** The Himalayas, the world's **youngest mountain range**, are prone to disasters by nature.
- It is **prone to earthquakes, strong erosion**, and its rivers deeply cut the rocks. In addition, these mountains are battered by thunderstorms and cloud bursts.
- The Alaknanda and Bhagirathi river systems drain the valleys of the Garhwal Himalayas, which are among of the Himalayan range's most **vulnerable terrain**.
- Changing course of rivers:** The most recent satellite data reveals that mountain streams have changed their courses and lengthened their channels, increasing the slope instability of a region that is already fragile. This demonstrates how big rainfall events had an impact.
- Fault lines:** Joshimath is situated on a fault line and close to two other ones, making it very vulnerable to sinking as a result of tectonic activity. The Vaikrita Thrust (VT), a geological fault line,

practically touches Joshimath. In addition, two significant geological faults, the Main Central Thrust (MCT) and Pandukeshwar Thrust (PT), are quite close to the town.

- As MCT passes beneath Helang, a tiny hamlet to the south of Joshimath Town, and contrasts with the rocks of the Garhwal, Joshimath Village is positioned within the influence zone of any tectonic activity on MCT.
- Increasing ground seepage of water:** Experts and the USDMA emphasised increasing ground seepage of water from the surface as a potential cause of sinking.
- Natural water drainage channels have been impeded by anthropogenic surface-level activities, forcing water to seek out other drainage pathways.
- Additionally, Joshimath does not have a sewage or wastewater disposal infrastructure.
- The seepage reduces the shear strength of the overloaded soil. This may be seen in the area around Sunil Village in Joshimath, where subsidence has caused the water lines to bend.
- Man-Made:** Dam construction is one of the factors contributing to an increase in flash floods in the area, according to the "Uttarakhand Disaster 2013" report by the National Institute of Disaster Management.
- According to a survey report by the Uttarakhand State Disaster Management Authority (USDMA) from August 2022, Joshimath's slope instability issues have gotten worse as a result of hasty construction that didn't take bearing capacity into account.
- A Helang bypass being built by the Border Roads Organization (BRO) will reduce the distance to the Badrinath shrine by about 30 kilometres.
- According to experts, this tectonic activity-related growth may result in more landslide.
- Residents blame NTPC's Tapovan-Vishnugad power project for the damage to the sacred town in Uttarakhand, demand proactive resettlement steps by government.

Suggested Measures

- Suspension of projects:** The region's hydroelectric and economic initiatives should be completely suspended, according to experts.
- Rehabilitation:** It is urgently necessary to move the population to a safer area before redesigning the town's planning to take into account the new variables and shifting geographical features.
- Drainage planning:** One of the most important aspects that needs to be researched and improved is drainage planning.
- Increasing amounts of trash are seeping into the soil and loosening it from inside, contributing to the city's inadequate drainage and sewer management.
- The state administration has requested the irrigation department to investigate the situation and develop a new drainage system design.
- Afforestation:** Replanting has also been advocated by experts as a way to preserve soil capacity in the area, particularly in susceptible places.

Seismic zones

- India has been categorized into four seismic zones by Indian seismologists: **Zone II, Zone III, Zone IV, and Zone V**.
- It can be seen that the whole Himalayan area, as well as the states of North-East India, Western and Northern Punjab,

Haryana, Uttar Pradesh, Delhi, and parts of Gujarat, are classified as zone V and IV, respectively.

- The northern lowlands and western coastal areas remain in the moderate danger zone, while a substantial portion of the peninsular region is in the low-risk zone.

What is the Mishra Commission on Joshimath?

- Joshimath, which is located in an area prone to landslides, was the site of the first occurrence of sinking, according to a report from the 1976 Mishra Commission.
- In its 1976 report, the Mishra Commission had issued a warning against significant development close to Joshimath.
- The Dhauliganga and Alaknanda rivers border the south and north of the town, which is situated on the middle slopes of a hill that is bounded on the west and east by the Karmanasa and Dhaknala streams.

National Disaster Management Authority

- The National Disaster Management Authority (NDMA) is the apex statutory body for disaster management.
- The National Disaster Management Authority (NDMA) was formally established on September 27, 2006, in compliance with the Disaster Management Act of 2005, with the Prime Minister as its Chairperson and nine additional members, one of whom was named as Vice-Chairperson.
- Its main goal is to coordinate emergency response, both natural and man-made, as well as to enhance disaster resiliency and crisis response capabilities.

Fault line

- Faulting is the upward or downward movement of rock along a crack from its initial position. A fault line is a long crack in the surface of the earth. Earthquakes usually occur along fault lines

Prime Minister's Office [PMO]

Prime Minister's Office [PMO] is a staffing agency assisting the Prime Minister in the efficient discharge of his role, functions, and responsibilities:

- PMO is an extra-constitutional body that has no mention in the Indian Constitution. However, it was given the status of a department under the Government of India Allocation of Business Rules, 1961.
- Since June 1977, it is known as Prime Minister's Office and is headed by the Secretary to the Prime Minister who is now designated as the Principal Secretary to the Prime Minister.

Way Forward

- The discussion must expand beyond repair to cover strategies for strengthening resilience in the most vulnerable places, including stronger early warning systems and higher-quality building, among other things. To save Joshimath, a coordinated effort between the government and civil organisations is required, assisted by military groups like the BRO.

What Is Causing The Winter Heat Wave In Europe?

Priority: Medium



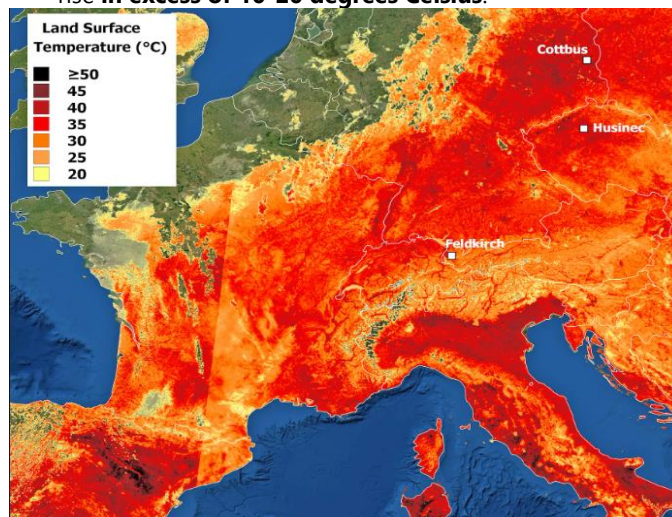
Primary Source: Indian Express

Prepp Prelims Booster: Heat dome

Prepp Mains Booster: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc. Environment

Context:

- Recently, the Washington Post had reported that **Europe had experienced record-high temperatures in January.**
- The unprecedented winter heat wave had caused temperatures to rise in excess of 10-20 degrees Celsius.



What does the report say?

- The Washington Post report had classified the situation as an extreme event.
- At least seven countries including **Poland, Denmark, the Czech Republic, the Netherlands, Belarus, Lithuania, and Latvia** experienced their hottest Januaries in history.
- The Winter temperatures had reached springtime levels according to climatologists.
- Korbielów, a village in Poland experienced a temperature of 19 degree Celsius in January 2023 (its usual temperature in May).
- The annual average temperature for the month of January in Korbielów is 18 degrees Celsius, indicating warming of 1 degree Celsius.
- Belarus** usually experiences near-zero temperatures during January. However, this January saw temperatures rise as high as 16.4 degrees Celsius.
- Scientists have attributed the rise in temperature to the formation of a heat dome in the area.

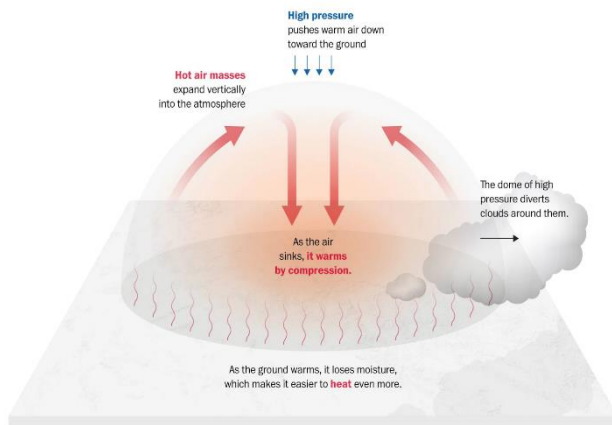
What is a heat dome?

- A **heat dome** is formed when an area of high-pressure traps warm air over a region for an extended period of time. It is similar to how the lid on a pot keeps the inside warm.
- The more time the heat is trapped, the more insolation warms the air causing the temperature to rise.
- Typically, heat domes have a lifetime of a few days but can extend for weeks causing deadly heat waves.
- High pressure causes warm air to sink, resulting in compression of the air. The air that has sunk is warm and dry.

What are the effects of the heat dome?

- The temperatures of homes rise unbearably high, leading to sudden fatalities.
- The trapping of heat can also **damage crops, dry out vegetation and result in droughts.**
- The sweltering heat wave will also lead to a **rise in energy demand**, especially electricity, leading to hikes in rates.

- The heat domes can also act as **fuel to wildfires**, which destroy a lot of land area in the US every year.



How

is the heat dome related to the jet stream?

- A **jet stream** is an area of fast-moving air high in the atmosphere.
- Studies suggest that a jet stream has a wave-like pattern moving from North to South and back.
- When the waves become longer and elongated, it causes them to become stationary.
- In this situation, the high-pressure area becomes stationary in an area and a heat dome is formed.
- Global warming due to climate change has affected the patterns of jet streams.
- As the temperature increases, the jet streams are expected to become more wavy and elongated resulting in more frequent extreme heat events.

What are the previous instances of heat domes being formed?

- In 2021, a heat dome over Western Canada and the USA resulted in deadly heat waves.
- Cities in the USA like Portland recorded temperatures of 46 degree Celsius while Washington saw it go as high as 49 degrees Celsius.
- Media reports have claimed that the extreme heat conditions have resulted in hundreds of deaths.
- A study had later revealed that the effects of this heat dome were increased by climate change and that it could become a once-in-ten-years event if temperatures were not restricted to within 2 degrees over pre-industrial levels.
- Research had discovered that dry soils in the Pacific Northwest, caused by rising temperatures, had allowed the heat to grow to an extreme level.
- In September 2022, another heat dome had settled over the USA leading to wildfires, drought, and extreme stress on the energy sector.

After A Brief Lull, Hawaii's Kilauea Volcano Erupts Again

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: World Geography

Prepp Mains Booster: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclones etc, World's physical geography.

Context:

- Recently, **Hawaii's Kilauea volcano erupted again**, spewing lava fountains and volcanic ash into the air, after a brief pause.
- According to a notice issued by the **United States Geological Service (GS)**, the eruption began on January 5, 2022 at the volcano's crater.
- Kilauea volcano is one of the most active on the planet. It last erupted in September 2021 and lasted 16 months.
- Kilauea had been erupting almost nonstop for more than a year before its most recent lull in December, and it was the site of a massive eruption in 2018 that destroyed hundreds of houses.
- Since November 27, when Mauna Loa erupted for the first time in 38 years, Hawaii has had two volcanoes spouting lava side by side.
- Both volcanoes ceased to erupt around the same time. The reason for both volcanoes erupting at the same time is still unknown.



What is a Volcano?

- A volcano is an opening in the earth's crust through which gases, molten rock materials (lava), ash, steam, and other substances are emitted during an eruption.
- Volcanic activity is an example of an endogenic process.
- Magma is the term used to describe the molten rocks and other materials found inside the earth. The asthenosphere, a weaker zone of the mantle, is typically the source of magma.
- This magma is known as lava once it has reached the earth's surface via a volcano's vent. As a result, lava is simply magma on the earth's surface.
- Volcanism refers to the process by which solid, liquid, and gaseous material escape from the earth's interior to the earth's surface.

About Kilauea Volcano

- Kilauea, also known as Mount Kilauea ("Much Spreading" in Hawaiian), is a volcano in Hawaii Volcanoes National Park on the southeastern coast of the US island of Hawaii.
- On the west and north, the slopes of Kilauea join those of the nearby volcano Mauna Loa.
- The Kilauea volcano is the most active of Hawaii's five volcanoes. It is a shield volcano, which is a type of volcano composed of fluid lava and distinguished by its massive lava flow.
- Kilauea has two active rift zones and a recently formed caldera, which is a massive depression formed when the ground surface collapses into an emptied magma chamber.

- Halemaumau is the name of a pit crater within Kilauea that contained a lava lake before erupting in multiple locations in 2018.

Current Eruption

- The agency issued a local advisory and warned the aviation industry about the dangers of airborne ash.
- As of now, communities are safe because the lava from the volcano is contained in Kilauea's crater, a closed section of Hawaii Volcanoes National Park.
- The USGS warned residents that the high levels of volcanic fumes could still be dangerous as they traveled downstream. Elements such as sulfur dioxide can react with the environment to form volcanic smog, which is hazardous to human health.
- Other hazards include Pele's hair, which are tiny strands of drifting lava, and other delicate volcanic particles that can irritate the skin and eyes.
- The Hawaiian Volcano Observatory noticed a light in photographs and later concluded that Kilauea had begun erupting.



Significance

- During the twin eruption, visitors to Hawaii Volcanoes National Park could see lava from both eruptions at the same time.
- It was an attractive eruption, and a lot of people got to see it, and it didn't take out any major infrastructure, and most importantly, it didn't affect anybody's life.
- Volcanic eruptions hold significant cultural and spiritual significance for native Hawaiians.
- During the Mauna Loa eruption, many Hawaiians participated in traditional practices such as singing, chanting, and dancing in honor of Pele, the god of fire and volcanoes.

Past Deep - Water Circulations Record Of The Indian Ocean

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Deep Water Circulation

Prepp Mains Booster: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclones, etc., geographical features and their location changes in critical geographical features (including water-bodies and ice-caps)

Context:

- A new study (Nature Communications) by a team of researchers from the Goa-based National Centre for Polar and Ocean Research and the School of Earth, Ocean and Atmospheric Sciences at Goa University has generated an authigenic neodymium isotope record from the Arabian Sea and reconstructed the Deep Water Circulation (DWC) record of the Indian Ocean for the period from 11.3 million years ago (Miocene era) to 1.98 million years ago (Pleistocene era).
- The discovery supports the so-called **Panama Closure Hypothesis** and suggests a broad impact of the late Miocene Central American Seaway closure on the evolution of **ocean deep water circulation**.



Why is the study important?

- Two distinct water bodies, Antarctic Bottom Water (AABW) in the Southern Ocean and northern component water in the North Atlantic, are assumed to have formed as a **result of tectonic shifts**.
- As a result, it is also assumed that there would have been significant changes in the **Deep Water Circulation (DWC)** across all of the seas, which would have affected the global climate through **ocean-atmosphere exchanges of heat and carbon dioxide**.
- But due to a **lack of sufficient data**, these formulations have not been evaluated.
- A few data are available, especially from the Pacific and Atlantic Oceans, which are close to the deep-water formation zones.
- They may not, therefore, accurately reflect the influence and change in deep water circulation.
- The Indian Ocean lacks any **significant deep-water formations** of its own. It simply serves as a host for AABW and NCW.
- In addition, the northern portions of the Indian Ocean are situated distant from oceanic seaways and deep-water formation zones near one of the terminal ends of the GOC.
- The northern Indian Ocean may be a good basin for this because of these particular characteristics.
- There haven't been many studies in the Indian Ocean that use iron-manganese crust records and the authigenic neodymium isotope composition of sediment cores to reconstruct historical deep water circulations.
- While authigenic neodymium isotope records are only accessible from the Bay of Bengal region, iron-manganese crusts are found at

greater depths and are only bathed by AABW, making them only acceptable for the reconstruction of AABW's history.

- However, they are helpless because the **Himalayan rivers** that flow into the Bay also carry a sizable amount of **neodymium particles**.
- The record demonstrates a **clear transition from a deep circulation system dominated by Pacific water** approximately nine million years ago to the beginning of a deep water circulation system **resembling modern conditions in the Indian Ocean during the Miocene-Pliocene transition**, which included Antarctic bottom water and northern component water (about six million years ago).

Significance

- The discovery supports the so-called **Panama Closure Hypothesis** and suggests a broad impact of the late Miocene Central American Seaway **closure on the evolution of ocean deep water circulation**.
- The study is highly significant since it provides unequivocal proof supporting the theory that **closing the gap between North and South America** led to the evolution of the modern form of GOC.

What is Panama Hypothesis?

- The "Panama Hypothesis" states that the gradual closure of the Panama Seaway, between 13 million years ago (13 Ma) and 2.6 Ma, led to decreased mixing of Atlantic and Pacific water Masses.
- The formation of North Atlantic Deep water and strengthening of the Atlantic thermohaline circulation, increased temperatures and evaporation in the North Atlantic, increased precipitation in Northern Hemisphere (NH) high latitudes, culminating in the intensification of Northern Hemisphere Glaciation (NHG) during the Pliocene, 3.2-2.7 Ma.

What is Atlantic Meridional Overturning Circulation (AMOC)?

- The Atlantic Meridional Overturning Circulation (AMOC) is a large system of ocean currents that carry **warm water from the tropics** northwards into the **North Atlantic**.

Significance:

- **Heat distribution:** The management of ocean heat distribution and atmospheric carbon dioxide levels by the global overturning circulation, which involves the transfer of cold, deep waters toward the equator and warm, near-surface waters toward the pole, is essential for maintaining a stable global climate.
- **Nutrients:** This circulation brings warmth to various parts of the globe and also carries nutrients necessary to sustain ocean life.
- The circulation process starts when **warm surface water** travels toward the poles (**like the Gulf Stream in the North Atlantic**), where it cools and generates sea ice. Salt builds up in the ocean water as this ice forms.
- The water, which has a lot of salt in it, lowers and is dragged southward in the depths below as a result of its denser state.
- The cycle is eventually completed by **upwelling**, a process in which the water is drawn back up towards the surface and warms.
- Both the global conveyor belt and the AMOC's whole circulation cycle **move very slowly**.
- A parcel of water (any particular cubic metre) takes the belt's estimated 1,000 years to traverse in full.

Rare Plateau Found By Ari Team Could Hold Clues To Plant Survival And Climate Change

Priority: High



Primary Source: Indian Express

Prepp Prelims Booster: Indian Geography

Prepp Mains Booster: Indian Physical Geography

Context:

- Recently, scientists at the **Agharkar Research Institute (ARI) in Pune** have **discovered a rare low-altitude basalt plateau in the Western Ghats**, a significant discovery that could hold clues to **how plant species around the world will cope with climate change**.
- Scientists who have been studying plateau formations and plant species in the Western Ghats for decades were unaware of the presence of the low-altitude plateau, an isolated flat-topped steep hill, found at Manjare village in Thane district.

Key Highlights

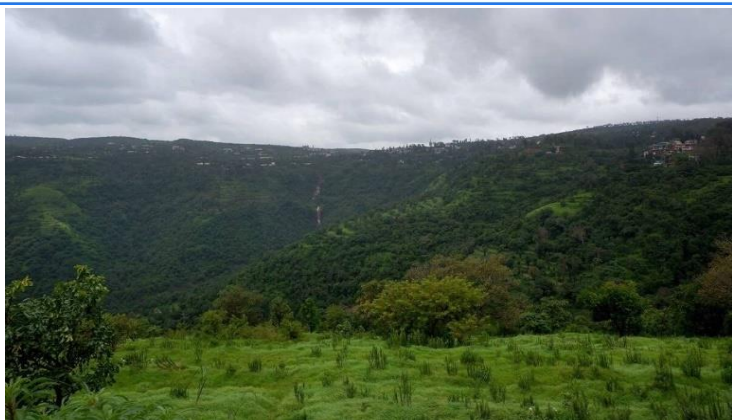
- A rare low-altitude basalt plateau containing 76 species of plants and shrubs from 24 different families discovered in Thane region of the Western Ghats—one of India's four global biodiversity hotspots—could serve as a repository of information for species interactions.
- It can aid in the study of the effects of climate change on species survival and raise awareness of the conservation needs of rock outcrops and their immense biodiversity value in the global context.

What is a Plateau?

- A plateau is a raised flat area of land. It is a flat-topped table land that rises above the surrounding terrain.
- Plateaus can range in height from a few hundred meters to several thousand meters. Plateaus are similar to mountains in that they can be young or ancient.
- Generally speaking, plateaus are a highly widespread type of landform and may be found worldwide.
- The most common example of plateaus includes the East African Plateau in Kenya, Tanzania, and Uganda, as well as Australia's Western Plateau.
- The Tibet Plateau is the world's highest plateau, rising 4,000 to 6,000 meters above the mean sea level.

About Western Ghats

- The Western Ghats are one of four global biodiversity hotspots in India, and the **Agharkar Research Institute (ARI) in Pune** has been studying its biodiversity, particularly its rock outcrops, for over a decade.
- Plateaus are dominant landscapes in the Western Ghats, and they are significant due to the predominance of endemic species.
- They are classified as a type of rock outcrop and provide a unique and challenging environment for species to adapt to.
- These outcrops have seasonal water availability, limited soil and nutrients, and are therefore ideal laboratories for studying the effects of climate change on species survival.
- Plateaus are thus a valuable source of information on how species can survive in harsh environments.



What is the significance?

- The ARI team, led by Dr. Mandar Datar, recently discovered a rare low-altitude basalt plateau in Manjare village, Thane district.
- This is the fourth type of plateau identified in the region; **the previous three are laterites at high and low altitudes, and basalt at high altitudes.**
- The study of plateaus in the Western Ghats is crucial. These are open and mostly arid habitats, and the survival of plant species here is an important repository of information on how vegetation can survive in high-temperature conditions that are likely to occur as a result of climate change.
- The team documented 76 plant and shrub species from 24 different families while surveying the plateau.
- It is believed to be a significant discovery because the plateau shares vegetation with the three other rock outcrops while also harboring a few unique species.
- This creates a one-of-a-kind model system for studying species interactions under different environmental conditions.

Conclusion

The ARI team is also investigating whether genetics plays a role in plant survival in harsh environments. Hence information about these plateaus and plants is critical.

Indian Heritage And Culture

The Beginning Of India's Cultural Renaissance

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Art and culture

Prepp Mains Booster: Indian Heritage and Culture

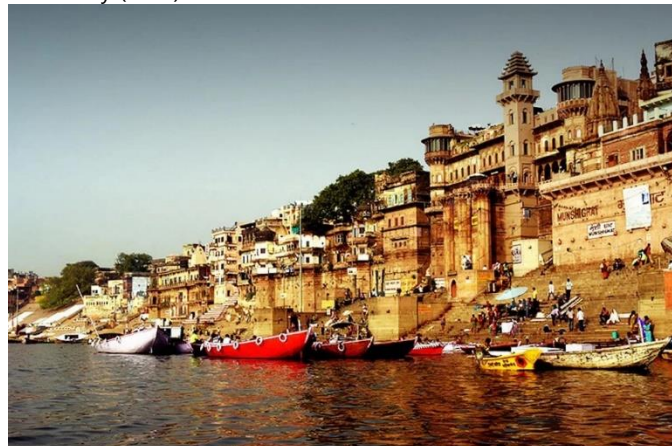
Context:

- In the month of November, Prime Minister Narendra Modi had formally inaugurated the month-long **Kashi-Tamil Sangamam in Varanasi, Uttar Pradesh.**
- The Kashi-Tamil Sangamam was organized in Varanasi with the goal of revitalizing cultural ties between Varanasi and Tamil Nadu.
- The month-long **Kashi Tamil Sangamam**, which celebrated Tamil culture, heralded a new era in which **ancient Indian traditions** coexist and are revitalized with the help of modern practices to contribute to **cultural and economic growth.**
- It provided a rich cultural context for India's mission to become a developed country by 2047.

- It is a central government initiative as part of the '**Azadi ka Amrit Mahotsav**'. The event carried on the tradition of **Ek Bharat Shreshtha Bharat.**

What is Kashi Tamil Sangamam?

- Kashi Tamil Sangamam celebrates many aspects of India's historical and civilisational connection.
- The overarching goal is to bring the two knowledge and cultural traditions (of the North and South) closer together, to create an understanding of our shared heritage, and to strengthen the people-to-people bond between the regions.
- It is being organized by the Ministry of Education in collaboration with other ministries such as Culture, Textiles, Railways, Tourism, Food Processing, Information and Broadcasting, and the Government of Uttar Pradesh.
- The effort is in line with the National Education Policy (NEP) 2020's emphasis on integrating the wealth of Indian Knowledge Systems with modern knowledge systems.
- The program is implemented by IIT Madras and Banaras Hindu University (BHU).



What is the ancient link?

- Kashi, one of the world's oldest living cities, and Tamil Nadu, where people proudly speak the world's oldest language, are towering pillars of ancient Indian civilization.
- Both have long standing traditions in the arts, music, craftsmanship, philosophy, spirituality, and literature.
- For decades after independence, few people in north India were aware of the Tamil saints who lived in Kashi and enhanced its spiritual aura, or the tradition of taking holy Ganga jal to the Rameshwaram temple, or the Kashi Yatra ritual in some Tamil weddings.
- Similarly, many Tamil Nadu residents were unfamiliar with the ancient ties that existed between the two cultures.

The focus on textiles

- The government organized a 'textiles conclave' during the Sangamam. Several eminent textile industry personalities from Tamil Nadu and Kashi shared their experiences and ideas at a session on Amrit Kaal Vision 2047.
- They were excited and confident about the government's vision of increasing textile exports to \$100 billion by 2030 and creating new opportunities in the sector.

Importance of Textile Sector

- The textiles sector, which has a high potential for job creation, is an important component of our goal of becoming a developed country by 2047.
- The textiles market in India is expected to grow at a CAGR of 12-13% to nearly \$2 trillion by 2047, with double-digit growth in exports.
- The **5F formula (farm, fiber, fabric, fashion, foreign)** will accelerate growth in the sector and transform the lives of farmers and weavers. Kashi and Tamil Nadu will play critical roles in realizing this vision.
- The government is also promoting technical textiles, which have enormous potential.
- These products include functional textiles used in vehicles, protective clothing, bulletproof vests, and construction.
- Man-made fiber, which is another focus area, has significant growth and export potential.
- The Sangamam was consistent with the policies of this administration. These policies prioritize accelerating development with a focus on the welfare of the poorest of the poor, love for Indian culture, and promotion of local industries and handicrafts.

Role of Women and Womens Organizations

Women Seek Scrapping Of Section 197 Of CrPC And AFSPA In Assam

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: AFSPA

Prepp Mains Booster: Security challenges and their management in border areas - linkages of organized crime with terrorism; Role of women and women's organization,

Why in the news?

- Recently, the women's group, **Women in Governance Network (or WinG)** demanded the repeal of Section 197 of the Code of Criminal Procedure (CrPC) along with the "draconian" Armed Forces (Special Powers) Act of 1958.
- The demand follows an order of the Gauhati High Court to the Centre to compensate the families of two eastern Assam youths who were killed by the security forces six years ago after being branded as 'extremists'.

What is the issue?

- The WinG claims that **Section 197** has not received as much attention as the AFSPA.
- It says that no court shall "take cognizance of any offence alleged to have been committed by any member of the armed forces while acting or purporting to act in the discharge of his official duty, except with the prior sanction of the Central government.
- Members of the women's group stated that "unjust laws" must not prevent the registration of all cases, and that the necessity of sanction for prosecution under Section 197 should be repealed in situations of custodial violence and other human rights breaches.
- Because of specific laws that grant immunity to members of the armed forces, there are numerous instances of youths in Northeast India being killed in the name of counter-insurgency operations.

What is AFSPA?

- The British enacted the Act in its original version in 1942 in response to the **Quit India movement**.

- Prime Minister Jawaharlal Nehru made the decision to keep the Act, which had originally been introduced as an ordinance before being **notified as an Act in 1958, when India gained independence**.
- During the **years of insurgency**, AFSPA was implemented on the Northeastern states, Jammu & Kashmir, and Punjab.
- It was first repealed in the state of Punjab, then in Tripura and Meghalaya.
- It is retained in some parts of **Assam, Manipur, Nagaland, and Arunachal Pradesh**.
- After a state or parts of a state are deemed "**disturbed**" under **Section 3** of the AFSPA, the Center or the Governor of the state may impose exceptional powers for the armed forces on the state or part of the state.
- The Act defines these as areas that are "**disturbed or dangerous condition that the use of armed forces in aid of the civil power is necessary**".
- In regions where militancy has been widespread, AFSPA has been deployed.

Need

- The Army considers that the AFSPA is extremely necessary to **suppress insurgency and preserve** the country's frontiers.
- Security forces cannot function in the face of a vicious insurgency without the protection of the AFSPA.
- Without it, there would be concern, which would benefit the militants.
- The need to safeguard the army's **morale and integrity** is also cited by army leaders as a reason for not investigating claims against army personnel.

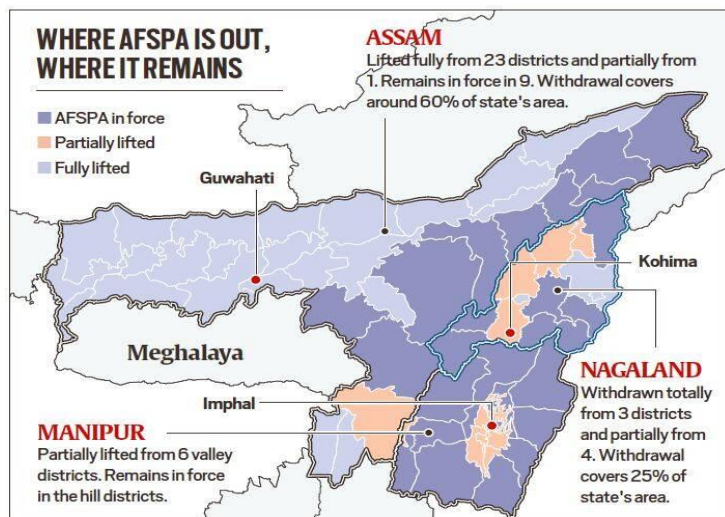
Criticisms

- The Act, which has been dubbed **draconian**, offers the military forces sweeping powers.
- It allows them to **open fire, even causing death**, against any person in contravention to the law or carrying arms and ammunition.
- They are given the authority to examine properties without a warrant and make warrantless arrests of anyone based on "**reasonable suspicion**."
- The Act also grants complete impunity to security personnel involved in such operations.
- They cannot be prosecuted or subjected to legal action without the Center's prior consent.
- The **Jeevan Reddy Committee**, established in 2004, has advocated for the law's total repeal. The body declared that "The Act is a sign of hatred, oppression, and a tool of high handedness."

Supreme Court stand on AFSPA

- The Supreme Court issued a sharp rebuke to the government in 2016 about the continuation of AFSPA.
- The SC ruling made it clear that it is incorrect to assume that the Act gives security forces unlimited powers.
- The Court ruled on a petition filed by the Extra Judicial Execution Victims Families Association (EEVFAM), a platform for people in Manipur whose relatives are alleged to have been killed by security forces, and held that the Act does not give army personnel in anti-insurgency operations a blanket immunity.

- Due process must be followed in civilian complaints reported from areas covered by the AFSPA, the Court held.
- According to the top court, the continuation of the Act in any area for an extended period of time symbolises "failure of the civil administration and the armed forces."



Conclusion

- It is true that significant strides have been made in finding a political solution to some of the complex conflicts in the region, including the signing of peace agreements, the implementation of cease-fires, and the development of sub-regional administrative structures.
- A necessary stage in the process will be the elimination of AFSPA from the entire region. But regardless of the security situation, the AFSPA shouldn't have given the armed forces such impunity.

Population And Associated Issues

In Landmark Shift, China's Population Declines In 2022

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: total fertility rate (TFR)

Prepp Mains Booster: Population and associated issues;

Context:

- This article is based on decline in Population of china. China's population **fell last year for the first time in six decades**, a historic turn that is expected to mark the start of a long period of decline in its citizen numbers with **profound implications for its economy and the world**.
- China's National Bureau of Statistics reported a drop of roughly 850,000 people for a population of 1.41175 billion in 2022, marking the **first decline since 1961**, the last year of China's Great Famine.
- India will overtake China as the world's most populous nation in 2023, according to a U.N. report released last year.

Highlights

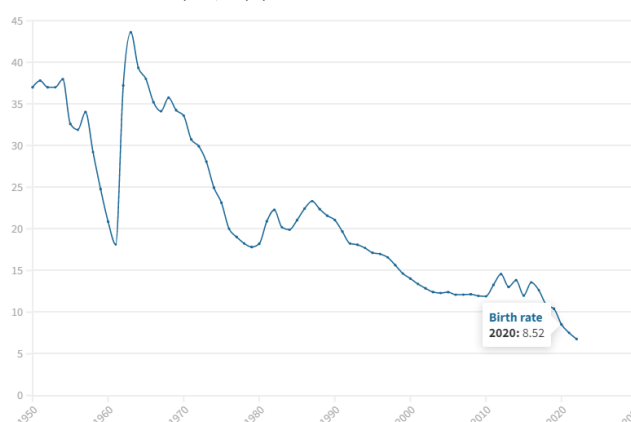
- The number of births in China was 9.56 million, a more than 10% drop from 2021, while the number of deaths was 10.41 million.
- The last drop in population six decades ago was a result of a devastating famine caused by Mao Zedong's failed **"Great Leap Forward" campaign**, the **current trends** reflect **changing social values in China** as families choose to have fewer children.

Reasons

- In a government poll conducted at the time the two-child policy was implemented, it was discovered that 70% of respondents gave financial justifications for not having many children, including the **expense of housing, healthcare, and education**.

China's birth rate

Total number of live births per 1,000 population



Source: National Bureau of Statistics • The Hindu Graphics

Impact

- The recent figures highlighted the difficulties the nation confronts as a result of an **aging population** and a **declining labor force**.
- At the end of 2022, there were 875.56 million people in the working age range (16–59), or 62% down from over 950 million in 2010.
- 280 million people, or 19.8% of the total population, were above the age of 60, up from 249 million in 2010.
- If there is a **large population that's able to work and earn**, there will be greater tax revenues and savings potential from the **generation of incomes**.
- As these are directed to **finance investments**, a virtuous cycle of growth is unleashed — as indeed it happened in China.
- However, the cycle has begun to turn around, and by 2045, it is expected that China's proportion of the working-age population would fall below 50%.
- The aging population will not only reduce tax revenues but also **increase the expenditure** of the government on social security.

What are the steps taken by China to address the issue?

- Government initiatives to increase birth rates over the past ten years—a U-turn from years of a strict "one-child policy"—have fallen short of their goals.
- Beijing's family planning agency initially permitted couples to have a **third child in 2021**.
- The action was taken five years after the introduction of the "two-child policy" to increase birth rates.

India

- TFR was as high as 5.8 for China and 5.7 for India in 1950. In the past thirty years, India's TFR has decreased significantly. (The total fertility rate (TFR) is the number of babies an average woman bears over her lifetime)
- It decreased from 3.4 to 2 between 1992–1993 and 2019–21; the decline was particularly notable in rural areas.

- Fertility rates in rural India have just recently started to **decline to replacement levels**.
- The latter has to do with the expansion of education, as well as, maybe, farm mechanization and fragmentation of landholding.
- The **need for big families** to farm the land has **decreased** due to smaller holdings and the need for less labor in agricultural operations.

India's opportunity

- Even with declining fertility rates, it is predicted that India's population will **only start to drop after reaching 1.7 billion in around 40 years**.
- The working-age population is more significant; its proportion of the total population barely **exceeded 50% in 2007 and will peak at 57%** by the middle of the 2030s.
- Overall, India has a window of opportunity to enjoy its **"demographic dividend" well into the 2040s**, much like China did from the late 1980s to up until 2015.

About Great Leap Forward (GLF) Campaign

- The Great Leap Forward (GLF) campaign, which was launched in 1958, sought to industrialize the nation on a grand scale.
- People were encouraged to set up industries in their backyards.
- Communes were formed in rural regions.
- The Commune system allowed for collective land cultivation.
- In 1958, there were 26,000 communes covering almost all the farm population.

One-child policy

- The one-child policy, which was put into place in 1978 and limited most couples to having only one child through a system of fines for violators and even forced abortions, is credited with preventing more than 400 million births, which helped keep the population below 1.357 billion as of the 2013 census.

GENERAL STUDIES 2

Indian Constitution, Parliament and State Legislatures, Judiciary, Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein. Separation of powers between various organs; dispute redressal mechanisms and institutions. Salient features of the Representation of People's Act.

Disqualification of MPs

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Lok Sabha Secretariat, Article 102, disqualification of MPs, Representation of People Act (1951)

Prepp Mains Booster: Indian Constitution, Parliament and state legislatures

Context:

- Recently, the **Lok Sabha Secretariat** had disqualified the Member of the Lok Sabha from Lakshadweep, Mohammed Faizal after he was jailed in an attempt-to-murder case.
- **Article 102** of the Constitution establishes the conditions to disqualify a member of the Lok Sabha or the Rajya Sabha.



What does the Constitution say about the disqualification of MPs?

- **Article 102** of the Indian Constitution governs the disqualification of members.
- According to the article, a member of either House of Parliament can be disqualified if they violate the rules set down under it.
- The conditions that can lead to disqualification under Art 102(1) include:
 - If he/she is found to be holding an **office of profit** with the Union or State Government that has not been sanctioned within parliamentary law.
 - He/she is found **mentally ill** by a competent court.
 - If he/she is declared to be an **undischarged insolvent**.
 - If it is found that the MP is **not an Indian Citizen**, has **surrendered his/her citizenship** or has **pledged allegiance to another country**.
 - If he/she has been **declared unfit by any other law made by Parliament**.
- **Art 102(2)** mentions that a person will be disqualified from holding the post of Member of Parliament if he is disqualified under the **Tenth schedule**.

How does the Representation of People Act(1951) deal with the disqualification of MPs?

- **The Representation of People Act (1951)** was passed in accordance with **Article 102 (1) (e)**, which grants Parliament the authority to create laws regarding the disqualification of MPs.
- According to the Act, an MP can be disqualified for the following reasons:
 - He/she should not have been **convicted of election-related offences or election-related corruption**.
 - The MP should not have been **convicted of a crime that carries a sentence of more than 2 years imprisonment**. However, imprisonment under **preventive detention** is not considered here.
 - He/she must not have **missed the deadline to file an election expenses report**.
 - He/she must have **no vested interest in a government contract, work or service**.
 - He/she may not be a **serving director or managing agent in a corporation of which at least 25% is owned by the government**.
 - He/she must not have been **dismissed from government service for corruption or treason**.
 - The MP must not have been **convicted for the crime of inciting communal hatred**.

- He/she should not have been **punished for practising or propagating social crimes** such as **untouchability, dowry, sati** etc.

What are the other ways an MP can be disqualified?

- The **Anti-Defection Act** was included in the Constitution through the **52nd Amendment**.
- It sets down the conditions for the disqualification of MPs on the grounds of defection.
- According to the Act, a member of Parliament can be disqualified if he/she:
 - **Voluntarily withdraws from the political party** on whose ticket they contested the election.
 - **Votes or abstains** from voting in Parliament in **defiance of the party's directives or whips**.
 - Was **elected independently** and then **joins a political party**.
 - Was elected as a **nominated member**, and joined a political party after the **six-month period** has expired.

Who is the final authority on Cases of disqualification of MPs?

- According to **Article 103, the President is the final authority** on matters relating to the disqualification of Members of Parliament under the **provisions of Article 102(1)**.
- The **President should take the opinion of the Election Commission** and act accordingly in such cases.
- Under the provisions relating to the Anti-Defection Act, the matter is decided by the **Speaker or Chairman of the House**.
- Disqualified MPs can challenge the decisions of disqualification in the **High Courts**.
- The **Secretariat** of the respective House is responsible for issuing the notification stating that the member is disqualified from membership of the House. It is then published in the official **Gazette**.
- The Supreme Court had in **Lily Thomas vs Union of India** declared that any MP or MLA convicted of a crime with a sentence of more than two years **immediately loses his membership** of the House.

Parliamentary Secretariat Lok Sabha Secretariat

- The Lok Sabha Secretariat, a separate body within the Lok Sabha advises the Speaker of the Lok Sabha.
- The **Secretary-General** (whose pay grade, position, and status are comparable to those of the Cabinet Secretary), Additional Secretary, Joint Secretary, and other Secretariat staff support the Speaker in carrying out his constitutional and statutory duties.
- The Secretary General holds office until the age of 60.
- His or her actions cannot be debated or criticised either inside or outside the Lok Sabha, and the only person to whom he or she is answerable is the Speaker.
- He calls the House of Representatives into session without the Speaker present and authenticates measures on behalf of the Indian President.

Rajya Sabha Secretariat

- The Rajya Sabha Secretariat was constituted under the provisions of **Article 98** of the Constitution.

- The Rajya Sabha Secretariat is supervised and managed by the Rajya Sabha Chairman.
- It is in charge of offering the Council of States secretarial support and assistance.
- The Secretariat is in charge of handling all amenities available to Rajya Sabha Members.
- It provides what is needed for the various parliamentary committees.
- The institution is in charge of preparing research and reference materials and publishing diverse works, all personnel issues and creating and disseminating a record of the daily process.

The Values Of Local Self-Governance

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Important aspects of governance, transparency, and accountability; Functions and responsibilities of the Union and the States, Devolution of powers and finances up to local levels, and challenges therein

Context:

- In December 1992, Parliament passed the 73rd and 74th constitutional amendments, which instituted panchayats and municipalities
- As we celebrate the 30th anniversary of these reforms.
- Mathew Idiculla, a legal consultant and a visiting faculty at Azim Premji University, Bengaluru has written that debates on federalism should include more extensive discussions on how power should be divided and shared between governments at the Union, State, and local levels.

The Normative basis for local self-government

- Local self-governance is associated with the concept of subsidiarity.
- **Efficiency:** Since governments with smaller jurisdictions can deliver services in accordance with the wishes of their citizens, it enables the efficient supply of public goods.
- **Accessibility:** Since more accessible governments make it easier for citizens to participate in public affairs, it supports a deeper democracy.
- **Autonomy:** The 73rd and 74th amendments mandate that States grant municipalities and panchayats the authority "to allow them to act as institutions of self-government," including the power to formulate and carry out plans and programs for social and economic development.
- **Participatory:** Additionally, they establish participatory forums like ward committees in municipal corporations and gram sabhas in panchayats, as well as frequent local elections and seat reservations for women, members of Scheduled Castes, and Scheduled Tribes.
- Thus, strengthening local democracy and delegating tasks to achieve the goals of economic development and social fairness are the basic values that the amendments seek to ingrain.
- These normative ideals, which have at least partially found expression in the Constitution, should take center stage in discussions about the duties and roles of municipal governments.

Three Tier Government



Concerns

- **Limited autonomy:** Despite the promise of local self-governance made by the constitution, local governments, particularly municipalities, only have a limited amount of autonomy and power.
- Their weakness may be attributed to the 74th Amendment's inherent restrictions as well as the State governments' and courts' failure to apply and apply the amendment in accordance with language and spirit.
- **Autonomy on imposition of local taxes:** There are restrictions, such as the latitude granted to the States in terms of the delegation of authority and the imposition of local taxes.
- **Reluctance of state governments:** Since cities are economic powerhouses and controlling urban land is crucial for funding State governments and political parties, state governments are reluctant to apply the 74th amendment.
- **Narrow interpretation by judiciary:** The 74th Amendment has also been narrowly read by the courts, allowing State governments to continue to maintain power over cities.

Bihar Municipal (Amendment) Act, 2021

- It is ground-breaking in this regard that the Patna High Court has ruled that some portions of the Bihar Municipal (Amendment) Act, 2021 are unconstitutional.
- The Directorate of Municipal Administration, which is under the control of the State government, now has the authority to appoint Grade C and D personnel for municipalities instead of the Empowered Standing Committee of the municipality, which had such authority before the 2021 change.
- The **recentralization of authority and the undermining of self-governance**, according to the court, are **"incompatible with the idea, intent, and design of the constitutional amendment."**
- This verdict is unique since it compared state municipal legislation to the wording and spirit of the 74th Amendment and might potentially change how local governments are positioned within India's federal system.
- India's politics, economy, and culture are all becoming more centralised, and federalism is once again being emphasised.
- This declaration of State rights, however, barely qualifies as a normative claim founded on values.

Way forward

- Since local governments form an essential component of the federal framework of the Constitution, both normatively and structurally, arguments on federalism should cover more ground regarding how power should be allocated and shared among the Union, States, and local governments.

Urban Local Bodies-Historical Background

- The first municipal corporation in India was set up at Madras in 1687, and in 1726 the municipal corporations were set up in Bombay and Calcutta.
- In 1870, Lord Mayo's resolution for financial decentralisation paved the way for local self-government.
- The famous resolution by Lord Ripon, which is also called the Magna Carta of Local Self Government, was issued by Lord Ripon's Government on 18th May, 1882.
- By the Government of India Act 1919, the local self-government was transferred to ministers responsible to new provincial legislatures.
- The Municipal Act of 1919 and District Municipalities Act of 1920 in Madras, gave powers to the Councils to elect their own chairmen and frame their own budgets.
- Another Act passed in 1925 made the city municipalities, with a population exceeding one lakh wholly elective.
- Government of India Act, 1935 introduced provincial autonomy and local self-government was declared as a provincial subject.

Growing Mistrust Between Governor's Office And Chief Ministers

Priority: High



Primary Source: Indian Express

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Polity and Governance

Context:

- The article discusses **the growing mistrust between the governor's office and chief ministers of opposition-led governments**, as well as the **governor's role in parliamentary democracy**.
- According to convention, the governor may not change the address sent by the government.
- **The Tamil Nadu incident** demonstrates the growing mistrust between the governor's office and chief ministers of opposition-led governments.

Background

- The conflict arose when the Governor made changes to the prepared speech he read in the Assembly.
- The Governor's address was cut short because it included references to BR Ambedkar, Dravidian leaders, the Dravidian model of governance, and the state of law and order in Tamil Nadu.
- As a result, the TN CM proposed a resolution requiring that only the original printed speech in Tamil be recorded.
- The Governor responded in unprecedented fashion by staging a walkout from the House in protest even before the national anthem was played.
- Previously, governors of West Bengal (1965), Rajasthan (1967), Punjab (1969), Tripura (2017), and Kerala (2018) refused to read the government's address.

Role of Governor

- The Governor is the state's chief executive officer. He acts as a representative of the union government.
- The Governor has executive power over the state, and all executive actions must be made in his or her name.
- The constitution's Seventh Amendment, passed in 1956, allowed for the appointment of the same individual as Governor of two or more states.
- The governor is an essential member of the legislature. He convenes it and dissolves it.
- He has the right to speak at the first session of the House under Article 176(2)(b). This address is a crucial part of constitutional symbolism.
- The governors have no authority to call the assembly into session, according to the Constitution.
- Parliamentary democracy being the basic structure of our Constitution, this is the prerogative of the Cabinet though Article 174 does say that the governor from time to time summons the assembly to meet at such time and place "he thinks fit".



Observations by the Judiciary

- **Telangana:** The Telangana governor was denied the opportunity to address the Telangana assembly in 2022.
- **Rajasthan:** The Rajasthan High Court ruled in *Yogender Singh Handa v. State of Rajasthan* (1967) that some portion of the governor's address was sufficient to deem the entire address read.
- **West Bengal:** Governor Padmaja Naidu left the assembly without delivering the ceremonial address on February 8, 1965, after her request for "silence, silence, permit me to address" was ignored. The Speaker took the chair, announced that the governor had been pleased to make her speech, and placed a copy of her speech on the House table.
- **The Calcutta High Court (1966)** ruled that the governor cannot refuse to deliver his address and thus refuse to fulfill his constitutional duty, implying that the address required by Article 176 is mandatory.
 - However, the HC also held that when the governor walks out of the House after laying down the address on the table of the House, it is only an irregularity, not an illegality.
 - As a result, his actions are not questionable under Article 212, which states that the legitimacy of House proceedings cannot be challenged on the basis of a minor procedural irregularity.
 - The Calcutta High Court also held (in another case) that the governor has the authority to delete or not read irrelevant or non-government policy portions.

Governor's Deletion or Addition to his Address

- **Constitutional Crisis:** Governors editing or deleting the speech may cause a constitutional crisis. The chief minister may refuse to defend the address in his response at the end of the debate on the governor's address, and with the chief minister commanding a majority, the House may reject the resolution on the governor's speech.
- When the governor's/address is defeated, it is considered a no-confidence motion, and the chief minister or prime minister, as the case may be, must resign.
 - Such a resignation for something that the government did not include in the ceremonial address but that the governor had said on its own would be not only grossly unjust and unethical, but also completely undemocratic.
- In 1967, the Chief Minister of Punjab resigned after the governor's address was defeated on the House floor.
- When a resolution thanking the governor was defeated in the UP assembly, the state's chief minister (C B Gupta) was forced to resign in similar circumstances.

Way Forward

- Chief ministers too, must exercise caution and refrain from including irrelevant facts or statements that have little to do with the state government's jurisdiction and the business that the House has to take up for deliberation during that particular session.
- The governor reigns but does not rule. His primary role as a sagacious counsellor is "to be consulted, to warn and to encourage".
- As constitutional functionaries, governors and chief ministers must respect and cooperate with one another.

Issues relating to the development and management of Social Sector/Services relating to Health, Education, Human Resources.

Office Of Registrar General Of India Following 'Obsolete' Criteria To Define Scheduled Tribes

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Scheduled Tribes

Prepp Mains Booster: Indian Constitution - features and provisions, mechanisms, laws, institutions, and bodies constituted for the protection and betterment of vulnerable sections.

Why in the news?

- Recently, The Hindu newspaper reported that the **Office of the Registrar General of India** was following outdated criteria set by the **Lokur Committee** sixty years ago to define any new community as a **scheduled tribe**.
- It has been **mandatory** to secure the approval of the Office of the RGI before any community can be added to the ST list.
- **Article 342** of the Constitution deals with Scheduled Tribes.



What are Scheduled Tribes?

- The definition of Scheduled Tribes has been retained from the 1931 Census.
- According to the National Commission for Scheduled Tribes, a scheduled tribe is one that is **primitive, geographically isolated, shy, and socially, educationally & economically backward**.
- These traits distinguish Scheduled Tribe communities from other communities.
- Article 366(25)** and **Article 342** in the Constitution define the Scheduled Tribes.

How are communities added to the List?

- The recommendation to include tribes in the ST list comes from the relevant **State governments**, which is then forwarded to the **Tribal Affairs Ministry**, which reviews and sends them to the **Registrar General of India** for approval. This is the first step in the inclusion of tribes in the ST list.
- Before the list is given to the **Cabinet** for a final decision, the **National Commission for Scheduled Tribes** must first approve it.
- The **Constitution** does not define the criteria for recognition of Scheduled Tribes and hence the definition contained in the 1931 Census was used in the initial years after independence.
- The **Fifth Schedule** of the Constitution lays out provisions for the Administration and Control of Scheduled Areas and Scheduled Tribes in states other than Assam, Meghalaya, Tripura, and Mizoram.
- The **Sixth Schedule** deals with the administration of the tribal areas in Assam, Meghalaya, Tripura, and Mizoram.

What are the criteria followed by the RGI in approving inclusions?

- According to the **Office of the RGI**, the **report of the Advisory Committee on the revision of the lists of Scheduled Castes and Scheduled Tribes (Lokur Committee)** lists out the **criteria** for approving inclusions in the ST list.
- The criteria set out by the Lokur committee are:
 - Primitiveness**
 - Geographical isolation**
 - Shyness**
 - Backwardness.**
- In 2014, the **Government Task Force on the scheduling of tribes** concluded that the **existing criteria had become obsolete amid the transition and acculturation** of the tribes with the mainstream community.

- It was also noted that the use of terms like **primitive and primitiveness indicted a discriminatory attitude** towards the tribal community.
- The classical method was based on a rigid approach that treated these communities as **inferior**.
- The committee also questioned the **continued use of geographical isolation** as a criterion considering the pace of infrastructure development throughout the country.
- The committee further **recommended an overhaul** of the present criteria and procedure which was approved by the Ministry of Tribal Affairs.

What are the proposed criteria?

- The new criteria for determining whether a community belongs to the scheduled tribes are:
 - Socio-economic**, especially **educational, backwardness**, relative to the rest of the State's population
 - Historical geographical isolation** that may or may not exist now
 - Distinct dialect or language**
 - Existence of a core culture** with respect to the life cycle, marriage, music, dance, art, and folklore
 - Endogamy** or, in the event of exogamy, a marriage that is largely between STs
- This criterion is not used to determine whether an individual belongs to the ST community.
- The draft committee also noted that communities that lead a **Hindu lifestyle** were not ineligible unlike earlier.
- The committee also recommended considering the population of the concerned community with the total population of scheduled tribes in the state.
- All criteria were to be considered holistically and **no specific condition took priority** over the others.
- There was a lack of clarity over the status of the proposal as the Office of the RGI accepted that it was continuing the use of the old criteria despite recommendations over its deficits.



- Article 366 (25)** of the Indian Constitution states that "those tribes or tribal communities, or parts of or groupings within such tribes or tribal communities, as are regarded to be Scheduled Tribes for the purposes of this constitution,". The tribes are the native, or indigenous, inhabitants of the area and are said to have inhabited the Indian Peninsula before anyone else. They are frequently known as **Adivasis**, which is Hindi for "original dwellers."

- **Article 342** says that Scheduled Tribes are tribes or tribal communities, or portions of or groups within these tribes and tribal communities, that have been designated as such by the President by public notice

'No Need For Extra Curbs On Ministers' Free Speech'

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Collective responsibility, Constitution

Prepp Mains Booster: Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

Context:

- Recently, the Supreme Court ruled that a government cannot be held vicariously responsible for remarks made by its ministers even if the statement relates to state affairs.
- The judgment said that a statement made by a minister cannot be attributed vicariously to the government by invoking the principle of collective responsibility.

Highlights

- It said the right of free speech and expression, guaranteed under Article 19 (1) (a), cannot be curbed by any additional grounds other than those already laid down in Article 19 (2).
- The Council of Ministers is in charge of collective responsibility. The decisions made collectively by the Council of Ministers are the responsibility of each individual Minister.
- In other words, from the Council of Ministers to the individual Ministers, the stream of collective accountability flows. Not from the individual Ministers to the Council of Ministers.
- The idea of **common responsibility cannot be applied to every spoken declaration** made by a minister outside of the House of the People or Legislative Assembly.
- In a nation like India, where there is a **multi-party system and coalition governments** are frequently formed, it is not always possible for a Prime Minister/Chief Minister to take the whip whenever a statement is made by someone in the Council of Ministers.
- The **Prime Minister or the Chief Minister does not have disciplinary control** over the members of the Council of Ministers.
- The court ruled that the "reasonable constraints" on citizens' right to free speech, including those placed on ministers and other public officials, were "exhaustive."
- The state has an affirmative duty to protect when there is a threat to personal liberty, even by a non-State actor.
- The fundamental **right to free speech and the right to dignity** could be enforced against **private parties**.



The state is under a duty to affirmatively protect the rights of a person under Article 21, whenever there is a threat to personal liberty, even by a non-state actor



JUSTICE
V. RAMASUBRAMANIAN



State has an obligation to intervene when acts of a private actor may threaten the life or liberty of another individual



JUSTICE
B.V. NAGARATHNA

No need for extra curbs on Ministers Free Speech:

- There was **no need to impose additional restrictions on free expression** under the guise of defending the "concurrent" fundamental rights to life and dignity under Article 21 of those who were subjected to a minister's remarks.
- In a separate ruling, Justice B V Nagarathna, the fifth judge on the bench, said that while the government cannot be held vicariously responsible for personal remarks by a minister, such liability would exist if the statement also embodies the views of the government.
- The court ruled that in any event, the law imposing any restriction in terms of **clause (2) of Article 19** can **only be made by the State and not by the Court**.
- The Court is expected to play the gatekeeper (and conscience keeper) position in the Constitutional framework, rigorously monitoring the admission of limits into the temple of fundamental rights.
- According to the majority decision, "a mere ministerial statement that is at conflict with a citizen's rights under Part III of the Constitution may **not constitute a violation of those rights** and become actionable as a constitutional tort.
- However, if an act of **omission or commission by the officers** results in harm or loss to a person or citizen as a result of such a statement, then the same may be punishable as a **constitutional tort**.

Way forward

- A "proper legal framework" is necessary before taking action as a constitutional tort.
- The Parliament could enact legislation or code to restrain citizens in general and public functionaries in particular from making disparaging or vitriolic remarks against fellow citizens.
- Similarly, political parties could come up with a code of conduct to regulate and control the actions and speech of their functionaries and members.

Collective responsibility

- Collective responsibility is the convention under which individual members of government are held accountable for the acts and decisions of the government as a whole.
- Individual members of the government are held accountable for the acts and decisions of the government as a whole under the concept of collective responsibility.

- Article 75(3) deals with Collective Responsibility at the Centre, while Article 164(3) deals with state governments.

Constitutional tort:

- A 'constitutional tort' is a violation of one's constitutional rights, particularly fundamental rights, by an agent of the government, acting in his/her official capacity.

Article 21

- According to Article 21 of the Indian Constitution, everyone has the right to life and personal liberty.
- Right to Life also means that the government should take appropriate steps to protect life. Examples include active measures taken to address life-threatening issues like infant mortality and poverty.
- A person's right to life and personal liberty can only be taken away through the legal process.

Remote Voting: Pros And Cons

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Remote voting

Prepp Mains Booster: Government Policies and Interventions, E-governance

Context:

- Recently, the **Election Commission of India (ECI)** has announced its intention to implement remote voting across the country, allowing voters who live elsewhere to vote in their home constituencies.
- Given that **India has a sizable migrant population**, this provision is much needed.
- To allow voting from remote locations, the EC proposes using isolated **remote voting machines (RVMs)**, which are multi-constituency extensions of existing EVMs.
- The commission has announced that on January 16, it will show the prototype RVMs to representatives from all political parties.
- However, the **EC's overemphasis on RVMs appears to be misplaced**.
- There is much more to remote voting than voting machines, and the commission's proposal appears sketchy and woefully inadequate, hence several critical questions arise.

- The new RVM prototype will allow a voter who is registered in a constituency to exercise voting rights from a single machine.
- A public-sector undertaking developed a multi-constituency remote EVM that can handle up to 72 constituencies from a single remote polling booth.
- If the remote electronic voting machine is properly implemented, migrant voters will not have to travel to their home districts to exercise their voting rights.
- The remote e-voting machine will be a stand-alone device that will not require connectivity to function.
- Remote voting will necessitate changes to the Representation of the People Act, the Conduct of Election Rules, and the Registration of Electors Rules.

How do RVMs work?

- RVMs can handle multiple constituencies, up to 72, from a single remote polling booth. The voter must register for a remote voting facility either online or in person. This must be done within a predetermined time frame with the concerned Returning Officer of their home constituency.
- Once the voter has been verified and marked eligible for remote voting, a multi-constituency remote polling station will be set up in the area where they are currently staying.
- The RVMs will use the same security system and voting experience as the EVMs.
- These RVMs have been modified to include an electronic ballot display with candidates and symbols instead of a fixed ballot paper sheet.

What are the concerns?

Fair Process

- How will it be ensured that all those who wish to apply for remote voting are able to do so without hindrance, and that all applications are processed fairly, with no inadvertent or selective exclusions?
- Under what conditions will remote voting be prohibited?

Correctness

- How will it be ensured that a person allowed to vote remotely is not invalidated for local voting and that no one is incorrectly invalidated?
- Because the two lists will be in different locations, the correctness will be difficult to demonstrate in a publicly verifiable way.

Counting of Slips

- How will the votes, both electronic and VVPAT slips be consolidated and counted?
- Will the counting and VVPAT audit take place at the remote location or at the home constituency after consolidation?
- If the latter, how will it be ensured, verifiably, that the consolidation occurred correctly? If the former, then disclosing the remote voting results for a small number of remote voters in any one location will jeopardize vote secrecy.

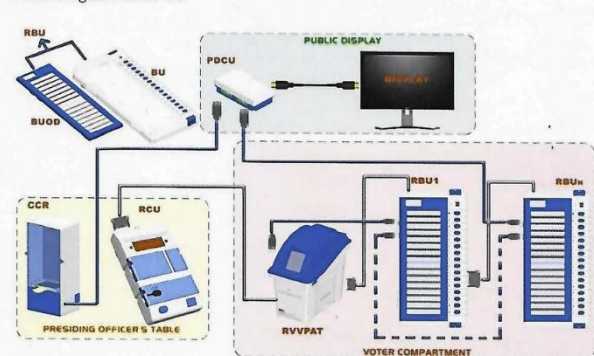
Polling Agents

- It was asked who will be the polling agents in the remote locations.
- How will it be ensured that a remote voter will not be coerced in a different political environment at the remote location?

What are the examples from other countries?

- The understanding, as well as the requirement of public verifiability of elections led the German Constitutional Court to

Block diagram of RVM:



What is a Remote Electronic Voting Machine?

rule against the use of EVMs in 2009, an exhortation that is followed not only in Germany but also in many other jurisdictions across Europe, America, and Pakistan.

- It also prompted the United States National Academy of Sciences to recommend against pure electronic voting in a public report issued in 2018.

Risk Limiting Auditing

- One approach to achieving software independence is to audit the electronic results with a count of the VVPATs, either with a complete count or a statistically significant sample.
- The procedure for doing so, known as risk limiting auditing, is well established in voting literature.
- Unfortunately, it appears that election results in India are declared without any VVPAT audits at all.
- Even the Supreme Court's requirement that five randomly selected EVMs in each Assembly constituency be audited against VVPAT counts appears to lack statistical support.
- The EC has also ignored a 2020 report on verifiability and VVPAT counting from a Citizens' Commission on Elections.

Advantages of Remote Voting

- RVMs can handle up to 72 constituencies from a single remote polling booth.
- It is a method for social transformation and the implementation of voter portability.
- Will empower migrants who are unable to vote due to the current cumbersome procedures for changing constituencies.
- If the remote electronic voting machine is properly implemented, migrant voters will not have to travel to their home districts to exercise their franchise.

Disadvantages of Remote Voting

- **Security:** Any new technology system, including those based on blockchain technologies and others, is vulnerable to cyber-attacks and other security flaws. Technology-based voting systems may also pose privacy risks and concerns.
- **Verification:** Furthermore, a voter verification system that employs biometric software, such as facial recognition, may result in false positives or negatives in voter identification, facilitating fraud or disenfranchising citizens.
- **Internet Connection:** Voters must have a reliable internet connection. Internet penetration, availability, and use of e-government services are limited in some countries.
- **Malware Security:** Voter devices may also be affected by software errors or malware.
- **Privacy:** In order to protect voter privacy and the integrity of final results, elections always require a high level of security. To meet election security needs, online voting technology must overcome barriers that may intrude on voters' privacy.
- **Environment:** It is also possible that voting will take place in an uncontrolled environment. It is difficult to ensure that a person votes freely and without fear of repercussions. There is a risk that another person will vote on the voter's behalf, making identification difficult.

Need and Measures

- According to the 2011 census, 45.36 crore Indians (37% of the population) were internal migrants who had settled in a location other than their registered residence.

- While 67.4% of the eligible 91.2 crore Indians voted in the 2019 Lok Sabha election, nearly one-third, or close to 30 crore voters, did not vote.
- Inability to vote due to internal migration (domestic migrants) is one of the major issues that must be addressed in order to increase voter turnout and ensure participatory elections.
- While usability demonstrations are necessary for public acceptance, they do not guarantee safety or security.
- Modern computer and digital security is established not through demonstrations or forceful proclamations, but by publicly articulating rigorous threat models and demonstrating verifiable robustness against them. Cryptography could be helpful.
- It is not enough to simply define a protocol; it must also be ensured that all applications and the decisions made about them are publicly verifiable from both remote and home locations.
 - This can only be accomplished with verifiable zero-trust technology, which is inextricably linked to the digitisation of electoral rolls, which in and of itself necessitates a thorough examination.

No Constitutional Protection For Staff Taking Part In Strike

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Indian Constitution, Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Context:

- Recently, the **Kerala High Court** has reiterated that no **State government employee, worker, or association** has the legal right to **call for or instigate a general strike** under the guise of the **constitutionally guaranteed right to free speech and expression**.



Background

- In response to a petition filed by S. Chandrachud Nair of Thiruvananthapuram, the court's Division Bench, comprised of Chief Justice S. Manikumar and Justice Shaji P. Chaly declared the two-day national strike held on March 28 and 29, 2022, unconstitutional.
- The Kerala High Court stated unequivocally that the provisions of the Kerala Service Rules, as well as notifications issued by the State government, had concluded that participation of any government employee in a strike, in violation of the provisions of the **Government Servants' Conduct Rules, 1960**, affecting the normal

life of the public and the public exchequer, was not protected by the Constitution.

- The state government informed the court that on March 28, 1,72,668 employees went on strike and 1,62,354 went on strike on March 29. There are 4,65,867 government employees.

Right to Strike

- The term "strike" is derived from the Greek phrase "strican to go," which means to quit, hit, or impress in the event of a trade dispute. It is the most effective and last resort for workers seeking economic justice.
- The right to strike is a statutory right in India, guaranteed by Section 22 of the Industrial Disputes Act of 1947.
- There are certain conditions that must be met before the workers can strike.
- Workers' rights are an important tool for seeking redress and protecting their liberties.

Withhold of Salaries

- On March 28, 1,68,598 employees' pay was withheld, and on March 29, 1,29,209 employees' pay was withheld.
- The State also stated that disciplinary action was taken against 24 employees who were absent on March 28 and four employees who were absent on March 29.
- The Kerala High Court took note of the government's statement regarding the actions being taken against the workers/government employees who had participated in the strike.
- The state also stated that steps were being taken to identify the workers/employees who had taken leave to participate in the strike.

Petition Dismissed

- The Bench dismissed the petition after taking note of the government's actions against the strikers.
- The Kerala High Court stated that it would issue a directive to the State government to proceed against the erring workers/employees who had violated the Kerala Service Rules and other conduct rules and circulars issued by the State government.

Supreme Court Observations Related to Strike

- The right to strike is not expressly recognized in the Indian Constitution.
- The Supreme Court ruled in **Kameshwar Prasad v. State of Bihar 1958** that strike is not a fundamental right. Government employees have no legal or moral right to strike.
- **The Supreme Court in Delhi Police v. Union of India (1986)** upheld the restrictions to form association by the members of the non-gazetted police force.
- While the **right to freedom of association is fundamental**, recognition of such association is not a fundamental right.
- Parliament can by law regulate the working of such associations by imposing conditions and restrictions on their functions, the court held.
- In **T.K. Rangarajan v. Government of Tamil Nadu (2003)**, the Supreme Court held that the employees have no fundamental right to resort to strike.
- Strikes are also prohibited by the Tamil Nadu Government Servants' Conduct Rules, 1973.

Freedom of Speech and Expression

- Freedom of speech and expression means the right to freely express one's views and opinions.
- Article 19(1)(a) of the Indian constitution deals with the freedom of speech and expression.
- All Citizens in India have the right to freedom of speech and expression with some reasonable restrictions.

No Justice Is Subordinate

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Separation of powers between various organs; dispute redressal mechanisms and institutions.

Context:

- Recently, at a meeting the **Full Court of Madhya Pradesh** made constitutional history by resolving that **"all courts other than the High Court shall hereinafter be referred to as the 'district judiciary' and not as the 'subordinate judiciary' and that "all courts other than the High Court shall be referred to as the 'trial courts' and not as the 'subordinate courts'."**
- This marks the beginning of the end of judicial feudalism in India and restores dignity and grace to the concepts of judicial independence and the rule of law.

What does Subordinate Court mean?

- Subordinate courts is the title of **Chapter 6 of the Part VI** of the Indian Constitution.
- But for that part, there is **no definition of subordinate**. In some Constitutional Articles, the word "subordinate" refers to a rank below.
- The **stages of an appeal process** are referred to by the word subordinate. It **does not reflect** the district judiciary's **subordinate culture**.
- It exhibits the **High Courts' executive influence over** the district judiciary.



- **Separation of Power:** The district judiciary is under the administrative control of the High Courts in order to support the separation of powers.
- It is done to make sure that the **executive does not have any influence over the district judiciary's transfers**, appointments, postings, or disciplinary actions. Judge, magistrate, and sessions judge are terms used in the Code of Civil Procedure and the Code of Criminal Procedure, respectively.

- **The Indian Constitution (Part VI, Chapter 6) deals with "subordinate courts,"** which shall provide civil and criminal justice within the boundaries of states, and they are called "subordinate" courts because the high court may withdraw a case pending before them if it involves a "substantial question of law" (which the high court may actually decide or only weigh in on the substantive question of law and return the matter to the same court).
- **Article 227** provides powers of "superintendence over all courts and tribunals throughout the territories in relation to which it exercises jurisdiction".
- All of this, however, does not diminish the principle of judicial independence or the democratic rule of law.

Need:

- **To get rid of Colonial Mindset:** In both hierarchy and practise, the colonial mindset of referring to and considering the district courts as inferior in the judiciary must be avoided.
- **No establishment of hierarchy of justices:** The Constitution establishes a hierarchy of jurisdictions, but it does not establish a hierarchy of justices.
- Within the assigned jurisdiction, each judge is supreme. No judge acting within her jurisdiction is higher or lower.
- **Autonomy:** Although the Supreme Court (under Article 141) may declare the law to be binding on all courts within the territory of India, and the law made by high courts (subject to Article 141) is binding on the district judiciary, **it is up to each court to decide what is thus declared to be law.** The simple point is that no judge, except through constitutionally mandated judicial review, may tell another directly how and what to decide.
- **Equality and dignity of all justices:** The Constitution requires that the underlying equality and dignity of all justices, as well as the judicial process, be horizontal rather than vertical.
- **Foundation of court:** They serve as the foundation of the court and are the first judicial body that most people interface with.

University Grants Commission Decided To Allow Foreign Universities To Set Up Campuses In India

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Education

Prepp Mains Booster: Issues relating to the development and management of Social Sector/Services relating to Health, Education, Human Resources.

Context:

- Recently, the **University Grants Commission** decided to allow foreign universities to set up campuses in India.
- This is in line with the goals set out in the **New Education Policy**.
- India is the world's **second-largest higher education market**.

What are the draft regulations released by the UGC?

- The **draft UGC (Setting up and Operation of Campuses of Foreign Higher Educational Institutions in India) Rules 2023** offers foreign education institutions an opportunity to enter the Indian market.
- It seeks to provide autonomy in academics, governance, admission policies, and tuition fees.
- Foreign Universities have been permitted to transfer funds to their parent institutions under the relevant provisions of the **Foreign Exchange Management Act 1999** and rules relating to the cross-

border movement of funds and maintenance of foreign currency accounts, modes of payment, remittance, repatriation, and sale of proceeds.

- To be eligible to set up a campus in India, the University must either be among the **top 500 institutions globally** or an **institute of high repute in its homeland**.
- The application process will be web-based on a separate portal to be maintained by the UGC. Applications will be considered by a sub-committee of the UGC based on credibility, programmes offered, the potential to develop higher education in India, and proposed academic infrastructure.
- The committee will submit its recommendations within 45 days, after which the UGC may grant approval to the applicant to set up its campus within two years. The initial approval will be for a **ten-year period** and can be renewed by submitting an application in the ninth year.
- Each institution will be granted **autonomy over its admission criteria and process** for domestic and foreign students. Fee structures will not be regulated by the government, however, they should be reasonable and transparent.
- No university will be allowed to discontinue a course or campus without the UGC's prior approval and in such cases, it will have to provide affected students with suitable alternatives. The UGC also has the right to conduct inspections at any time.
- The campuses will be subject to regulations like anti-ragging rules and other criminal statutes.
- The mode of education should **compulsorily be offline** and should be on par with the standards at the parent campus. Degrees awarded should have equivalence with those of the parent universities.
- The institutions will be allowed to hire faculty from India and abroad as per their own criteria but foreign faculty should be appointed to stay for a reasonable period.

What is the history of foreign education in India?

- In 1995, a draft **Foreign Education Bill** was drafted by the Central government but later dropped.
- A similar bill was drafted in 2006 but failed to win the approval of the Cabinet.
- In 2010, the Ministry of Human Resource Development introduced the **Foreign Educational Institutions (Regulation of Entry and Operations) Bill, 2010** but it could not be passed by Parliament and eventually lapsed.
- A strategy paper released by the Ministry of Commerce in 2015 advocated the internationalization of education as a means of earning foreign exchange.
- In 2019, the HRD Ministry had recognized the internationalization of education as an area of focus under the **Education Quality Upgradation and Inclusion Programme (EQUIP)**.

Why is the government permitting the entry of foreign HEIs?

- Economic reforms have created a demand that the country's educational system has struggled to meet. **Only 27% of Indians between 18 and 23 are presently enrolled in colleges (Gross Enrollment Ratio)** despite India having over 1000 universities and 42000 colleges.

- The QS University rankings, in 2022 had only eight Indian institutions among the top 400 with IIT Bombay being the best performer (rank 177).
- Foreign universities like London Business School, University of Cambridge, University of New York etc had expressed interest in setting up campuses at the **GIFT International Financial Services Centre**.

What are the benefits of the policy?

- The introduction of reputed educational institutions will **revolutionize the workforce** available for India's evolving job market by introducing new ideas in diverse subjects and offering exchange programmes.
- In 2022, an estimated 4.5 lakh students had gone abroad for studies at an **estimated outflow of \$28-30 billion**. This number is expected to rise to **\$80 billion by 2024**. The policy can be a tool to manage the outflow of foreign exchange.
- Setting up these campuses in India will be economical for students with **lowered living and travelling expenses**.
- **Brain drain** is a serious concern for the Indian economy with an estimated 8 lakh Indians surrendering their citizenship in the last seven years. Education in India could help develop local job opportunities in line with the government's **Aatmanirbhar Bharat** agenda.
- The policy can also boost the **Study in India programme** that aims to attract foreign students to India, helping with foreign exchange reserves management and soft power creation.



The University Grants Commission

What are the possible challenges that could arise?

- The regulatory framework and multiple approvals may deter prospective universities from setting campuses. **India's ranked 63rd on the World Bank Ease of Doing Business Index 2022**.
- The New Education Policy has paved the way for a global education system, but implementation has been slow and inefficient.
- **Quality control** is another concern as many offshore campuses have been accused of not maintaining standards set by parent institutions.

UGC

- University Grants Commission was established as a **statutory body** of the Government of India by an Act of Parliament in November 1956.

- The Central Government appoints the Chairman, Vice-Chairman, and the other 10 members of the Commission.
- The Commission shall be required to take all necessary actions, in consultation with the Universities or other bodies involved, for the promotion and coordination of university education, as well as for the determination and maintenance of standards of teaching, examination, and research in universities.
- It advises the Central State governments on matters related to University education

ASER Report 2022 Flags Widening Learning Gaps

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: ASER report

Prepp Mains Booster: Issues relating to the development and management of Social Sector/Services relating to Health, Education, and Human Resources; Role of NGOs

Context:

- Recently, the **Annual Status of Education Report (ASER) 2022**, released by the **NGO Pratham** found that **student enrolments increased** to more than pre-pandemic levels but the **learning gap widened for foundational skills** in reading and arithmetic, reversing several years of improvement.
- It is a **household survey** conducted across 616 rural districts and covers 6.9 lakh children in the age group of 3 to 16 years to record their schooling status and assess their basic reading and arithmetic skills.
- **The report is being released after four years** and details the **impact of school closures in 2020 and 2021**, as well as children's return to school in 2022.
- **ASER is the country's oldest survey of its kind**, and it is well regarded for the breadth of insights it provides on levels of **foundational learning at the elementary level**.



Background

- The **Annual Status of Education Report (ASER)**, which sheds light on learning outcomes in schools, was released recently, marking the return of a key national survey that captures the state of foundational literacy and numeracy in the country.
- The **Pratham Foundation led the survey**, which was last conducted at this scale in 2018. Following the outbreak of Covid-19, ASER shifted its focus to investigating digital inequality and school enrollment levels.

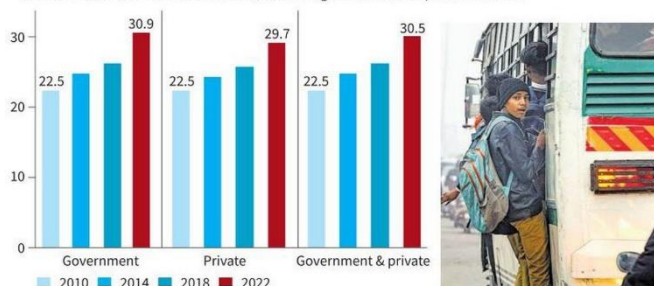
- However, in 2022, the Pratham resumed its field survey. Surveyors traveled across states and met with children and teachers in rural India to assess the state of learning.

Key Highlights

- Despite school closures during the pandemic, overall **enrolment figures for the 6 to 14 year age group increased from 97.2% in 2018 to 98.4% in 2022.**
- ASER is a household survey that is conducted in 616 rural districts and covers 6.9 lakh children aged 3 to 16 years to record their schooling status and assess their basic reading and arithmetic skills.
- The proportion of children in this age group (3-16 years) who are not currently enrolled has also dropped to its lowest level ever, 1.6%, down from 2.8% in 2018, when the most recent full-scale ASER survey was conducted.

Tuition trends

Across India, the proportion of students from classes I to VIII taking paid private tuitions increased from 26.4% in 2018 to 30.5% in 2022, according to the latest report from ASER



What is the Annual Status of Education Report (ASER)?

- ASER stands for Annual Status of Education Report. This is an annual survey that aims to provide accurate estimates of children's enrollment and basic learning levels for each district and state in India.
- Since 2005, ASER has been conducted in all rural districts of India. It is the largest citizen-led survey in India.
- It is also the only annual source of information on children's learning outcomes available in India today.
- ASER, unlike most other large-scale learning assessments, is a household-based survey rather than a school-based survey.
- This design allows all children to be included, including those who have never attended school or have dropped out, as well as those who attend government schools, private schools, religious schools, or other institutions.

About Pratham Foundation

- Pratham is one of India's largest non-governmental organizations. Madhav Chavan and Farida Lambay co-founded it.
- It works to provide quality education to underprivileged children in India.
- Pratham was founded in Mumbai in 1994 to provide pre-school education to children in slums. It now has interventions in 23 Indian states and union territories, as well as chapters in the United States, United Kingdom, Germany, Sweden, and Australia.

Increase in Enrollment

- Government schools saw a sharp increase in enrollment from **65.6% in 2018 to 72.9% in 2022**, reversing another trend of a steady decrease in student enrolment since 2006, when it was at 73.4%.
- Despite the enthusiasm shown by parents and students for schools, children's basic literacy levels have taken a significant hit, with reading ability worsening much more sharply than numeracy skills and dropping to pre-2012 levels.

Decline in reading percentage of children in Class 3

- The percentage of children in Class 3 in government or private schools who could read at the Class 2 level fell from **27.3% in 2018 to 20.5% in 2022.**
- This decline is visible in every state, and it affects children in both public and private schools.
- States with a drop of more than ten percentage points from 2018 levels include:
 - **Kerala** (from 52.1% in 2018 to 38.7% in 2022),
 - **Himachal Pradesh** (from 47.7% to 28.4%), and Haryana (from 46.4% to 31.5%).
 - **Andhra Pradesh** (from 22.6% to 10.3%) and
 - **Telangana** (from 18.1% to 5.2%).

Decline in reading proportion of children in Class 5

- Nationally, the proportion of children enrolled in Class 5 in government or private schools who can read at least a Class 2-level text fell from **50.5% in 2018 to 42.8% in 2022.**
- States with a drop of 15 percentage points or more include:
 - **Andhra Pradesh** (from 59.7% in 2018 to 36.3% in 2022),
 - **Gujarat** (from 53.8% to 34.2%), and
 - **Himachal Pradesh** (from 76.9% to 61.3%).

Drop in Basic Reading Ability

- The drops in basic reading ability are smaller for Class 8 students, with 69.6% of children enrolled in government or private schools able to read at least basic text in 2022, down from 73% in 2018.
- The ASER reading test determines whether a child can read letters, words, a simple paragraph at the Class 1 level of difficulty or a story at Class 2 level of difficulty.
- The percentage of Class 3 students **who could at least subtract fell from 28.2% in 2018 to 25.9% in 2022.**
- While Jammu and Kashmir, Uttar Pradesh, and Madhya Pradesh maintained or improved slightly over 2018, Tamil Nadu experienced steep drops of more than ten percentage points.
- The proportion of children in Class 5 in India **who can perform division has also decreased slightly, from 27.9% in 2018 to 25.6% in 2022.**

Performance in Basic Arithmetic

- The performance of Class 8 students in basic arithmetic is more variable. Nationally, the proportion of children who can do division has increased slightly, **from 44.1% in 2018 to 44.7% in 2022.**
- This increase is driven by improved outcomes among girls and children enrolled in government schools, while boys and children enrolled in private schools show a decline over 2018 levels.
- Children in Class 8 in government schools performed significantly better in 2022 than in 2018 in
 - **Uttar Pradesh** (from 32% to 41.8%),
 - **Chhattisgarh** (from 28% to 38.6%),
 - But were significantly worse in **Punjab** (from 58.4% to 44.5%).

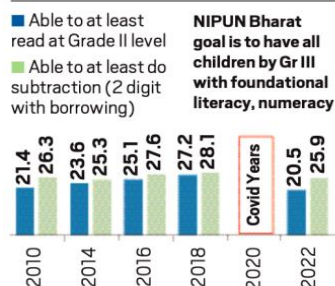
Why were the girls withdrawn from schools?

- The report also puts to rest apprehensions about the **pandemic forcing families to withdraw their daughters from school and force them into early marriages.**
- It discovers that the percentage of girls aged 11 to 14 who were out of school fell from 4.1% to 2%.
- The decrease in the proportion of girls not enrolled in school is even sharper among older girls in the 15-16 age group, which stood at 7.9% in 2022, as compared to 13.5% in 2018.

Increase in Private Tuition

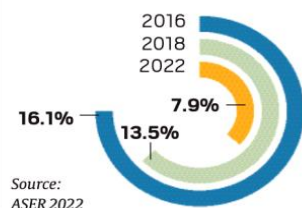
- While families withdrew students from private schools to save money on tuition fees, they also invested in private tuition classes, which increased as the proportion of such students in both private and government schools increased from **26.4% in 2018 to 30.5% in 2022.**
- Because students typically choose to study math and science in tuition classes, this may also explain why learning gaps in reading are more pronounced.

IN PANDEMIC YEARS, BASIC READING WAS HIT HARDER THAN MATHS



PROPORTION OF GIRLS AGED 15-16 WHO ARE NOT IN SCHOOL HAS DROPPED SINCE 2018

Halved in most states that had more than 20% girls out of school in 2006



How has school enrollment been affected during the pandemic years?

- Enrollment increased even during a period when schools were closed, and we were already at very high levels.
- It has risen further, including for older age groups, despite fears that older girls, in particular, would drop out.
- Then there's a big shift to government schools. Perhaps it is only temporary, but the overwhelming voice of 7 lakh children and their families is that it is good to be back in school.
- Attendance patterns haven't changed much since schools opened, and there's a wide range of attendance across the country.

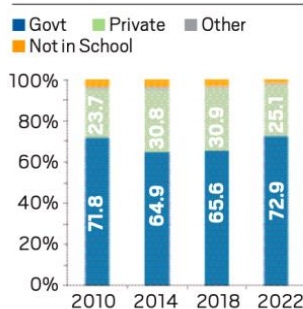
Improvements in facilities which contributed to the increased enrollment

- Infrastructure variables have improved over time. The enrollment issue may stem from the fact that, during Covid, rural private schools were unable to do much because their own economy was so fragile.
- However, because they were affiliated with the state, government schools distributed textbooks and frequently served midday meals. The teachers were able to reach out in some way. There is a pull factor at work here.
- Family incomes have been affected, but everyone still believes that education is necessary, so parental involvement and interest in education should be encouraged.
- Private tuition has likely increased because it is more flexible.

What is the current trend in foundational skills as emphasized in the 2020 National Education Policy?

- ASER visits various schools and inquires about infrastructure. It inquired whether, in light of schemes such as the **National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN) Bharat** and the **Foundational Literacy and Numeracy (FLN)** mission, you had received any guidelines and had any teachers been trained.
- Almost 80% of the schools reported receiving guidelines and teacher training.
- This means that governments are taking NIPUN Bharat very seriously. It makes the case for how to keep the momentum going.

ALMOST ALL RURAL CHILDREN OF AGES 6-14 ENROLLED IN SCHOOL



PROPORTION OF KIDS TAKING PAID TUITION HAS INCREASED SINCE 2018

Except in Gujarat, Karnataka, TN, Kerala, Tripura

CHANGE > 5 PERCENTAGE POINTS

State	2018	2022	Change
Bihar	62.2%	71.7%	9.6%
Nagaland	25.4%	34.9%	9.4%
Jharkhand	36.9%	45.3%	8.4%
Manipur	45.1%	53.4%	8.3%
UP	15.9%	23.7%	7.9%
Assam	18.8%	25.3%	6.5%
All India	26.4%	30.5%	4.2%

NATIONAL EDUCATION POLICY 2020

2/2

Higher Education curriculum to have Flexibility of Subjects		
Multiple Entry/Exit to be allowed with appropriate certification		
Academic Bank of credits to be established to facilitate transfer of credits	National Research Foundation to be established to foster a strong research culture	Affiliation System to be phased out in 15 years with graded autonomy to colleges
NEP 2020 advocates increased use of technology with equity ; National Educational Technology Forum to be created	NEP 2020 emphasizes setting up of Gender Inclusion Fund and Special Education Zones for disadvantaged regions and groups	National Institute for Pali, Persian and Prakrit, Indian Institute of Translation and Interpretation to be set up

What is the way forward?

- There has been progress in the last decade, but it has been incremental. As a result, as a school system, as a family system, big leaps must be taken. It is crucial for increasing the country's productivity.
- It is believed that integration of the anganwadi and school systems is critical because the work begins there. There are anganwadis everywhere, and their enrollment has increased.
- The anganwadi system is generally underfunded, at least in terms of education.
- Kids who have passed Class 4 and 5 have suffered from learning losses. There's a case to be made for a significant catch-up effort there as well.
- Because most states are now preparing their annual work plans for the coming year, these points can be considered in the coming year's plans.

ST Commission Holds Its Ground On Impact Of New Rules On Forest Rights Act

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: ST commission

Prepp Mains Booster: Issues relating to development and management of Social Sector/Services

Context:

- Recently, in an indication of the escalating conflict between the government and the **National Commission for Scheduled Tribes (NCST)** over the **Forest (Conservation) Rules (FCR) 2022**, NCST Chairperson Harsh Chouhan said that the ST body's position on the new rules being in violation of the **Forest Rights Act, 2006** will remain the same, despite the Environment Ministry dismissing these concerns.

Provisions of the Forest (Conservation) Rules, 2022

- The Forest Conservation Rules govern the implementation of the Forest Conservation Act (FCA) of 1980.
- They outline the procedure for diverting forest land for non-forestry purposes such as road construction, highway development, railway lines, and mining.
- The Central government must approve land diverting for forest land larger than five hectares. This is done through a specially formed committee called the Forest Advisory Committee (FAC).



About Forest Rights Act (FRA)

- Forest Rights Act, enacted in 2006**, recognizes the rights of forest-dwelling tribal communities and other traditional forest dwellers to forest resources on which these communities rely for a variety of needs, including livelihood, habitation, and other sociocultural needs.
- It recognizes and vests forest rights and occupation in forest land in **Forest Dwelling Scheduled Tribes (FDST) and Other Traditional Forest Dwellers (OTFD)** who have been residing in such forests for generations.
- It strengthens the forest conservation regime while also ensuring the FDST and OTFD's livelihood and food security.
- The Gram Sabha has the authority to initiate the process of determining the nature and extent of **Individual Forest Rights (IFR) or Community Forest Rights (CFR)** or both that may be granted to FDST and OTFD.

What are the Panel's concerns?

- Concerned about a provision in the new rules that proposes to eliminate the consent clause for diversion of forest land for other purposes, the Commission recommended in a letter to the Ministry of Environment, Forest, and Climate Change (MoFCC) in September 2022 that these rules be put on hold immediately.
- The NCST had pointed out that the FCR 2022 had removed the requirement to obtain Gram Sabha consent prior to Stage 1 clearance, leaving this process to be completed later and even after Stage 2 clearance.
- It stated that the rules framed under the Forest (Conservation) Act, 1980 and that these rules being in violation of the Forest Rights Act (FRA), 2006 was "not legally tenable".
- It also stated that the two statutory processes were independent of one another.
- According to Rule 9(6)(b)(ii), the government stated that the FCR 2022 already provides for diversion of forest land "only after fulfilment and compliance of all provisions, including settlement of rights under the Forest Rights Act" and does not preclude or interfere with the operation of other laws requiring Gram Sabha consent.
- Between 2009 and 2018, none of the 128 applications for forest diversion for mining were denied due to FRA noncompliance.
- According to the NCST, all post-2014 certificates indicating the completion of the FRA process were issued "in violation of ground realities" in a subset of 14 cases. The commission claims that the new rules will only increase such violations.

What is the National Commission for Scheduled Tribes?

- The National Commission for Scheduled Tribes (NCST) is an Indian statutory body that works to protect the rights and interests of Scheduled Tribes (STs), which are indigenous communities.
- The National Commission for Scheduled Tribes was established on February 19, 2004, by revising Article 338 and introducing a new article 338A into the Constitution as part of the 89th Constitution Amendment Act, 2003.
- Article 338A empowers the National Commission for Scheduled Tribes to monitor the execution of various protections afforded to STs by the Constitution or any other legislation in force at the time, or under any other order to the Government, and to review the effectiveness of such safeguards.
- The NCST conducts inquiries, investigates complaints, and makes recommendations to the government on ST-related issues.

The Open Access Movement To Make Academic Papers Accessible To All

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: ONOS

Prepp Mains Booster: Issues relating to the development and management of Social Sector/Services relating to Health, Education, and Human Resources; Government policies and interventions for development in various sectors and issues arising out of their design and implementation

Context:

- Recently, India took the first steps of its '**One Nation, One Subscription**' (**ONOS**) scheme: the government, instead of universities, will negotiate with publishers for a capped and fixed fee to access their papers (of studies funded by the state) and pay

the fees so that everyone in the country can read the papers at no additional cost.

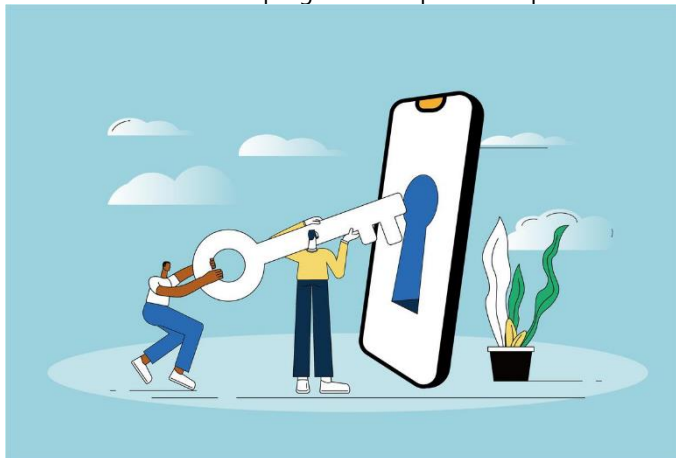
- The Education Ministry has shortlisted 70 publishers and set an implementation deadline of April 1, 2023.

What is Open Access (OA)?

- Open access (OA) is a term that refers to specific academic publication strategies that increase public access to intellectual work.
- An open access (OA) scientific paper will be available for free.

Why there is a need for open access?

- **High costs:** The OA movement is prominent today because of the high cost of accessing scientific papers.
- A paper published by a lot of journals frequently costs \$15+ to read once and \$30+ for permanent access.
- Universities now spend many crores a year on these journals' subscription fees, which have increased in price.
- There are other OA programs that provide superior choices.



How papers are published?

- A paper is written by a scientist and submitted to a journal.
- Editors at the journal share the manuscript with peer-reviewers experts on the same topic who examine the authors' assertions, and also provide suggestions on structuring the manuscript, including references to previous results, reaching certain conclusions, etc.
- After the review is complete, the draft is finalised and the journal publishes the paper in print, online, or both.
- Online publications published under the "subscription model" are protected by a paywall. Over time, paywall fees have risen rapidly.

Concerns

- According to a 2018 survey by Duke University, 59 of the 100 "most frequently referenced articles ever published" are behind a paywall, with each article costing an independent researcher an average of \$33.41 (or Rs.2,285) (2018).
- "During 2018, India spent an estimated 1,500 crore for subscriptions to [e-journals] and/or print journals," a 2020 report by fellows of India's science academies stated.
- Papers become more expensive to access, making them unavailable to other researchers, journalists, policymakers, students, etc.

What are the different types of open access?

- **Preprint publications:** Physicist Paul Ginsparg founded the preprint archive **arXiv.org** in 1991 with the advent of internet. A

preprint is the manuscript before it has been submitted to a journal.

- **Gold Open Access:** Preprint publications are not traditionally peer-reviewed, however there are various alternatives, such as **post-publication peer-review**.
- Many journals converted to OA due to the availability of preprints, but with a twist.
- Some of them started charging an article processing fee (APC), which journals called a fee, to the authors of a paper before publication as opposed to the work's readers after publication. The APC model is called Gold OA.
- **Green Open Access (GOA):** In green open access (GOA), an institute-level repository stores copies of the research papers produced by its researchers and releases them to the public after an embargo period that is frequently outlined by the journals that publish the papers.
- **Diamond Open Access:** A journal publishes articles for free under Diamond Open Access.
- **Hybrid journals:** Hybrid journals also use the subscription model, but after a paper is published and paywalled, its authors can pay extra to "make" it open access.

Outlook for Open Access

- **Inclusivity:** UNESCO's 2021 'Recommendation on Open Science' asked that "no one is to be left behind with regard to access to science and benefits from scientific progress" as countries deal with epochal issues like global warming and zoonoses.
- **Contemporary focus:** The contemporary focus is on the ways to secure OA's adoption. In 2018, an international consortium created an initiative called Plan S.
- Under Plan S, the member organizations work to ensure that from 2021, "**scientific publications** that result from research funded by public grants" are "**published in compliant OA journals or platforms**".
- A policy enabling "the unlimited access and reuse of any peer-reviewed published research sponsored, in whole or in part, by the foundation" was implemented by the Bill & Melinda Gates Foundation in January 2021.
- Similar policies have been published by other research funding organizations.

Challenges

- The researchers required to meet such targets often **pay large sums to Gold OA or hybrid journals**.
- The difficulty of finding sustainable ways to pay for OA publishing has hampered the OA transition.

What is a One Nation, One Subscription (ONOS)?

- The Government of India (GoI) has proposed the One Nation, One Subscription (ONOS) program, which intends to enable nationwide access to national and international academic and scientific content.
- In order to promote simple access to high-quality academic material and stimulate scientific research and innovation in the nation.
- ONOS is anticipated to sign national licenses with the majority of well-known STEM publishers and database producers worldwide.
- Through public libraries, this program is anticipated to help research and educational institutions including universities,

colleges, and research organizations as well as every person in the nation.

- This initiative is by the Office of Scientific Adviser to the Government of India.

India and its neighbourhood, Bilateral, regional and global groupings and agreements involving India and affecting India's interests, Effect of policies and politics of developed and developing countries on India's interests

Most Central Asian Countries Have Broken Food Safety Control Systems, Finds ADB & Carec Paper

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Central Asia

Prepp Mains Booster: Important International institutions, Issues of buffer stocks and Food Security, Food processing and related industries

Context:

- According to a working paper published by the **Asian Development Bank (ADB)**, the **Central Asia Regional Economic Cooperation (CAREC)** region faces severe **food safety challenges** as a result of fractured safety control systems.
- The report, Strengthening Food Safety Systems in Central Asia Regional Economic Cooperation Member Countries: Current Status, Framework, and Forward Strategies, examined food safety in the CAREC region.



What is CAREC?

- CAREC is a 1997 initiative funded by the **Asian Development Bank (ADB)** to promote regional economic cooperation.
- Afghanistan, Kazakhstan, Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, Uzbekistan, Azerbaijan, Georgia, Mongolia, and China are all part of it.
- The program's goal is to accelerate economic growth and poverty reduction in member countries.

Background

- It was discovered that the complexity of food control systems exacerbates the severity of food safety issues. This has resulted in significant differences in the structure and design of food control systems across the region.
- Most CAREC member countries have limited cooperation among local and international agencies.
- The **Food and Agriculture Organization of the United Nations (FAO)** defines food safety as "the absence—or safe, acceptable levels—of hazards in food that may harm consumers' health."

What is the Asian Development Bank?

- The Asian Development Bank (ADB) was founded in 1966 and is headquartered in Manila (Philippines). It has 67 members from Asia and the Pacific.
- Japan owns 15.677% of ADB, followed by the United States (15.567%), China (6.473%), and India (6.473%).
- The Asian Development Bank invests in infrastructure, health, and public administration, assisting countries in mitigating the effects of climate change and managing natural resources.
- The Asian Development Bank (ADB) publishes an annual report that details its operations, budget, and other documents for public consumption

What is the impact?

- The **World Health Organization (WHO)** reported in 2022 that unsafe food causes more than 200 diseases ranging from diarrhoea to cancer.
- Every year, consumption of these unsafe food products causes approximately 600 million cases of illness and approximately 420,000 deaths.
- **Kyrgyz Republic:** In 2017, the Kyrgyz Republic reported 163 cases of salmonella infection, 32,081 cases of E Coli infection, 8,395 cases of hepatitis A, and 56 cases of botulism.
- **Georgia:** In 2017, Georgia reported 5,969 suspected food-borne diarrhoeas.
- **Kazakhstan:** It reported 75,500 cases of food-borne diseases caused by brucellosis and hepatitis.
- **Uzbekistan:** It reported 200 cases of salmonellosis and botulism among children.
- **Pakistan:** Food-borne diseases such as hepatitis, typhoid, animal contact diseases, influenza, and aerosolized dust, as well as soil contact diseases, are quite common in Pakistan.
- **China:** The paper identified inefficiencies in China's food safety system, where food safety is currently regulated and monitored by many national agencies as well as several provincial and local agencies.
 - As a result, there is no single agency in charge of ensuring food safety in the country.
 - The report stated that because several agencies are involved in monitoring and regulating food safety in the country, the division of duties must be clarified.
 - This has resulted in mandate overlaps and institutional conflicts, leading to the inefficiency of the country's food safety system.

Efforts made by China

- The Chinese government has made efforts to harmonize its food safety regulations with the establishment of the State Food and Drug Administration in 2003.
- According to data from the government-administered 2019 National Food Safety Inspections, the country's major food safety challenges are microbial contamination, excessive food additives, and excessive drug residues.
- These food safety issues will not be completely eliminated in China until the agricultural and food processing industries' production systems are greatly improved.

Exports and Imports

- Food exports and imports account for roughly 90% of total agricultural trade among CAREC member countries (CMCs).

- Food exports and imports from the region are highly perishable products that pose serious food safety risks if proper safety standards are not followed throughout the supply chain and all the way to final consumption.
- The study discovered that state agencies in CAREC member countries typically require more operational funding to operate and implement changes to their food safety policies and regulations.

Two-Tiered Approach

- A two-tiered approach to improving regional food safety systems is an appropriate policy strategy.
- Tier-2 countries are classified as having relatively more advanced food safety frameworks and adoption of international food safety standards under this approach.
- Tier 1 countries** are Afghanistan, Azerbaijan, Kyrgyzstan, Pakistan, and Tajikistan, while
- Tier 2 countries** are Georgia, China, Kazakhstan, Mongolia, Turkmenistan, and Uzbekistan.

Way Forward

- Afghanistan has a deficient food safety system, while Tajikistan's framework is fragmented, non-responsive, and lacking in decision support and infrastructure.
- Pakistan's system lacks someone to coordinate activities among agencies, making food safety governance cumbersome and complex, frequently failing to facilitate trade and protect public health.
- Strategies that harmonize food safety legal frameworks, regulations, and practices, as well as improve stakeholders' capacity to implement food standards, should be implemented.

Kuki-Chin Refugees From Bangladesh 'Pushed Back' From Mizoram, Says MP

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Kuki-Chin Refugee

Prepp Mains Booster: Population and associated issues; India and its neighbourhood

Context:

- Recently, several members of the Kuki-Chin community were "pushed back" by the Border Security Force (BSF) according to K. Vanlalvena, a Rajya Sabha member from Mizoram.
- The Member said not allowing the "ethnic Mizo" from Bangladesh to enter India would amount to "discrimination on ethnic grounds" as in the 1970s thousands of displaced Chakmas (mostly Buddhists) from Bangladesh were allowed to enter India and settle in Mizoram and Arunachal Pradesh.

Background

- The **Kuki-Chin**, a Christian group from the Chittagong hill tracts of Bangladesh, are **closely related to the Mizo** people on an ethnic level.
- In November 2022, the first group of about 300 refugees arrived.
- The refugee influx began after clashes broke out between the Kuki-Chin National Army, the armed wing of the Kuki-Chin National Front (KNF), and Bangladesh's Rapid Action Battalion, in the Bandarban region of the Chittagong Hill Tracts (CHT), an area populated by the Bawm tribe.

- In order to avoid being caught in the crossfire, the refugees had fled.
- The Mizoram government has sanctioned the construction of temporary shelters and other amenities for the community.

What is Chittagong Hill Tracts (CHT)?

- The CHT is a hilly, destitute region that borders Mizoram to the east, Tripura to the north, and Myanmar to the south and southeast.
- It occupies more than 13,000 square kilometers in Khagrachari, Rangamati, and Bandarban districts in southeast Bangladesh.
- Tribal people make up a sizeable section of the population and are culturally and ethnically distinct from the Muslim Bangladeshis, who comprise the majority on the nation's deltaic mainland.
- The tribal people of the CHT share ethnic ties with the tribes in the nearby parts of India, particularly in Mizoram.
- Bangladesh and Mizoram have a 318-kilometer border.



What is India's stand on Undocumented migrants?

- India is not a signatory to the 1951 UN Convention relating to the Status of Refugees and the 1967 Protocol.
- All undocumented foreign nationals are governed as per the provisions of The Foreigners Act, 1946, The Registration of Foreigners Act, 1939, The Passport (Entry into India) Act, 1920 and The Citizenship Act, 1955.
- According to the MHA foreign nationals who enter the country without legitimate travel documents are classified as unlawful immigrants.
- Currently, there is no national law on refugees.
- The MHA only publishes Standard Operating Procedures to handle foreign nationals in India who claim themselves to be refugees.
- In some cases, the Center offers relief assistance in the form of a monthly cash dole, a subsidized ration, clothing materials, utensils,

grants for cremation and shradh (last rites), as well as infrastructure facilities in camps

Border Security Force

- The BSF is a **central armed police force (CAPF)** that functions under the Union government.
- It was raised in 1965 in the aftermath of the India-Pakistan war.
- Parliament enacted the BSF Act in 1968, and the Act's regulations were drafted in 1969.
- The MHA issues all orders pertaining to the BSF and other CAPFs such as the Central Reserve Police Force (CRPF), Sashastra Seema Bal (SSB), Indo Tibetan Border Police (ITBP), Central Industrial Security Force (CISF), National Security Guard (NSG) and Assam Rifles.
- India is a Union of States and under One Border One Force policy, the BSF is deployed along the Pakistan and Bangladesh borders.
- It is also frequently deployed for election-related and other law-and-order activities at the request of State administrations, as well as in areas where Left Wing Extremism (LWE) is a problem.

India And The New Eurasia

Priority: Medium

Primary Source: Indian Express

Prepp Prelims Booster: Eurasia

Prepp Mains Booster: India and its neighbourhood, Bilateral, regional and global groupings and agreements involving India and affecting India's interests, Effect of policies and politics of developed and developing countries on India's interests

Context:

- C Raja Mohan, a Senior Fellow at the Asia Society Policy Institute, has discussed the **importance of Eurasia** and its relationship with the **security concerns of the Indo-Pacific region** in the article titled "India and the new Eurasia" published in the Indian Express on January 19th 2023.
- The new dynamic of cooperation between Asia and Europe has created **opportunities and challenges for India** in achieving its geopolitical objectives.



What is the idea of Eurasia?

- Eurasia has been used as a **neutral term to describe the landmass that connected Europe and Asia** since ancient times.
- Even though, the two continents are physically connected they are extremely diverse in terms of their culture and polity.
- Russia, which is spread out over the two continents saw itself as a **European and Asian power** but could not successfully integrate with the other Asian or European groupings.

- In the **post-Soviet era, Russia developed the geopolitical concepts of Eurasia and Greater Eurasia** after it failed in its attempts to integrate with the West.
- The Russian strategy included the **restoration of Russian prominence in the erstwhile Soviet states of Central Europe, closer ties with China and limiting the USA's influence in the region.**
- The **2014 annexation of Crimea** and the **2022 war with Ukraine** were a part of Russia's mission of reuniting the **Russian world or 'Russkiy Mir'.**

What is the China- Russian Eurasian alliance?

- In February 2022, before Russia began its war against Ukraine, an agreement was signed with China declaring the creation of an **alliance without limits or forbidden areas.**
- The two nations believed that this **new Eurasian Alliance would help end the hegemony of the Western powers.**
- China believed that Russia's success in Europe would allow it to easily dominate the smaller Asian countries.
- However, the opposition to Russia and China's perceived anti-democratic actions has provided the basis for the formation of an alliance between China's East Asian neighbours and Russia's West European neighbours.



Recent initiatives to bridge the Eurasian divide

- **Japan** has attempted to build strong military partnerships with European nations beyond the Quad and US alliances.
- The **Republic of Korea (South Korea)** has sold major weapon platforms to **Poland** recently.
- Australia has made efforts to bring the USA and UK and their security capabilities to the Indo-Pacific through the **AUKUS.**

What are the implications of Russia's Eurasian strategy on Asia?

- Japanese Prime Minister Fumio Kishida recently declared that **'Ukraine could be the future of Asia'.**
- The **Sino-Russian alliance** could motivate China to invade Taiwan or exert itself on nations like Japan with which it is in a dispute over territory.
- Japan has planned to double its defence spending of \$50 billion over the next five years and build a **nuclear arsenal capable of deterring China and North Korea.**
- Preparations have also been made to develop the domestic defence industry in Japan and arm the smaller nations around China's periphery in order to act as a deterrent.
- Japan along with its biggest security partner, the USA, have adopted a more expansive approach to defence and security in Asia by seeking European partnership in the region.

- In June 2022, key South Asian leaders participated in the **NATO** summit in Madrid in an attempt to increase NATO's engagement with the Indo-Pacific and East Asia's engagement with European security structures.
- According to the National Security Strategy released in 2022 by the USA, the security of Europe and Asia can be better achieved through **capacity building and regional cooperation that strengthens the balance of power.**

What is the impact on India?

- The rise of the Eurasian strategy in geopolitics has made it difficult for India to accommodate the interests of the two blocs consisting of the USA, UK and Japan on one side and Russia and China on the other.
- Earlier India participated in the **QUAD with the USA, UK and Japan** while cooperating with Russia and China in continental coalitions.
- The widening conflict between the two blocs has made this impractical.
- The increasing cooperation between China and Russia has been concerning for India because of its **territorial disputes with China on the Himalayan frontier.**
- India's reluctance has led to a strengthening of the **AUKUS** grouping which does not include India but is focused on Indo-Pacific security.
- The conflict has also opened **new avenues of strategic cooperation for India** with the USA, Europe, Japan, Korea and Australia which will enable India to secure its geopolitical and economic interests.

What are India's concerns in Eurasia?

- The earlier barrier between Europe and Asia has been breached by **China's growing economic and political influence** in regions that were previously dominated by either the West or Russia.
- China is **attracting Central Asian economies eastward, forging new political alliances, and exporting significant sums of finance** for the construction of infrastructure.
- Additionally, it has increased the strategic alternatives available to Central European nations that were formerly dominated by both Germany and Russia.
- As China's expansive **Silk Road Initiative** begins to link Europe and Asia, India's position is becoming less viable.
- India's access to Central Asia is limited by the presence of hostile nations like Pakistan and China. India's initiatives like the **pipeline in Iran and TAPI** have not been successful either.

Bill In Us To Revoke Pakistan's Non-Nato Ally Status

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Non-NATO ally

Prepp Mains Booster: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests, Effect of policies and politics of developed and developing countries on India's interests

Context:

- Recently, Andy Biggs, a member of the **US House of Representatives** had moved a bill titled **HR 80** to revoke **Pakistan's** designation as a **Major Non-NATO Ally (MNNA)** of the USA.

- The MNNA status entitled Pakistan to certain benefits in **defence trade and security cooperation.**



What does the HR 80 Bill state?

- According to the Bill, **Pakistan should be demoted from its Major Non-NATO ally designation** until the US President has submitted a certification to Congress that Pakistan has fulfilled specific conditions.
- The Bill mentions the following conditions:
 - Military operations aimed at disrupting the **safe haven and freedom of movement** of the Haqqani Network in Pakistan must be conducted.
 - Pakistan must take steps to **prevent the use of its territory as a safe haven** by members of the Haqqani Network.
 - The Government of Pakistan should actively coordinate with the Government of Afghanistan to **prevent the cross-border movement of militants.**
 - Progress must be shown in **apprehending and prosecuting senior and mid-level operatives** of the Haqqani network.
- The Bill also prohibits the President from redesignating Pakistan's MNNA status without certifying that Pakistan has taken action against the Haqqani Network.
- There have previously been attempts to redesignate Pakistan in 2017, 2019 and 2021, although none were successful.

What is the Haqqani Network?

- The **Haqqani group** is a terrorist outfit based in Pakistan but actively operating in Afghanistan.
- The group was established during the 1980s Occupation of Afghanistan by the USSR. It was funded and armed by the USA and Pakistan to combat the Soviets.
- After the 9/11 attacks in the US, the Network has become a liaison between terrorist groups like Al Qaeda and the Taliban.
- The group has been believed to be responsible for the Indian Embassy attacks in 2008 and is now a strong member of the government of Afghanistan.

What is the MNNA status?

- The **Major Non-NATO Ally status** is a designation provided by the USA to its close allies that have a strategic working relationship with the US armed forces but are not members of **NATO.**
- According to the **US Department of State**, MNNA countries are entitled under US law to benefits in defence trade and security cooperation.

- However MNNA status **does not involve any mutual defence pacts or other security commitments**, it only provides **certain economic and military privileges** like access to specific military equipment and financing, priority in arms deals and export control, and participation in joint military exercises and training programs.
- MNNA status was **first established in 1987** and granted to **Australia, Egypt, Japan, South Korea and Israel**. Pakistan received MNNA status in 2004.

What are the benefits of MNNA status?

- It enables businesses from the nation to compete for specific US government contracts for defence equipment outside of the US.
- The nation can participate in certain **cooperative research and development initiatives for counterterrorism**.
- The US Department of Defence will collaborate with the nation on R&D initiatives to enhance **conventional defence capabilities** on a cost-sharing basis.
- Allies located on NATO's southern or eastern flank are eligible for priority delivery of surplus defence items.
- MNNA states are allowed to purchase **depleted uranium weapons**.
- The nation is permitted to **host American War Reserve Stockpiles** outside of US military bases on its soil.
- The nation is enabled to employ foreign military finance from the US for commercial leasing of specific defence items.
- These allied nations are eligible to receive export licences for commercial **satellite technologies, components, and systems**.
- For collaborative R&D initiatives, the ally is qualified to receive loans of materials, supplies, and equipment.



NATO

- **North Atlantic Treaty Organisation (NATO)**, is a **political and military alliance** of 30 countries that was established under the **North Atlantic or Washington Treaty in 1949**.
- Its original members included **Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States**.
- **The countries that later joined the group are Greece and Turkey (1952), West Germany (1955), Spain (1982), the Czech Republic, Hungary, and Poland**

(1999), **Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia** (2004), **Albania and Croatia** (2009), **Montenegro** (2017), and **North Macedonia** (2020).

- The organisation was established as a means to counter Soviet expansion and has the primary objective of **safeguarding the security and freedom of its members by political and military means**.
- Although India and NATO have differing views on certain matters, India-NATO cooperation is a **crucial element of Indo-Pacific security**.

Need For Raising Defense Expenditure Amid Uncertainty

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Society for Worldwide Interbank Financial Telecommunication (SWIFT)

Prepp Mains Booster: Effect of policies and politics of developed and developing countries on India's interests; GS 3 - Security

Context:

- M.K. Narayanan, former Director of the Intelligence Bureau, a former National Security Adviser, and a former Governor of West Bengal has written an article *Entering A Year Of Uncertainty* published in The Hindu on 13 January 2023.
- In this article, he said that there would be a significant rise in defense spending by practically every country as the **arc of instability widens, despite the economic strain all nations are experiencing**.



World war I Vs Present Scenario

- The battle between Russia and Ukraine, which started in February 2022, has seriously **disrupted the status quo**.
- One of the biggest **demographic shifts in recent times** has resulted from it.
- During World War I, particularly in 1916, the danger of escalation, both horizontally and vertically, was downplayed at the time.
- It might be wise to take such experiences into consideration.
- Any **vertical escalation** in the current situation would necessitate the use of **nuclear weapons**.
- Any horizontal escalation would **result in the opening of new fronts**.
- There are **numerous "unknowns"** today, just like in 1916.
- Unexpected events could have harmful consequences.

- There can be a number of further consequences.

Fallout of war

- **Economy:** The "**proxy war**" between Russia and the United States, Europe, and NATO is already having a **significant impact on the economy**.
- **Energy crisis:** An energy crisis has been brought on by the ongoing sanctions imposed on Russia by the West and its allies, the exclusion of Russian banks from SWIFT, and the freezing of Russian assets abroad.
- **Impact on developing countries:** The impact of rising food and fuel import costs is being felt by many developing nations today. Moreover, they are observing reduced remittances for many developing nations that depend on remittances, tourism, etc. for their income, as well as lower revenues due to declining global demand for goods and services.
- Along with this, **oil prices are skyrocketing**, and Russia is using **oil as a weapon**. Although the full scale of this is not yet fully understood, it does indicate the likelihood of a larger conflagration.
- **Repercussions felt beyond Europe:** There are clear repercussions from recent events in Europe.
- **China and Russia:** Some of this is happening far from the borders of Europe. Consider the relationship between China and Russia.
- China has opted for the present to strengthen its strategic ties with Russia.
- Both nations have stated that their "relationships are experiencing the finest time in their history."
- Newer alignments are also becoming apparent throughout Asia as a result of the West's increased concerns around **Taiwan**.
- **Rise in defence spending:** Despite the economic strain all nations are experiencing, the global defence spending is estimated to have surpassed \$2 trillion in 2022, and it is anticipated to rise sharply in 2023.
- **Germany and France** are two European nations that have announced significant increases in defence spending.
- Given the challenges from China and North Korea, **Japan** has already stated that it will increase its defence spending to 2% of its GDP.

Impact of increased defence spending

- **Defence alliance:** Increased defence spending could change the form of defence alliances and, in turn, what is referred to as strategic autonomy.
- **Terrorism:** All signs point to terrorism continuing to be a constant concern this year, but significant terror strikes may not take place.
- However, there are indications that the Islamic State, particularly the ISIS-K, is reviving, and its involvement and activity in Afghanistan are merely the tip of the iceberg. As a result, in 2023, everyone may need to exercise caution.

India

- India's reliance on **Russian military hardware**, which has long served as New Delhi's sheet anchor, may serve as a case in point.
- This might change now that modern **Western weapons are outperforming Russian equipment** in the Ukraine conflict, and India might start looking elsewhere for its future defence purchases.

- India's current transition from a declared **non-alignment policy to multi-alignment** may be able to assist it in extending the range of its defence ties.
- Given the rising tensions between India and China, organisations like the **Quad** (the United States, Australia, Japan, and India) may in the future be given more prominence in India's defence architecture.
- In 2023, it seems that **India and France's** defence ties will strengthen, especially in the area of cutting-edge defence technology.
- The war in Ukraine has made it clear to Europe and other nations that Ukraine, or for that matter any other country in Europe, could not have resisted the Russian advance without the United States and NATO, rendering concepts like strategic autonomy meaningless.
- The same conclusion is likely to guide Asian nations' decisions when dealing with powerful "bullies" like China.
- India finds little solace in the new configuration of the global system. The China-Russia entente damages India's long-standing strategic alliance with Russia, with potentially far-reaching repercussions.

India's Neighbourhood

- In the meantime, India will continue to suffer from the **lack of established boundaries with both China and Pakistan**.
- Additionally, other issues that have surfaced in South Asia will encircle India in 2023. The new government in **Nepal seems to have a Chinese bias**, which could be problematic.
- **Afghanistan under the Taliban** will continue to be problematic, but more so is the upward trend in terrorist activity coming from there, led by organisations like the Islamic State-Khorasan Province (ISIS-K).
- It will take skillful diplomacy to manage India's finely poised relations with **Bangladesh and Sri Lanka**. However, there may not be any significant changes in India's relations with the majority of **West Asian nations this year**.
- It could be used to determine whether India's long-term preference for a non-interfering strategic culture is having a positive impact on its neighbours or not.

Conclusion

- The current global order may be upended by new strategic alignments, which would put an end to prior notions such as non-alignment and the benefits of not adhering to a certain bloc.
- Thus, many of the preconceived notions about economic, technological, and financial liberty may change or be abandoned this year.
- The war in Ukraine will play a significant role in the acceleration of history in 2023.

Assam To Book Men Marrying Girls Below 14 Years Under Pocso Act

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: POCSO ACT

Prepp Mains Booster: Government policies and interventions, Issues related to children

Context:

- The **Assam Cabinet has decided to charge men who marry minor girls** with crimes punishable by prison terms ranging from two years to life.
- According to the National Family Health Survey-5 report, an average of **31.8% of girls in Assam marry at the "prohibited age"** and **11.7% become mothers before reaching adulthood**, compared to the national average of 23.3% and 6.8%, respectively.
- The **legal marriage age is 18 for women and 21 for men.**

Key Highlights

- Health experts attribute the **high rate of maternal and infant mortality in Assam primarily to child marriage**, which has justified the decision to punish men who marry minors.
- **Dhubri, in Western Assam, tops the list of districts, with 50% of girls marrying and 22% becoming mothers before the age of 18.**
- According to the 2011 Census, Dhubri has a Muslim population of 79.67%.



What are the varying sentences?

- The "alarming situation" prompted the Cabinet to decide to charge men who marry girls under the age of 14 under the **Protection of Children from Sexual Offences (POCSO) Act**, which carries a life sentence.
- Men who marry **girls between the ages of 14 and 18 will be charged under the Prohibition of Child Marriage Act of 2006**, with a minimum sentence of two years.
- The police have been directed to conduct a statewide crackdown on child marriage, focusing on cases from the previous year.
- A child protection officer will be appointed in each village, and the gram panchayat secretary will be tasked with filing complaints if any child marriages occur in his or her area of operation.
- If a child marriage case is not reported, action will be taken against the gram panchayat secretary.

About POCSO Act

The POCSO Act was enacted in 2012 to provide a strong legal framework for the protection of children from sexual assault, sexual harassment, and pornography offenses, while also protecting children's interests at all stages of the judicial process.

- To make the punishment for child abuse more severe, the government has notified the Protection of Children from Sexual Offences Rules, 2020, which allows the implementation of recent amendments to the Act.
- **Ministry:** Ministry of Women and Child Development

Measures to Prevent Child Marriages in India

- **Prohibition of Child Marriage Act (PCMA), 2006:** The Government has enacted this to prohibit the solemnization of child marriages and matters connected with or incidental thereto. Section 16 of the PCMA Act empowers the State Government to appoint an officer or officers known as "Child Marriage Prohibition Officers (CMPO)" with jurisdiction over the area or areas specified in the notification for the entire State or any part thereof.
- **The Central Government also conducts awareness campaigns, media campaigns, and outreach programs**, and issues advisories to the States/UTs on a regular basis to highlight the various issues surrounding this evil practice.
- **Beti Bachao Beti Padhao (BBBP)' scheme:** The Ministry of Women and Child Development implements the 'Beti Bachao Beti Padhao (BBBP)' scheme, which educates women and society at large about gender equality and the negative consequences of child marriages.
- **Childline:** The Government of India has launched CHILDLINE, with the short code 1098, a 24X7 telephone emergency outreach service for children in crisis, which responds with appropriate interventions to calls for any form of assistance that a child requires, including prevention of child marriages in collaboration with police, CMPOs, District Child Protection Units, etc.
- **National Commission for the Protection of Child Rights (NCPCR):** On the issue of child marriages and related issues, it conducts various activities and programs with concerned stakeholders/organizations such as representatives of Child Welfare Committees (CWC), Police, Women and Child Development Department, and Civil Society organizations from time to time.

Way Forward

- As the maternal and child mortality is caused mainly due to early marriage, campaign must be made against child marriage as priority in governance.
- Karnataka government, which has already engaged and appointed Child Protection Officers, should be taken as an inspiration.
 - They have stopped 11,000 child marriages and arrested 10,000 people.
- Child marriage protection laws exist, but we have decided to launch a campaign to ensure their strict implementation in order to put an end to this practice and reduce maternal and infant mortality rates.
- Simply asking the police to file cases will not solve the problem; instead, all sectors of society must work together to educate the public about the dangers of child marriage.
- Educational facilities in underserved areas must be improved because they alone can raise awareness among the younger generation, who will then refuse to marry.

Menstrual Leave To All Female Students In State Universities In Kerala

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Health

Prepp Mains Booster: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these

schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections

Context:

- Recently, the **Chief Minister of Kerala**, Pinarayi Vijayan, announced that the state government had decided to grant **menstrual leave** to all female students in all state universities under the Department of Higher Education.
- The Cochin University of Science and Technology (CUSAT) had earlier announced its decision to grant female students **period leave**.

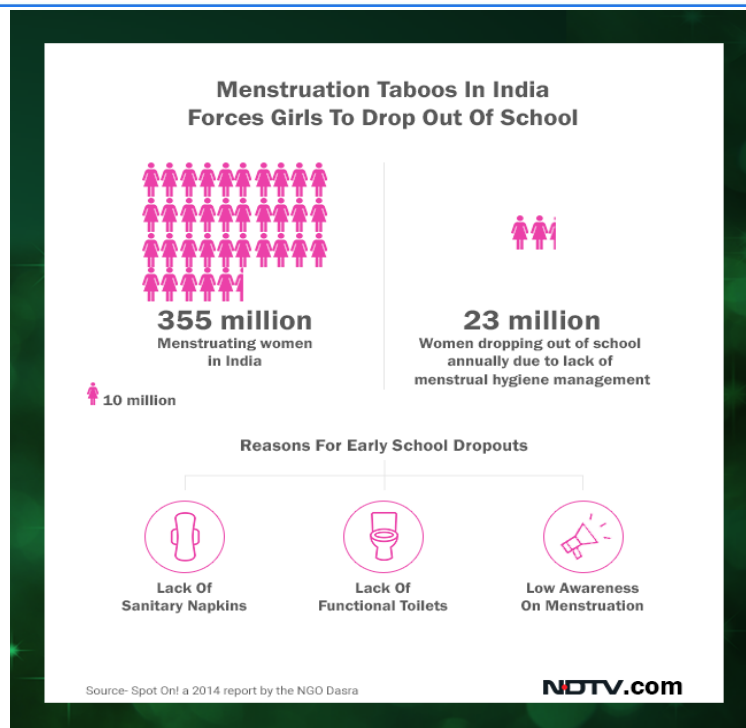
What is period leave?

- Menstrual leave or period leave** is a period of leave granted where an individual may have the choice to take paid or unpaid time off from their employment if they are going through their period and are unable to report to work as a result.
- Menstrual leave has been controversial and associated with discrimination against women throughout its history. Few countries have passed menstrual leave laws and those that have done so had poor adoption rates.
- Some people see it as misogyny or a critique of women's productivity at work. Menstrual leave advocates see it as a means of advancing gender equality and liken its role to that of maternity leave.



What does the move by the Kerala Government entail?

- The Kerala government has instituted period leave in **all 14 state universities** under it as a part of its commitment to ensuring a **gender-just society**.
- The move has been recognized as an important step in acknowledging and addressing the debilitating pain and discomfort experienced by women during this period.
- The introduction of period leave in educational institutions would help create **inclusive and accommodating workplaces and classrooms**.



What are the challenges associated with the move?

- In a traditional society like India, menstruation is still a taboo topic and the new leave policy could become a **tool to discriminate against women**.
- South Korea** and **Japan**, are similar traditional societies with a menstrual leave policy but recent surveys have shown that fewer women are availing of the policy because of the **associated social stigma**.
- Medicalising a natural biological process can worsen existing biases in society against women such as poor work efficiency of women and the need for specific health supplements.
- Employment opportunities available to women may decrease as a result of the **perceived financial and productivity costs** associated with menstrual leave.
- Governments need to negotiate these obstacles to ensure that gender justice and equality goals are achieved.

Have other governments passed such laws?

- This is not the first time that menstrual leave has been granted in an educational institution in Kerala. In **1912**, the **Government Girl's School in Tripunithura, Ernakulam** had permitted students to take period leaves during their annual examinations and allowed them to reappear for the missed papers later.
- In **1992**, **Bihar** introduced a period leave scheme for working women.
- The **Menstrual Hygiene Scheme** of the **Ministry of Health and Family Welfare** which was implemented in **2011** sought to increase access to sanitary napkins for adolescent girls in rural areas.
- The **Menstruation Benefits Bill** was introduced in Parliament in **2017** and in the **Arunachal Pradesh Assembly in 2022**. However, both bills were withdrawn as the matter was deemed unsuitable for discussion in the holy institution.

Conclusion

- In our society, talking about menstruation is generally frowned upon.
- The shame surrounding it has prevented information about it from being passed down through the generations, especially on the basic dos and don'ts when a girl starts her period.
- We need to educate girls and women about the need for clean, dry menstrual hygiene products and the pitfalls of wrong methods.

IMF Confirms India's Finance Assurance For Sri Lanka



Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: IMF

Prepp Mains Booster: Regional and global groupings and agreements involving India and/or affecting India's interests; Important International institutions, GS3 - Mobilization of resources, Growth and Development

Context:

- The **International Monetary Fund (IMF)** has confirmed receiving **India's written financing assurance in support of Sri Lanka's economic revival**.
- While Sri Lanka has expressed optimism that **debt restructuring** talks will be completed within six months.

Background

- Following last year's crippling economic crash, **Sri Lanka decided to seek IMF assistance and reached a staff-level agreement in September 2022**.
- Although the Ranil Wickremesinghe (President of Sri Lanka) government stated that an IMF program would most likely begin before the end of the year, negotiations with creditors dragged on for months.
- On January 16, **India became the island nation's first official creditor** — China, Japan, and India are the island nation's three largest bilateral creditors — to send written financing assurances to the IMF, "strongly supporting" Sri Lanka's **debt restructuring plan**.

Sri Lanka's Debt Crisis

- Sri Lanka is experiencing its worst economic crisis since its independence in 1948.
- Due to a severe lack of foreign exchange reserves, Sri Lanka experienced an unprecedented financial crisis in 2022, the worst since its independence from Britain in 1948, resulting in political turmoil in the country and the ouster of the all-powerful Rajapaksa family.
- Last year, India provided generous assistance to Sri Lanka in the amount of 4 billion US dollars to help it deal with the crisis.
- The difficulties include a lack of dollars, rampant inflation, and a severe recession.
- Sri Lanka's chances of receiving immediate assistance now rely on similar assurances from Japan and China.

What is China's Offer?

- Following similar written assurances from China and Japan, the Fund's Board will approve a \$2.9 billion preliminary package.
- In the midst of speculation about the top two creditors' moves, the Export-Import Bank of China wrote to the Sri Lankan Finance Ministry, offering a two-year moratorium on its debt in support of Sri Lanka's economic revival efforts.

- However, the top Chinese bank's offer is not the same as a written assurance to the IMF that is required for the Fund's Board to approve the provisional package for Sri Lanka.
- Beijing has yet to make an official statement on the subject.
- The IMF has noted that Sri Lanka is currently negotiating with China and Japan to obtain them.
- As soon as adequate assurances are obtained and remaining requirements are met, including by Sri Lankan authorities, a Fund-supported programme for Sri Lanka can be presented to the IMF's Executive Board for approval, unlocking much-needed financing.



What is Debt Restructuring?

- Debt restructuring is a process that allows a private or public company, or a sovereign entity, that is experiencing cash flow problems and financial distress, to reduce and renegotiate its delinquent debts in order to improve or restore liquidity so that it can continue operations.
- The term "refinancing" refers to the process of replacing old debt with new debt when one is not in financial distress.
- Out-of-court restructurings, also known as workouts, are becoming more common around the world.

Debt Restructure Process

- Both the IMF and the Sri Lankan government agreed that no official lender would take a haircut while giving Sri Lanka time to recover through an IMF program.
- After the IMF's Board of Directors approves the package, the countries will hold official bilateral negotiations to work out the restructuring plan for their respective loans, requesting anonymity due to the sensitivity of ongoing negotiations.
- However, private creditors, who hold the majority of Sri Lanka's foreign debt, may have to take a hit.

Relationship between India and Sri Lanka

- India and Sri Lanka are two South Asian countries located in the Indian Ocean. Geographically, Sri Lanka is located just off the southern coast of India, separated by the Palk Strait.
- This proximity has had a significant impact on the two countries' relationship.
- The Indian Ocean is a strategically important waterway for trade and military operations, and Sri Lanka's location at the crossroads of major shipping lanes makes it a critical point of control for India.

Defense and Security Cooperation

- Since 2012, India has participated in the Indo-Sri Lankan Defence Dialogue, which helps to review security and defense cooperation issues between the two countries.
- To ensure maritime security India and Sri Lanka hold a joint naval exercise called 'SLINEX,' a trilateral naval exercise, and India and Sri Lanka hold an annual joint military drill called 'Mitra Shakti,' to boost counter-terrorism cooperation.

What is the International Monetary Fund?

- The IMF was set up along with the World Bank, following World War II, to aid in the reconstruction of war-torn countries.
- The two organizations agreed to form at a conference in Bretton Woods, New York. As a result, they're known as the Bretton Woods twins.
- The IMF is governed and accountable to its nearly global membership of 190 countries.
- India joined on December 27, 1945.

Significance

- During the economic crisis, India became the first foreign dignitary to visit Sri Lanka.
- Jaishankar's visit in March last year, at the height of the crisis, reassured Sri Lankans that India's 'Neighborhood First' policy was still in effect.
- Sri Lanka is a close friend and neighbor, and India has always stood by the Sri Lankan people.
- Jaishankar's visit to Colombo demonstrates the importance that India places on its close and friendly relations with Sri Lanka.

China 'Exploited' Insecurity Among Tribal Communities On India-Myanmar Border: Research Paper

Priority: High



Primary Source: Hindu

Prepp Prelims Booster: India-Myanmar

Prepp Mains Booster: India and its neighborhood- relations; GS 3 - Security challenges and their management in border areas - linkages of organized crime with terrorism;

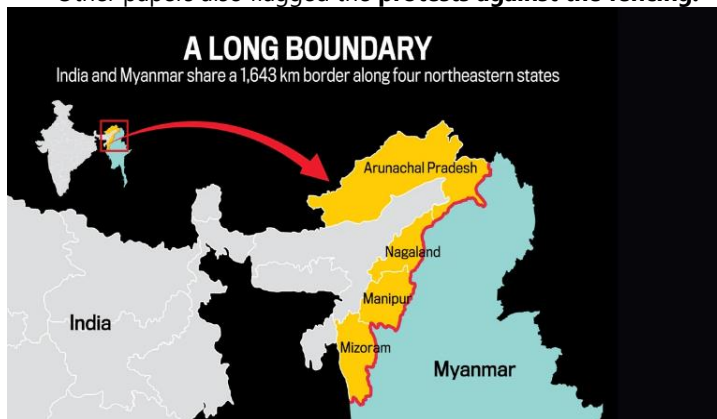
Context:

- A research paper written by a police officer and submitted at the All India Conference of Directors General and Inspectors General of Police last week stated that **China has "exploited" the sense of alienation and insecurity** among **tribal communities** along the **India-Myanmar border**, who have been protesting against the fencing being undertaken along the border, in order to "**cause insurgency and instability**" in northeastern India.
- It added that insurgents sourced their arms from China and brought them into India via Myanmar.

What is the issue?

- India shares a 1,643-km long border with Myanmar that passes through four States: Arunachal Pradesh, Nagaland, Manipur, and Mizoram.
- Given the **historical and cultural linkages** between people on both sides, the **border is relatively porous**, and there is a free movement regime that allows locals can move up to 16 km on either side of the border.

- The first paper stated that **efforts taken by both India and Myanmar to fence the border have been protested by tribal communities on both sides**, who fear that the demarcation would lead to them **losing their land and forest access to the other side**.
- Other papers also flagged the **protests against the fencing**.



Concerns

- **Isolation and insecurity:** The struggle for **integration and the union of ethnic groups** and identities on both sides of the border have been sparked by this feeling of isolation and insecurity.
- According to the study, **China** has further used this to create **unrest and instability in northeastern India**.
- The majority of the **weapons and ammunition** used by NE militants are **acquired from China** and were shipped via the Myanmar route, it has been noted over time.
- **Porus Borders:** Indian insurgent organizations who take advantage of the porous border have found refuge in Myanmar.
- **Cross-border crime:** The area is also plagued by cross-border crime, including the smuggling of products, weapons, and fake money, as well as drug trafficking and insurgency, the paper stated.
- The North-East sits close to Golden Triangle, it is the transit route for large scale **drug trafficking** to the rest of the world.
- **Arms:** The second paper said, that based on intelligence inputs, there exists a historical link between the Northeast insurgents and China.
- The weapons obtained from China are smuggled into the Northeastern States across the borders with Thailand, Bangladesh, and China-Myanmar.
- **Unstable government:** The paper argued that politics in northeastern States were so unpredictable that one never knew when a government would fall.

Free Movement Regime

- Under the Free Movement Regime, the governments of India and Myanmar permit entry of persons residing within 16 km of the border with permits but without visa under certain conditions.
- Citizens of both sides can stay in the other country for three days, within 16 km on either side.

Suggestions

- The various strategies proposed to fall under a number of broad categories, including **people-centered initiatives**, inter-agency coordination, the development of a database for **real-time**

monitoring through the application of data science, and collaboration with neighboring nations.

- Technology-based specialized border forces outfitted with **cutting-edge border management technologies** are among the major themes that have been suggested.

Way Forward

- In addition to the fencing strategy, the first paper suggested that India with more than 15,000 km of borders coupled with a hostile neighborhood has to follow a **multi-modal approach to mitigate** the challenges of unfenced borders.
- If India has to take on China more successfully, then it has to **engage the people in North East and sort out the difficulties.**

Rejuvenating India's Egypt Relations

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: India-Egypt

Prepp Mains Booster: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests, International Relations

Context:

- Recently, **Prime Minister Narendra Modi and President Abdel Fattah El-Sisi agreed to elevate the India-Egypt bilateral relationship to a "strategic partnership"**.
- The strategic partnership will include four major components: **political, defense, and security engagement; economic engagement; scientific and academic collaboration; and cultural and people-to-people contacts.**
- Relations between the two countries have historically been positive. Egypt is seen by India as a moderate, friendly voice in the Islamic world, and their relationship has now been elevated to a strategic partnership.
- New opportunities await the two **Global South partners.**

Key Highlights

- Sisi is the Chief Guest at this year's Republic Day, the first time an Egyptian President has received this honor.
- Egypt sent a military contingent to the parade.
- Sisi is the fifth leader from the region of West Asia and North Africa to be the Republic Day Chief Guest, following:
 - Algeria's President Abdelaziz Bouteflika (2001),
 - Iran's President Mohammed Khatami (2003),
 - Saudi King Abdullah bin Abdulaziz al-Saud (2006), and the
 - Crown Prince — now President and ruler of the UAE, Mohammed bin Zayed Al Nahyan (2017).

Historical Background

- Contacts between India and Egypt, two of the world's oldest civilisations, can be traced back to Emperor Asoka.
- In modern times, Mahatma Gandhi and Egyptian revolutionary Saad Zaghloul shared common goals of independence from British colonial rule, and the two nations made a joint announcement of diplomatic relations at the ambassadorial level three days after India gained independence.
- Prime Minister Jawaharlal Nehru was a close friend of President Gamal Abdel Nasser, and India and Egypt signed a friendship treaty in 1955.

- In 1961, Nehru and Nasser, along with Yugoslavia's President Josip Broz Tito, Indonesia's President Sukarno, and Ghana's President Kwame Nkrumah, founded the **Non-Aligned Movement (NAM)**.
- Prime Ministers Rajiv Gandhi, P V Narasimha Rao, I K Gujral, and Dr Manmohan Singh visited Egypt in 1985, 1995, 1997, and 2009 respectively (NAM Summit).
- Egypt's President Hosni Mubarak visited India in 1982, 1983 (NAM Summit), and 2008.
- President Mohamed Morsi visited India in March 2013 following the 2011 revolution.



What are the recent engagements?

- Egypt has been invited to the G-20 summit as a special guest by India.
- Exercise Cyclone-I, the first ever joint exercise between the Indian and Egyptian armies, was recently held in Jaisalmer.
- India and Egypt agreed to upgrade their bilateral ties to a "Strategic Partnership" that will cover political, security, defense, energy, and economic issues.

How has the relationship been since 2014?

- External Affairs Minister Sushma Swaraj visited Cairo in August 2015, just over a year after Sisi took office in June 2014.
- Prime Minister Modi met Sisi on the sidelines of the United Nations General Assembly in September 2015, and the Egyptian leader paid a State visit to India in September 2016.
- The joint statement identified political-security cooperation, economic engagement and scientific collaboration, and cultural and people-to-people ties as the foundation of a new partnership for a new era.
- This is Sisi's third visit to India; Modi's planned visit to Egypt in 2020 was canceled due to the Covid-19 pandemic.
- The two leaders spoke by phone in April of that year to discuss efforts to halt the spread of the virus and to exchange Eid-ul-Fitr greetings.
- During the deadly second wave in April-May 2021, Sisi expressed his sympathy and solidarity with the Indian people and government, and Egypt sent medical supplies to India.

Bilateral Trade Relations

- Egypt has long been one of India's most important trading partners in the African Continent.
- The India-Egypt bilateral trade agreement has been in effect since March 1978 and is based on the most-favored-nation clause.
- Bilateral trade between India and Egypt reached a new high of \$7.26 billion in fiscal year 2021-22.

- The trade was fairly balanced, with \$3.74 billion in Indian exports to Egypt and \$3.52 billion in Indian imports.
- More than 50 Indian companies have invested approximately \$3.15 billion in various sectors of the Egyptian economy, including chemicals, energy, textile, garment, agri-business, and retail.

Tough Stance On Terrorism

- Sisi has been tough on Islamic religious extremism from the start.
- With President Sisi by his side, Prime Minister Modi stated on Wednesday that India and Egypt are "worried about the spread of terrorism around the world" and are "unanimous" that terrorism is the "most serious security threat" to humanity.
- The two countries agreed that "coordinated action is required to end cross-border terrorism."
- Sisi stated that India and Egypt shared a "common perspective," and that the spread of violence, terrorism, and extremist ideology posed a serious threat not only to their two countries, but to the entire world.
- With Sisi at the helm, Egypt's former military chief and defense minister, the two countries are looking to expand their defense and security cooperation.
- In the 1960s, the two Air Forces collaborated on the development of fighter aircraft, and Indian pilots trained Egyptian counterparts from the 1960s until the mid-1980s.
- Both the IAF and the Egyptian air force use French Rafale fighter jets.
- India wants to supply India-made defense equipment such as the LCA Tejas, missiles such as the Akash, the DRDO's Smart Anti-Airfield Weapon, and radars to Egypt.
- When Defence Minister Rajnath Singh visited Cairo last year, a pact was signed, and the two countries agreed to participate in exercises and cooperate in training.

Egypt's Difficult Time

- **Pandemic Effect:** Egypt's economy has been in shambles for several years. It was battered by the collapse of tourism during the pandemic, and the Russia-Ukraine war impacted its food supply — nearly 80% of Egypt's grain came from these two countries — as well as its foreign exchange reserves.
- Despite export restrictions, India allowed 61,500 metric tonnes of wheat to Egypt last year. But the country requires more.
- **Inflation:** Inflation is at a five-year high of 21%. Egypt has asked the International Monetary Fund (IMF) for a bailout for the fourth time in six years.
- It received a \$12 billion IMF loan in 2016, as well as \$8 billion in budgetary support from Saudi Arabia and the UAE.
- Egypt has sought infrastructure investments from India, including Metro projects in Cairo and Alexandria, a Suez Canal economic zone, a second Suez Canal channel, and a new administrative capital in a Cairo suburb.
- More than 50 Indian companies have invested more than \$3.15 billion in Egypt.
- **Geostrategic Concerns:** China's bilateral trade with Egypt is currently worth \$15 billion, more than doubling India's \$7.26 billion in 2021-22.
- Sisi has been courting Chinese investment and has visited China seven times in the last eight years.

- Egypt, the most populous country in West Asia, has a critical geostrategic location — 12% of global trade passes through the Suez Canal — and is a key player in the region.
- It is a significant market for India and can serve as a gateway to both Europe and Africa.
- It also has bilateral trade treaties with major West Asian and African nations.
- The NAM was founded by the two countries more than six decades ago. They now have an opportunity to forge a new path forward, not only for their strategic and economic interests, but also as the voice of the Global South.

India's Call To Modify The Indus Waters Treaty

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Indus Water treaty

Prepp Mains Booster: India and its neighborhood- relations; Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Context:

- Recently, India announced that it wants to modify the 62-year-old Indus Water Treaty (IWT) with Pakistan, citing Pakistan's "intransigence" in resolving disputes over the **Kishenganga and Ratle hydropower projects**, both in Jammu and Kashmir.
- India also protested Pakistan's "**unilateral**" decision to approach a court of arbitration at The Hague.

What is the issue?

- **Kishenganga** is a tributary of the **Jhelum river**, originates in J&K and joins the river in Pakistan-occupied Kashmir.
- KHEP's work began in 2007 with a plan to dam the Kishenganga, transfer its water to Bandipora, a 330 MW hydropower plant in Kashmir, and send it back.
- The project's development was scheduled to be finished by 2016, before it began, Pakistan voiced concerns about the height of the dam out of concern that **it would result in more water storage for India**.
- In its ultimate decision in 2013, the Court gave India the go-ahead for the project (subject to conditions).
- Islamabad has often voiced worries about the design of India's 850 megawatt **Ratle hydroelectric power project on the Chenab River**, insisting that India would utilise the project's reservoir to intentionally and artificially reduce Pakistan's water supply or cause flooding.
- According to Indian authorities, the "**parallel processes**" rather than a "**graded mechanism**" had resulted in a **deadlock**, and India was left with no choice but to insist that Pakistan sit down and negotiate treaty modifications.
- According to the sources, "**Pakistan's actions have adversely affected the provisions of IWT and their implementation**, forcing India to issue an appropriate notice for modification of IWT.
- The initiation of two concurrent processes on the same questions and the possibility of their inconsistent or contradictory outcomes create an unprecedented and legally untenable situation, **which risks endangering IWT itself**.

Flow of life

The Indus river system is critical to both India and Pakistan.
A look at the Indus Waters Treaty of 1960

■ The Indus system of rivers comprises the main river and its tributaries, namely Ravi, Beas, Sutlej, Jhelum and Chenab

■ The treaty provides India absolute control of all the waters of the eastern rivers — Ravi, Sutlej and Beas

■ Pakistan shall receive for unrestricted use all waters of the western rivers — Indus, Jhelum and Chenab



Strong currents: The Beas flowing through Manali in Himachal Pradesh.

■ India is permitted to use the waters of the western rivers for domestic use, non-consumptive use, agriculture and generation of hydro-electric power subject to certain conditions

Significance of Project to India

- In light of China's controversial China-Pakistan Economic Corridor (CPEC), which is a centerpiece of its One Belt One Road (OBOR) infrastructure plan, the project is viewed as strategically important.
- Whoever constructs the **project first will have first access to the river waters**, as per the Indus Waters Treaty.
- The power produced by the project will help to balance the grid and strengthen the position of the power supply.
- Many would be **employed directly and indirectly** as a result of the Project's building activities, which will also contribute to the Union Territory of Jammu and Kashmir's general **socio economic growth**.
- The Ratle Hydro Electric Project will also benefit the Union Territory of Jammu and Kashmir by providing free **electricity worth Rs. 5289 crore** and by charging water usage fees worth Rs. 9581 crore throughout the course of the project's 40-year lifespan.

India's stand

- The Indian government had written to Pakistan on January 25, calling for modifications to the treaty as per **Article XII (3) of the IWT** which deals with the "final provisions" of the treaty.
- India said that it has been compelled to call for the 'modification' of the 63-year-old Indus Waters Treaty (IWT) owing to Pakistan's persistent objections **over India's Kishenganga (KHEP) and Ratle hydropower projects**.
- The first hearing of the Pakistani case at the **Permanent Court of Arbitration** at The Hague in the Netherlands began, with India boycotting the court process.
- The choice to give Pakistan notice and ask for a response within 90 days is a significant move that may cause the water-sharing agreement to fall apart and need to be renegotiated.
- In a time when the two nations have ceased commerce and cultural exchanges as well as the majority of bilateral talks, the pact is sometimes viewed as a rare instance of India-Pakistan unanimity.
- According to the sources, Pakistan's effort to pressure the World Bank to establish a Court of Arbitration was in opposition to the

World Bank's existing method of resolving disputes by designating a "neutral expert."

- India now alleges that by unilaterally changing its request from one dispute resolution mechanism to another, **Islamabad has violated the IWT**.

Dispute resolution Mechanism

- Article IX of the treaty, which addresses the "Settlement of Differences and Disputes," stipulates that there are **three ways to address objections** raised by either party:
 - working within the "Permanent Indus Commission" (PIC), which is composed of an Indian and a Pakistani delegation of water experts who regularly meet;
 - consulting a World Bank-appointed neutral expert;
 - or setting up a court process to decide the case through the World Bank and the Permanent Court of Arbitration (PCA).
- **Pakistan, on the other hand, had gone ahead without waiting for India's approval**, although India has maintained that each step must be thoroughly exhausted before both sides agree to move on to the next.
- The Permanent Indus Water Commission, which was last in Delhi in May 2022 and is scheduled to meet in Lahore this year, last met with Indian and Pakistani negotiators in November 2022.
- Pakistan asked the World Bank to appoint an impartial expert in 2015 after nearly ten years of trying to address the issues, but later changed its mind and requested a Court of Arbitration.
- The World Bank paused both processes in 2016, concerned that the results of the two processes would be in disagreement. In March 2022, the World Bank lifted the pause.

What is Indus Water Treaty?

- It was signed by former Prime Minister Jawaharlal Nehru and then President of Pakistan, Ayub Khan.
- The Washington-based World Bank was also a signatory.
- The former Vice President of the World Bank, W. A. B. Liff, also signed it.
- The agreement lays up a framework for **communication and cooperation** between the two nations over how they use the rivers.
- Under the Indus Water Treaty (IWT), all the waters of the **eastern rivers—Sutlej, Beas, and Ravi**—amounting to around 33 million acre-feet (MAF) annually is allocated to India for unrestricted use.
- The waters of **western rivers—Indus, Jhelum, and Chenab**—amounting to around 135 MAF annually have been assigned largely to Pakistan.
- India is permitted to construct the **run of the river plants on western rivers** with limited storage as per criteria specified in the treaty.
- It also required both countries to establish a **Permanent Indus Commission** constituted by permanent commissioners from both sides.
- The functions of the commission include serving as a forum for the exchange of information on the rivers and as a **first stop for the resolution of conflicts**.
- India is permitted to develop "run of the river" (projects which do not require live storage of water) hydropower projects under IWT Annexure D.

- Pakistan may also object to the construction of such projects under the terms of the treaty if it believes they are not in compliance with the rules.

Way forward

- The only agreements in Asia that provide precise water-sharing formulas for cross-border flows are India's treaties with Pakistan and Bangladesh.
- In terms of international water law, they also established a new rule.
- The unique **Indus Waters Treaty** was built in 1960 on three pillars: **sharing of water, transparency, and collaboration.**
- Islamabad's recently unveiled intent to haul India again before an international arbitral tribunal is a testament to how water remains a source of discord for Pakistan despite a treaty that is a colossus among existing water-sharing pacts in the world.
- Using water as a weapon is never a good idea.
- It would be so much better for **both countries to treat the IWT** as an instrument for **collaboration on climate action** in the fragile Himalayan region.

General Assembly Divided Over UN Reforms, Says Csaba Korosi

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: UNGA

Prepp Mains Booster: Important International institutions, agencies and fora- their structure, and mandate

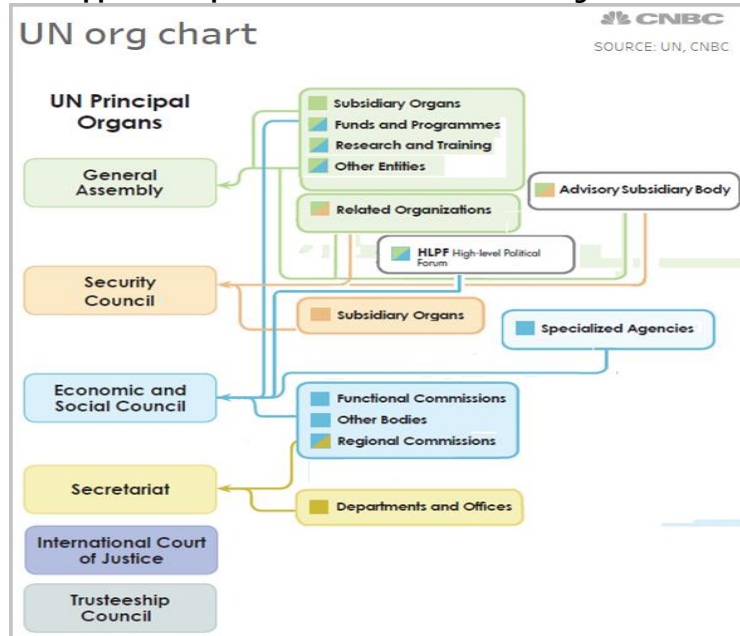
Context:

- Recently, UNGA President Csaba Korosi, who is visiting India, said that the reform of the Security Council was a member-driven process and that members of the UNGA have to first come together to pass a resolution.
- The crucial hurdle in the way of reforming the United Nations comes from the disunited state of the **UN General Assembly (UNGA)**, said Csaba Korosi, President of the 77th UNGA, in New Delhi on January 30, 2023.

Highlights

- The UN Security Council reform was a **member-driven process**, therefore in order to get started, **the UNGA members had to join together** and pass a resolution calling for the Security Council reform.
- **There must be a resolution passed by the General Assembly** in order to ask the P5 or the Security Council to adopt a proposal for reform emanating from the UN General Assembly. [So far] it hasn't happened.
- The General Assembly has historically been quite divisive.
- There are five negotiating groups made up of 193 nations, and they are working **to balance one another out.**
- When it comes to securing UN system reform, the General Assembly's operation is just as crucial as the UNSC's permanent members.
- He insisted that while the permanent members had "historically not been enthusiastic" about UN system reform, **they have now all come to the conclusion that it is vital to bring about reforms to the Security Council.**

- He emphasised that the Security Council's **veto procedure is 77 years old** and that it has evolved into a tool to **stymie rather than support the operations of the international organisation.**



Steps taken by UN

- Mr. Korosi claimed that little had been accomplished about UN system reform despite years of demand.
- The initiative gained momentum when he named Tareq M.A.M. Albanai of Kuwait and Michal Mlynar of Slovakia as co-chairs of the **Intergovernmental Negotiations (IGN) for the reform program**, two negotiators for the program.
- The group in charge of the UN reform issue is the Intergovernmental Negotiations.
- The two co-chairs were set to begin more extensive consultations, according to Mr. Korosi.
- Mr. Korosi had pledged to launch the UN reform process upon taking office as President of the UNGA.

India's key role

- India had played a vital role in the past years in improving the response mechanism of the United Nations.
- Mr. Korosi highlighted India's contribution in stabilizing the world which had been shaken by pandemic and war in recent years and invited India to become "very active" in all the negotiating tracks that were currently under way in the United Nations.

On Russia-Ukraine Crisis

- He explained that the UN can help facilitate prisoner exchanges and ceasefires between conflicting parties in the context of the crisis in the Ukraine and other hotspots across the globe.
- He also brought up the acute humanitarian issue in Ukraine that has developed over the course of the previous year of conflict.
- He claimed that the UN was concentrating on resolving the humanitarian effects of the crisis because the war in Ukraine had a negative impact on approximately 35% of the world's agricultural supplies.
- In reference to the ongoing conflict between Russia and Ukraine, Mr. Korosi argued that a ceasefire was necessary.

Why are UNSC reforms needed?

UNSC reforms are needed for several reasons, including:

- **Representation:** To better reflect the current global geopolitical landscape, the UNSC needs to include more representation from emerging and developing countries.
- **Efficiency:** The UNSC needs to be more efficient in decision-making, particularly in times of crisis, to address global security and humanitarian issues more effectively.
- **Transparency:** To increase accountability and transparency, the UNSC needs to increase its engagement with civil society, the media, and other relevant stakeholders.
- **Inclusiveness:** To make the UNSC more inclusive and democratic, there is a need to improve the participation of developing countries in the decision-making process.
- **Effectiveness:** To enhance the UNSC's effectiveness in maintaining international peace and security, there is a need to modernize its methods and tools, including the use of technology.
- Overall, UNSC reforms are necessary to ensure that the UNSC is better equipped to address the current and future challenges of global peace and security in a rapidly changing world.

Why does India want to become a permanent member of the United Nations Security Council (UNSC)?

- India wants to become a permanent member of the United Nations Security Council (UNSC) because it seeks to:
- Increase its global influence and decision-making power
- Reflect its status as a major power and large democracy
- Have a greater role in international peace and security matters
- Address the imbalance in the current UNSC composition, which does not adequately represent the developing world.

Challenges

- **Lack of consensus** among existing permanent members on expanding the UNSC.
- **Objections** from some countries over India's bid, primarily due to its rivalry with Pakistan.
- **Resistance** to change the current power structure of the UNSC.
- The **complex and slow-moving process** of amending the UN Charter, which requires the support of two-thirds of UN members and ratification by all five permanent members.
- India's position on various **international issues** may not align with that of existing permanent members.
- Despite these challenges, India continues to actively engage with the international community and push for its candidacy for permanent membership in the UNSC.

Conclusion

- In conclusion, the General Assembly is facing a difficult but important task in determining the future direction of the UN.
- As the world continues to change and evolve, it is essential that the UN is able to adapt and respond to new challenges in a timely and effective manner.
- With the support and cooperation of member states, the UN can continue to play a vital role in promoting peace, security, and sustainable development for all.

Lessons From Ukraine War: Uavs, Missiles Are Likely Future Threats

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Security

Prepp Mains Booster: Security Challenges; Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Context:

- Recently, the Army carried out a detailed analysis of the various lessons that the **Russia-Ukraine conflict** threw up for India on weapon systems, tactics and operational procedures.
- The conflict offers important lessons that should influence the thinking of planners, policymakers, and military leaders about the future.
- These lessons will be applied and incorporated into the Indian context.



Highlights

- **Unmanned aerial vehicles (UAV) and missiles** are projected to pose a significant threat in the future, necessitating a mitigation plan as part of an **integrated air defence and highlighting** the requirement for an all-encompassing air defence solution.
- It's the biggest takeaway for India from an Army analysis of the war in Ukraine, in the context of the air battle fought there and its implications for **Indian air defence**.
- The Army is also experiencing a shortage of spare parts and ammunition as a result of the nearly one-year-long conflict between Russia and Ukraine, especially for its primarily Russian-made armoured and air defence fleets.
- The most crucial component of **ground-based air defences (GBAD)** is their ability to endure enemy Suppression and Destruction of Air Defense (SEAD/DEAD) operations.
- The Russian advance and the Ukrainian reaction have highlighted the need for deconfliction of air defence missiles with interceptors in exclusive engagement zones and decentralised execution of air defence functions.
- After the first three days, Russian strike activities were primarily limited to stand-off launches with missiles; this was partly caused by Russia's significant casualties as a result of Ukraine's Man Portable Air Defence Systems (**MANPADS**).
- Despite working in tandem with Russia's Shahed-136 UAVs, Ukrainian GBADs shot down nearly **50% of Russian cruise and ballistic missiles launched against numerous targets**.
- Another significant threat that has evolved in this conflict is **loitering munitions**, which presents an **asymmetric challenge to air defences as well as armour**.
- **High-rate gun systems, improved optic sights, fragmented ammo, and Active Electronically Scanned Array (ASEA) radars** are the greatest air defences against them, according to analysis.

- When in close proximity and equipped with night vision, **MANPADS have proven to be very effective.**
- MANPADS are “**short-range surface-to-air missiles** used to intercept fixed- and rotary-wing aircraft in flight.”
- They are designed to be fired while mounted on a person’s shoulder or a tripod.
- The Indian Army has been trying to modernise this area for a time, but with little success.

Steps taken by Army

- The Army is going through a significant change in its air defence.
- The need for a layered air defence net at different ranges and altitudes has only increased since the Ukraine war, and several inductions are in the works.
- A networking and automation project costing 200 crore rupees that are modelled after the Indian Air Force’s Integrated Air Command and Control System (IACCS) network is now complete as part of modernization efforts.
- The Defence Research and Development Organization’s (DRDO) Very Short **Range Air Defense Systems (VSHORAD-Infrared Homing)** missile system has been approved for purchase by the Defence Acquisition Council (DAC), which met on January 10.
- The Army has a significant need for VSHORAD, and attempts to import the equipment on numerous occasions have failed.
- A significant agreement with Russia that was shortlisted in a bidding procedure has been bogged down for several years and is now in danger of being scrapped.
- In the interim, the Army made an urgent purchase of **Igla-S systems from Russia** against the backdrop of the standoff with Chinese forces in eastern Ladakh.
- The equipment was delivered by December 2021 after the contract was signed in December 2020.
- The Army has the indigenous **Akash Surface-to-Air Missile at the short-range level (SAM).**
- The DRDO is developing a **Quick Reaction SAM** with a 25–30 km range.
- The **Medium Range Surface to Air Missile (MRSAM)**, a project jointly developed by the **DRDO and Israel**, has recently commenced production at the next range.
- The sustenance of weapon systems and equipment, in terms of spares and ammunition, is one issue that the Army has addressed.
- The army has got a waiver and sanction to procure even if it is ex- imports for the next two to three years.

Conclusion

- Every battle is unique. Future battles will have a variety of actors with various military structures and capabilities, be fought over a variety of different geopolitical regions, and have a variety of different strategic objectives.
- The capabilities of counter drones, operational concepts, and drone technology are all developing.
- But the Ukrainian conflict is making one thing quite clear: **drones are an important part of contemporary combat**, and any force that wants to succeed on the battlefield must pay heed.

On The Legality Of Israel’s Occupation

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Importance events of National and International Importance

Prepp Mains Booster: Effect of policies and politics of developed and developing countries on India’s interests, Important International Institutions

Context:

- Recently, the **United Nations General Assembly** had passed a resolution that asked the **International Court of Justice** to render its opinion on the **legal consequences of Israel’s occupation of Palestinian land.**

What is the Israel-Palestine conflict?



- The **First Arab-Israel War of 1948** was caused by the declaration of independence by Israel as the **British mandate over Palestine** came to an end.
- An earlier resolution by the UNGA had sought to partition the then British-mandated Palestine but the proposal was rejected by the Arabs.
- At the end of the war fought between **Israel, Jordan, Syria, and Egypt**, Israel emerged with more area than was proposed to be divided under the UNGA resolution.
- Palestine was divided into the state of **Israel (including West Jerusalem)**, the **Jordan-controlled West Bank (including East Jerusalem)**, and the **Egypt-controlled Gaza strip**. 7,00,000 Palestinians were displaced from their homes and lands as a result of the conflict.
- Increasing tensions between the states led to the **six-day war of 1967**. At the end of the war, **Israel had captured the West Bank, the Gaza Strip, East Jerusalem, Syria’s Golan Heights, and Egypt’s Sinai Peninsula.**
- The Sinai Peninsula was later returned to Egypt but other Syrian and Palestinian territories remained under Israel’s control.
- Jerusalem was declared the eternal and undivided capital of Israel.
- **Israel withdrew from Gaza in 2005** but continues to patrol its external borders alongside Syria.
- In 1967, the UN Security Council passed a resolution asking Israel to withdraw from territories seized during the war. However, this is yet to see results.
- Since 1967, Israel has constructed dozens of Jewish settlements in the occupied West Bank which a majority of the international community see as illegal and a roadblock to peace.
- Over the years, violence against the three million Palestinians living in the West Bank under Israel’s military control has

increased. Killings and violations of the human rights of the Palestinians by the army are a regular occurrence.

What do the two parties desire?

- Palestine wants Israel to **stop all expansionary activity and return to pre-1967 borders**.
- It wants to establish a modern Palestinian state in the West Bank and Gaza with East Jerusalem as its capital.
- Palestinian refugees who have lost their homes in the conflict should be able to return and settle down.
- Israel desires recognition as a **Jewish state** and is not willing to allow the return of Palestinians to the seized territories it views as part of Israel.
- The Israel state also views its Arabian citizens as second-class citizens and actively aims for a solely Jewish state.



What is the aim of the 2022 resolution?

- The resolution passed by the UNGA on December 30 had asked the ICJ to give its opinion on the **legal consequences of Israel's occupation, settlement, and annexation of the Palestinian territories**.
- It also sought the Court's opinion on the **measures aimed at altering the demographic character and composition** of the Holy City of Jerusalem and the related discriminatory legislation and measures.

What was the response of the international community to the resolution?

- Israeli allies like the USA rejected the resolution and voted against it.
- The Arab nations unanimously accepted the resolution and voted in favor.
- European powers and India abstained from voting.
- In total, the resolution was **favoured by 87 members, opposed by 26, and abstained by 53 countries**.

What are the possible results of the referral?

- In case a referral is made to the ICJ, two possible situations can take place.
- One, a **settlement** can occur by either party withdrawing its case.
- In the second case, a **trial** is conducted and the ICJ pronounces its verdict.
- However, the ICJ has **no power to enforce its verdicts despite their being binding** on the parties involved.

What is the expected response from Israel?

- Israel has recently seen the return of Benjamin Netanyahu as Prime Minister with the backing of the most far-right coalition in the history of Israel.
- The coalition made up of 5 ultra-orthodox and far-right Jewish Nationalist parties had in its coalition agreement (election manifesto) had prioritized the expansion of Jewish settlements in the West Bank and the legalization of illegally built outposts.
- The document aims to advance and develop settlements in all parts of Israel including **Judea and Samaria**, the biblical names of the West Bank.
- It also promises Jewish citizens that Israel would annex the West Bank at a time and situation suitable to the national and international interests of Israel.
- It is feared that the ultra-nationalist politics of the coalition's allies like the Religious Zionism Party will adversely affect Palestinians living in Israeli military-controlled areas.

United Nations General Assembly

- The UNGA is the organization's **main governing body** and its most representative body.
- In the UNGA, or GA, there are representatives from each of the **193 UN members**.
- It meets once a year at its offices in New York City and occasionally at other times as needed.
- The President of the UNGA is in charge and is chosen for a **one-year term**.
- Important subjects including peace and security, the admission of new members, and other global concerns are discussed and decided by the UNGA.
- Decisions are made through voting. In most cases, a simple majority is sufficient but in cases of significant decisions, a two-thirds majority is necessary. There is **no veto power and only one vote per member**.

Powers of the UNGA

- Examining and approving the UN budget and determining the member countries' budgetary evaluations.
- Analysing and recommending ways to cooperate in order to **preserve international security & peace, including disarmament**.
- Selecting the Secretary-General in accordance with the UNSC's recommendations, as well as the non-permanent members of the UN Security Council (UNSC) and other UN organizations and agencies.
- **Addressing issues of global peace and security** and giving suggestions thereupon (unless the matter is currently being discussed by the Security Council).
- Developing and codifying international law, achieving fundamental freedoms and human rights, and fostering international cooperation in the social, economic, humanitarian, educational, cultural, and health domains. initiating studies and making recommendations to improve international political cooperation.
- Making **suggestions for the peaceful resolution of any dispute** that threatens international harmony.
- The UNGA also takes into consideration reports from the UNSC and other UN bodies.

- When there are risks to peace and the UNSC has not taken action as a result of a permanent member's veto, the GA may take the situation under consideration and make recommendations to its members.

International Court of Justice

- The International Court of Justice (ICJ) was formed under the United Nations charter in 1945 and began operations in April 1946.
- It is the main court of the United Nations, and it is located in The Hague's Peace Palace (Netherlands).
- In conformity with international law, it renders advisory opinions on legal issues that have been presented to it by recognized United Nations departments and specialized agencies. It also resolves legal disputes between States.
- The Security Council and General Assembly of the United Nations elect the 15 judges that make up the Court to nine-year periods of office.
- The International Court of Justice (ICJ) serves as a global court with dual jurisdiction, which includes requests for advisory opinions on legal issues from United Nations bodies and specialized agencies as well as legal disputes between States that are brought before it by them directly.
- States that are parties to contested cases must be United Nations members, have ratified the Court's Statute, or have accepted its jurisdiction in particular circumstances.
- The decision is final, enforceable against the parties, and not subject to review.

At Strategic Dialogue, India And France Share Views On Security And Defence Cooperation

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indo-French

Prepp Mains Booster: International Relations, Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests, Effect of Policies & Politics of Countries on India's Interests

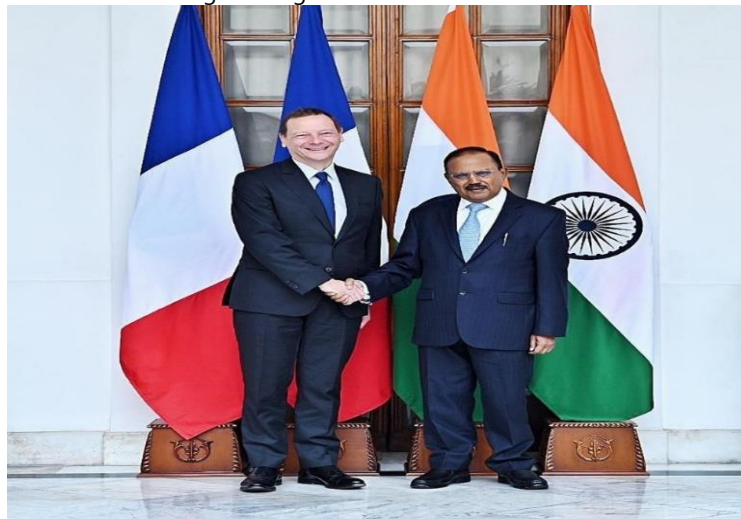
Context:

- Recently, **National Security Advisor (NSA) Ajit Doval** met with his French counterpart, Emmanuel Bonne, for the **36th round of the Indo-French Strategic Dialogue**.
- Mr. Bonne's visit was the first major diplomatic visit of the new year, and both participants agreed to step up efforts **"towards strategic autonomy."**

36th Strategic Dialogue

- The 36th Strategic Dialogue between India and France was held in New Delhi.
- The Indian delegation was led by **National Security Advisor Ajit Doval**, while the French delegation was led by **Emmanuel Bonne**, the diplomatic advisor to French President Emmanuel Macron.

- India and France discussed a variety of issues, including the current global security situation in the context of the Ukraine conflict, regional security in the context of Afghanistan, counter-terrorism, Indo-Pacific defense cooperation, and cyber security.
- The last strategic dialogue was held in Paris in November 2021.



Issues Discussed

- The two sides held discussions on a variety of issues, including the current global security situation in the context of the conflict in Ukraine,
 - regional security in the context of Afghanistan,
 - counter-terrorism,
 - cyber security,
 - Indo-Pacific defense cooperation
 - energy and culture
 - other issues of mutual concern,"
- The agenda covered all aspects of the Indo-French strategic partnership: defense and security cooperation.

International Issues

- India is nearing a decision on a fighter jet to fly off the Navy's aircraft carriers, for which Boeing's F-18 Super Hornet and Dassault Aviation's Rafale-M are competing.
- A decision to purchase 26 jets is expected soon, with Rafale having an advantage.
- Safran of France is competing with other global engine manufacturers to co-develop a fighter jet engine with the Defence Research and Development Organization (DRDO).
- Mr. Bonne, the Diplomatic Advisor and G-7/G-20 Sherpa to French President Emmanuel Macron, also met with External Affairs Minister S. Jaishankar.
 - The discussions demonstrated how close our views are on all major international issues and how the France-India strategic partnership is critical to addressing the pressing challenges of 2023.

Support to India

- It was stated that the visiting guest expressed France's "complete support" for India's G-20 presidency.
- The French statement emphasised that the strategic partnership with India is based on "exceptional mutual trust, shared democratic values and a joint vision for a multipolar, rules-based world order".

India-France Relations

- **Strategic Dialogue:** France was the first country with which we initiated a Strategic Dialogue following our 1998 nuclear tests, when France refused to impose bilateral sanctions on us and demonstrated a far greater understanding of India's security compulsions than other countries.
- **Bilateral trade and economic relations:** The India-France Administrative Economic and Trade Committee (AETC) provides an appropriate framework for assessing and identifying ways to further promote bilateral trade and investment, as well as to accelerate the resolution of market access issues to the benefit of economic operators.
- **Defence:** In 2005, an agreement was signed to build six Scorpène submarines in India with French assistance. Technology transfer and the acquisition of short-range missiles and radar equipment were completed. Joint exercises between the air forces (Garuda series) and the armies (Shakti) were established in 2003 and 2011, respectively.
- **Energy Sector:** Around a decade ago, an agreement was signed for the construction of six EPR (European Pressurized Reactors) nuclear power reactors with a total capacity of 9.6 GW, for which negotiations have been ongoing between the Nuclear Power Corporation of India (NPCIL) and Areva. Concerning green energy, India and France have launched the International Solar Alliance. France has pledged an additional \$861.5 million by 2022 for solar projects in developing countries.
- **Indo-Pacific Region:** India and France have established one of the most important strategic alliances for advancing peace, stability, and prosperity in the Indo-Pacific region. The Indo-French/Indo-Pacific partnership includes defense and security, trade, investment, connectivity, health, and sustainability. The first Indo-Pacific Ministerial Forum, held in Paris in February 2022 during the French presidency of the Council of the EU, launched an ambitious agenda at the EU level based on the EU Strategy for Cooperation in the Indo Pacific.
- **Global Agendas:** Climate change, biodiversity, renewable energy, terrorism, cybersecurity, and digital technology are all on the agendas of both countries. There have been collaborative efforts to limit climate change and develop the International Solar Alliance. Both countries have agreed on a cybersecurity and digital technology roadmap.

India Abstains From Voting On UN Resolution On Israel



Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Israel-Palestine

Prepp Mains Booster: International relations, Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests, Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Context:

- Recently, India abstained in the **United Nations General Assembly** on a resolution that sought an opinion from the International Court of Justice (ICJ) on the legal implications of Israel's **"prolonged occupation" and annexation of Palestinian territory**.
- The draft resolution 'Israeli practices affecting the human rights of the Palestinian people in the Occupied Palestinian Territory,

including East Jerusalem' was adopted by recorded vote, **with 87 votes in favor, 26 against, and 53 abstentions, including India.**

What was the resolution about?

- The International Court of Justice (ICJ) will now be asked to "render urgently an advisory opinion" on "the legal consequences arising from Israel's ongoing violation of the Palestinian people's right to self-determination, from its prolonged occupation, settlement, and annexation of the Palestinian territory occupied since 1967,"
 - including measures aimed at altering the demographic composition, character, and status of the Holy City of Jerusalem, and from its adoption of related discrepancies."
- It asked the Assembly, "How are Israel's policies and practices affecting the legal status of the occupation, and what are the legal consequences of this status for all States and the United Nations.
- The United States, Israel, Germany, and the United Kingdom were among those who voted against the resolution.
- China, Russia, Pakistan, and the United Arab Emirates were among the 87 countries that successfully advocated for the resolution.
- The US and Israel voted against the resolution, while Brazil, Japan, Myanmar, and France abstained.

87 votes in favor

- The UNGA resolution requested the ICJ's opinion on the legal ramifications of Israel's "prolonged occupation" of Palestinian territory.
- The resolution was approved by recorded vote, with 87 votes in favor, 26 against, and 53 abstentions.

Israel's Stand

- Before the vote, Israel's Ambassador to the United Nations Gilad Erdan said that the "outrageous resolution" calling for the advisory opinion of the International Court of Justice is a "moral stain on the U.N. and every country that supports it.
- No international body can rule that Jews are "occupiers" in their own country. Any decision made by a judicial body with a mandate from the morally bankrupt and politicized UN is completely illegitimate."
- It was stated that holding a vote on Israel on Shabbat is another example of the United Nations' "moral decay," which prevents Israel's position from being heard in a vote whose outcome is predetermined.
- During the United Nations General Assembly High-Level Week in September 2021, Palestinian Authority President Mahmoud Abbas stated in his remarks that if Israel did not withdraw to the 1967 lines within a year, the Palestinians would turn to The Hague. Hence, it was stated that today's vote fulfills Abbas' ultimatum.

Allegations against Israel

- Following the vote, World Jewish Congress President Ronald S. Lauder issued a statement applauding those 26 countries, including the United States, who voted against this shameful resolution that seeks to isolate and demonize the Jewish state.
- Lauder further said the "Measure is a direct outgrowth of the biased Commission of Inquiry on Israel, whose commissioners have made anti-semitic comments and who have been unabashed critics of Israel.
- The referral of this matter to the International Court of Justice is yet another impediment to dialogue between Israelis and Palestinians.
- It was further stated that peace in the region could only be negotiated by the two parties directly involved."

- The **World Jewish Congress** is a global organization that represents Jewish communities in over 100 countries to governments, legislatures, and international organizations.



India's stance on the Israel-Palestine conflict

- India was the only major non-Arab, non-Muslim country to support the Palestinian cause.
- In 1974, India quickly recognized the **Palestine Liberation Organization (PLO)** as the sole and legitimate representative of the Palestinian people.
- Later in 1975, the first PLO office was established in New Delhi, followed by an embassy in 1980. India was among the first countries to recognize the newly established state of Palestine in 1988.
- Throughout these years, India maintained a policy of hyphenating ties with Israel and linking them to ties with the Palestinian Authority, with heads of state visiting Israel accompanied by a visit to Palestinian territory.
- Prime Minister Narendra Modi visited Israel for the first time in 2017, but skipped the customary stop in Palestine. This has become known as a "Dehyphenation" policy.
- Following the establishment of India-Israel diplomatic relations in 1992, India's stance on the conflict has shifted from a four-decade long pro-Palestine position to a careful balancing act.
- Thus, de-hyphenation simply implies a shift toward an 'independent' foreign policy in which bilateral relations with Israel are based solely on their own merits, separate from its relationship with the Palestinians.

About United Nations General Assembly

- The UNGA is a key component of the United Nations. It is the organization's main governing body, as well as the most representative body in the UN.
- The UNGA, also known as the GA, represents all UN members. As a result, there are 193 members (all the UN member countries).
- It holds its annual meeting in New York City, usually in September. It also meets at other times as needed.
- The UNGA is led by a President who is elected for a one-year term.
- It is sometimes referred to as the World Parliament.
- The UNGA deliberates and makes decisions on important issues such as peace and security, as well as other international issues.
- It also decides on new member admission.

- Voting is used to reach decisions. In general, a simple majority is considered, but for important decisions, a two-thirds majority is considered. Each member has one vote.
- Unlike the Security Council, no one has veto power.
- Vijaya Lakshmi Pandit became the UNGA's eighth President in 1953, the only Indian GA President to date.

GENERAL STUDIES 3

Government Budgeting, Public Distribution System, Issues of buffer stocks and food security, Major crops, cropping patterns in various parts of the country;

The Millets Manifesto

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Express

Prepp Mains Booster: Major crops, cropping patterns in various parts of the country; Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

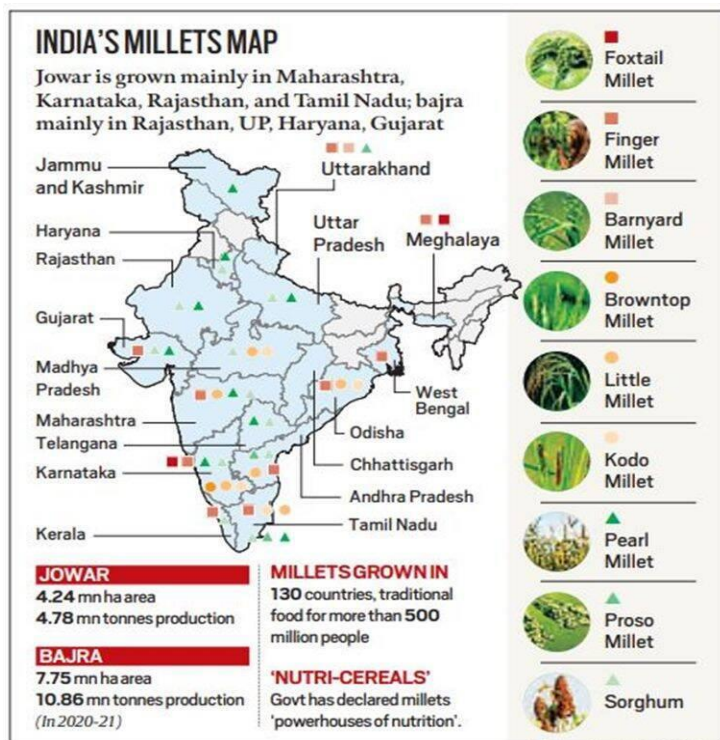
Context:

- The United Nations has declared 2023 as the International Year of Millets, after a proposal from India in 2019. India accounts for a fifth of the world's millets production.
- On December 20, **to raise awareness on millets and prepare for 2023**, Prime Minister Narendra Modi, along with fellow parliamentarians across party lines, enjoyed a **sumptuous lunch made of millets**.

About Millets

- The term millet is used to describe **small-grained cereals** like sorghum (jowar), pearl millet (bajra), foxtail millet (kangni/ Italian millet), little millet (kutki), kodo millet, finger millet (ragi/ mandua), proso millet (cheena/ common millet), barnyard millet (sawa/ sanwa/ jhangora), and brown top millet (korale).
- **One of the first crops** to be **domesticated** was millets.
- There is proof that millets were consumed during the **Indus-Sarasvati civilization** (3,300 to 1300 BCE).
- Many of the types that are now produced all over the world originated in India
- **Global Production:** Millets are now farmed in more than 130 nations. Sorghum (jowar) is the biggest millet crop grown worldwide.
- United States, China, Australia, India, Argentina, Nigeria, and Sudan are the top jowar producers. Another important millet crop is called bajra, and certain African nations as well as India grow a lot of it.
- **Indian Production:** Millets are mostly a kharif crop in India. According to data from the Agriculture Ministry, three millet crops—bajra (3.67%), jowar (2.13%), and ragi (0.48%)—accounted for nearly 7% of the nation's gross cultivated area in 2018–19.
- Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Telangana, and Madhya Pradesh are the principal growing regions for jowar. In terms of production and area, Maharashtra produced the most jowar in 2020–21.

- Rajasthan, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Maharashtra, and Karnataka are the principal growing regions for bajra.
- The largest area planted with bajra in 2020–21 was in Rajasthan.
- In addition, the state produced the most bajra in the nation in 2020–21.
- Gujarat (jowar and bajra), Karnataka (jowar and ragi), Maharashtra (jowar and bajra), Rajasthan (bajra), and Uttarakhand (ragi) were the states where millets were most often consumed.



Benefits

- **Eco-friendly:** Millets are environmentally beneficial crops since they need a lot **less water than wheat and rice** and can be produced in locations with rainwater alone **without further irrigation**.
- A 2019 study found that millets had the exact opposite effect as wheat and rice, which have the lowest green water footprints but the greatest blue water footprints.
- Green water footprint refers to water from precipitation whereas blue water refers to water from land sources. Millets are therefore the crops that require the least irrigation to grow.
- **Nutrition:** The Agriculture Ministry designated several millets as "Nutri Cereals" for the purposes of production, consumption, and trade on April 10, 2018.
- These include Jowar, bajra, ragi/ mandua, the minor millets — kangani/ kakun, cheena, kodo, sawa/ sanwa/ jhangora, and kutki — and the two pseudo millets, buckwheat (kuttu) and amaranth (chaulai).
- The Story of Millets published by the Karnataka State Department of Agriculture in association with ICAR-Indian Institute of Millets Research, Hyderabad, said that the Millets contain 7-12% protein, 2-5% fat, 65-75% carbohydrates and 15-20% dietary fibre.
- Small millets are more nutritious compared to fine cereals. They contain higher protein, fat and fibre content.
- Ability to grow even on poor soils and in hilly terrain.

Challenges

- **Government policies:** Two-thirds of India's population receives up to 5 kg of wheat or rice per person per month at prices of Rs 2 and Rs 3/kg, respectively, thanks to the Green Revolution and the National Food Security Act of 2013.
- In fact, the administration has made the two premium grains free of charge beginning in January 2023, further tipping the scales against millets.
- **Difficult to cook:** Wheat flour makes rolling rotis easier, even for those who are well off. This is so that the wheat dough would be more cohesive and elastic despite the shortcomings of the gluten proteins. When using bajra or jowar, the resulting breads are not as light and fluffy.
- **Lower yield:** Low per-hectare yields are a deterrent for farmers; the national average is approximately 1 tonne for jowar, 1.5 tonne for bajra, and 1.7 tonne for ragi, compared to 3.5 tonne for wheat and 4 tonne for rice.
- They would typically switch to rice, wheat, sugarcane, or cotton if they had access to guaranteed irrigation.

Steps that can be taken

- **Market:** Schools and **anganwadi care centres** could be a sizable **"market" for millets**.
- **Nutrition:** Millets should be a mainstay in children's meals due to the urgent need to reduce micronutrient deficiencies, notably iron and zinc deficiency, which are key contributors to anaemia and stunting, respectively, as well as to the decreased cognitive function and susceptibility to diarrhoea.
- In addition to promoting agricultural variety, it will help fight hidden hunger by providing demand for millions of small millet, dairy, and poultry producers.
- The **Pradhan Mantri Poshan Shakti Nirman and Saksham Anganwadi & Poshan 2.0 programmes** are now in place, and its total budget for 2022–23 is Rs 30,496.82 crore.
- Millets could also be served as prepared foods like cookies, laddus, murukku, nutrition bars, and extruded snacks in addition to midday meals (think healthier versions of Maggi, Kurkure, or Cheetos).
- Making them more millets-focused will help them be more effectively utilised.
- **Decentralised nutrition programme:** Millets should be purchased from MSP as a part of a decentralised nutrition programme that is specifically designed for tomorrow's residents.
- Any state prepared to buy regionally specialised millets alone for distribution through schools and anganwadis could receive funding from the centre.
- **Supporting states:** A specialised millets mission already exists in Odisha, and in 2021–2022 it undertook the procurement of 32,302 tonnes worth of millets, primarily ragi, for Rs 109.08 crore. Similar to what Maharashtra did for jowar, Karnataka did for ragi, and Madhya Pradesh did for kodo/kutki, Rajasthan, Uttar Pradesh, and Haryana might seek to do the same for bajra.
- Of course, they can include milk and eggs. Karnataka and Gujarat are among those who already practise it for milk, and Tamil Nadu, Andhra Pradesh, Telangana, and Odisha for eggs.

International Year of Millets: 2023

- A resolution designating 2023 as the International Year of Millets was approved by the UNGA on March 3, 2021.
- The plan, put up by India, received backing from 72 nations. As part of the celebrations, a number of events and activities are anticipated, including conferences, field trips, the release of stamps and coins, with the goal of raising knowledge about millets, motivating stakeholders to increase production and quality, and luring investments.

How Will The Free Foodgrain Scheme Work?



Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: NFSA

Prepp Mains Booster: Government policies and interventions, Public Distribution System, Issues of buffer stocks and food security

Context:

- Recently, under the **National Food Security Act, 2013**, the Union Ministry of Consumer Affairs, Food and Public Distribution issued a notification **to provide free foodgrains (rice, wheat, and coarse grains)** to all eligible households for one year beginning January 1, 2023.

Key Highlights

- In a Cabinet decision, the Centre decided to provide 5 kg of free food grains per month to the 81 crore beneficiaries of the **National Food Security Act (NFSA)** during 2023, rather than charging them a subsidized amount of **Rs.3 kg of rice, Rs.2 kg of wheat, and Rs.1 kg of coarse cereal** as is currently done.
- This will soften the blow of the termination of the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)**, which provided an additional 5 kg of free grains to NFSA beneficiaries every month after being launched as an emergency measure in response to the COVID-19 pandemic in April 2020 and receiving multiple extensions since.



About National Food Security Act, 2013 (NFSA)

- The National Food Security Act (NFSA) 2013, passed on July 5, 2013, represents a paradigm shift in food security, shifting away from a welfare-based approach and toward one based on rights.
- According to the Act, up to 75% of the rural population and 50% of the urban population are legally entitled to receive subsidized food grains through the Targeted Public Distribution System.

- As a result, the Act covers nearly two-thirds of the population in order to provide heavily subsidized foodgrains.
- Beneficiaries of the National Food Security Act are divided into two groups: **Priority Households (PHH)** and **Antyodaya Anna Yojana (AAY) households**.

What effect will this measure have on the food subsidy bill?

- Without COVID disruptions, the Centre's food subsidy bill for the NFSA would be around Rs.2 lakh crore in a normal year.
- For the past two years, the PMGKAY effectively doubled that amount. The Centre will spend an additional Rs.15,000 crore to Rs.16,000 crore to provide free food grains under the NFSA for a year.
- However, by discontinuing the PMGKAY scheme, the government will save approximately Rs. 2 lakh crore. Overall, **the move will alleviate a significant burden on the Union Budget.**

What does this mean for foodgrain stocks?

- The move will be even more beneficial to the stressed foodgrain stocks. According to Food Ministry officials, the NFSA's annual foodgrain requirement is around 520 lakh tonnes, while the PMGKAY requires an additional 480 lakh tonnes.
- When the PMGKAY was introduced, foodgrain production, government procurement, and government stocks were all breaking records.
- The situation is different in 2022. Rice and wheat harvests have both been lower this year, due to climatic events and fertilizer shortages in some areas. The global stress caused by the Russia-Ukraine war has also resulted in a situation of high foodgrain inflation.
- India's wheat stocks, in particular, have dipped dangerously close to the required buffer stock levels, prompting the Centre to impose an export ban in order to ensure food security for the domestic market.
- It has also been forced to significantly reduce wheat allocations under the Public Distribution System and replace wheat supply with rice in states such as Uttar Pradesh and Bihar. Continuing the PMGKAY would have been unsustainable without increasing procurement levels further.

What are the political ramifications?

- A purely economic decision would have been to end the PMGKAY, which was always intended to be a temporary measure, and return to the pre-COVID situation.
- However, the free foodgrain announcement is intended to mitigate any negative consequences of ending PMGKAY.
- If this announcement was made to quell public outrage over the end of the PMGKAY, it is unclear what will happen when the free foodgrain measure expires at the end of 2023.
- The more subtle political fallout will be felt in the states, particularly in Tamil Nadu, Kerala, Karnataka, West Bengal, and Jharkhand, which already provide free foodgrains and use their own funds to supplement the Central allocation.
- A few other states, including Andhra Pradesh, Chhattisgarh, Odisha, and Telangana, provide additional subsidies, though their ration is not completely free. This will give them a financial surplus, but it will remove an important political plank for states.
- The Centre will now take full responsibility for something they previously provided. It is also unclear whether the cost of foodgrain transportation will now be borne by the states or the central government.

- **Tamil Nadu:** According to a senior food official in Tamil Nadu, the state is set to save more than Rs. 1,300 crore, through centre's announcements. Tamil Nadu already provides universal food security. The emphasis should now be on nutrition security. It was stated that if the states have not already done so, it was recommended that they use their new savings to provide subsidized or free pulses, spices, or edible oil through the public distribution system in addition to foodgrains.

What effect will it have on the beneficiaries?

- Aside from government budgets, the move could have a significant impact on household budgets. According to the Right to Food Campaign, poor families will be forced to spend Rs.750-900 per month in order to access the current level of ration entitlement.
- Ration card holders who have received 10 kg of grains per person every month for the past two years will have their entitlement cut in half.
- Their expenditure on their NFSA entitlement will decrease as well:
 - For example, someone spending Rs.8 for four kg of wheat and Rs.3 for a kg of rice under NFSA will now receive those grains free, saving Rs.11 per month.
- However, this is dwarfed by the additional Rs.150-Rs.175 they will need to spend to buy the 5 kg previously provided free under the PMGKAY in the open market (estimated market prices for rice and wheat at around Rs.30-35 per kg).
- The increased expenditure will be even more pronounced for those in states that already provide free NFSA rations, as beneficiaries in those states will not receive any savings as a result of the Centre's announcement.
- However, the consumption of foodgrains as part of a meal varies significantly by state, ranging from about 200 gm per person per day in Kerala to 400 gm in Bihar, and the impact of the move is thus likely to be greatest in the Hindi heartland states where grains make up a larger proportion of the diet.

India Said To Eye \$17 Bn Cut In Food, Fertilizer Subsidy Spend

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Subsidies

Prepp Mains Booster: Government Budgeting; Public Distribution System- objectives, functioning, limitations, revamping

Context:

- India aims to cut spending on food and fertiliser subsidies to ₹3.7 trillion (\$44.6 billion) in the fiscal year starting April, a 26% cut from this year, to rein in a fiscal deficit that ballooned during the COVID-19 pandemic.

Highlights

- Food and fertiliser subsidies alone account for about **one-eighth of India's total budgetary spending** of ₹39.45 trillion this fiscal year, but reducing these subsidies could be politically sensitive given the **impending elections**.
- The government anticipates allocating roughly 2.3 trillion for food subsidies in the upcoming fiscal year as opposed to 2.7 trillion for the year that has just ended on March 31.
- The amount spent on fertiliser subsidies will probably decrease to roughly 1.4 trillion in contrast to 2.3 trillion this year.

Reasons behind the Expected move

- The current fiscal year's **target fiscal deficit** for the government is 6.4% of GDP.
- It is far above the average of 4% to 4.5% over the past decade, excluding the pandemic years when spending surged and the ratio peaked at 9.3%.
- In 2023–2024, the administration wants to reduce the ratio by at **least half a percentage point**.
- In a year with several State elections and general elections in 2024, this will effectively cut in half the free rations provided to the poor.
- The subsidy numbers will be announced on February 1, when Finance Minister presents the 2023/24 budget in Parliament.

Steps to be taken

- **End of COVID 19-era free food scheme:** A significant portion of the savings will result from the elimination of a free meal program from the COVID 19 era and its replacement with a lower-spending initiative.
- The latest subsidies estimates for 2023/24 may be adjusted by mid-January when a final round of discussions takes place.
- **Reduction in fertilizer subsidy:** The reduction in fertiliser subsidies is also driven by expectations of **lower crude oil prices and the government's revised gas procurement policy** for fertiliser companies, which came into effect earlier this month.

Belt tightening

To rein in fiscal deficit, Centre aims to curb spending on subsidies that account for about an eighth of total budgeted expenditure



■ Govt. expects to set aside about ₹2.3 tn for food subsidies next fiscal year compared with ₹2.7 tn in the current year

■ Spending on fertilizer subsidies will likely fall to about ₹1.4 tn, from almost ₹2.3 tn in the current fiscal

■ Fiscal deficit for the current fiscal year is targeted at 6.4% of GDP

Fiscal Deficit:

- Fiscal Deficit is the difference between total revenue and total expenditure of the government.
- The fiscal balance of a country is calculated by its government's revenue followed by its expenditure in the provided financial year, the situation where the government expenses increase more than the revenue in a year is a fiscal deficit.
- Fiscal deficits increase people's purchasing power, which stimulates a stagnant economy.
- Long-term deficits, however, may also have a detrimental effect on the stability and growth of the economy.
- Ratings for the nation may also be impacted if the fiscal deficit is large.

'Financing India's Urban Infrastructure Needs: Constraints To Commercial Financing And Prospects For Policy Action: Report World Bank

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Geography

Prepp Mains Booster: Urbanization, their problems and their remedies

Context:

- A report by the World Bank, titled '*Financing India's Urban Infrastructure Needs: Constraints to Commercial Financing and Prospects for Policy Action*', released in November last year, on financing India's **urban infrastructure needs**, focuses on private investments ameliorating urban problems.
- The push to attract private capital, since the 1990s, followed by the urban reforms, continues to plague **India's policy paradigm in the urban sector**.



Present nature of Funding

- After three decades of changes, the **government** now provides the majority of urban funding. 48%, 24%, and 15%, respectively, of the funds required to support urban capital expenditures come from the **national, state, and local governments**.
- Public-Private Partnership** projects contribute 3% and commercial debt 2%.
- A significant amount of money has been anticipated to be needed in recent years to support urban infrastructure, with the Isher Judge Ahluwalia report estimating that amount by 2030 to be close to ₹39.2 lakh crore.
- Similar projections are provided in the **11th Plan**, which calls for spending ₹1,29,337 crore on four essential services, ₹1,32,590 crore on urban transportation, and ₹1,32,590 crore on housing.
- According to a McKinsey estimate, the cost of urbanization is \$1.2 trillion, or 90 lakh crore.

World Bank Estimates

- The World Bank estimates that nearly \$840 billion (₹70 lakh crore) would be needed for investment in urban India to meet the growing demands of the population, and \$55 billion would be required annually.
- The **flagship programs** of the government, the [Pradhan Mantri Awas Yojana \(PMAY\)](#), the [Smart City mission](#), the [Atal Mission for Rejuvenation and Urban Transformation \(AMRUT\)](#) etc., are not more than ₹2 lakh crore (that too for a period of five years).
- Significance of cities:** Nearly 85% of **government revenue** comes from cities, as this analysis has already noted.

- The **United Nations-Habitat's World Cities Report 2022** stated that India's urban population is estimated to stand at 675 million in 2035, the second highest behind China's one billion.

Suggestions

- "Improving the **fiscal base and creditworthiness of the Indian cities**" is the report's main thesis and one of the offered remedies.
- Cities must establish a **strong financial foundation** and be able to recoup the cost of their services.
- In plainer terms, it **entails raising taxes** on things like real estate, services, and other levies.
- This suggests that despite the World Bank report's **focus on increasing expenses** in the form of user fees for utilities and other services, urban residents are still making significant contributions to the economy.

Flaws in report

- Top-down approach:** This report's primary flaw, as well as those of previous reports of a similar nature, is that they are created using a top-down methodology and place an excessive amount of emphasis on technocentric solutions utilising very expensive and capital-intensive technology.

What needs to be done?

- Plans must be created for the urban environment from the **bottom up** by interacting with the populace and determining their requirements.
- Empowering local government** and the general public.
- Many recommendations were made in the **K.C. Sivaramakrishnan-led** national task force that reviewed the **74th Constitutional Amendment**, including giving the people **more power and giving more responsibilities to local governments**.
- It suggested that **10% of the income tax collected from cities** be given back to them and ensured that this corpus fund was utilized only for **infrastructure building**.
- As a result, local administrations would have an edge in assuring quick change.
- Urban governance, which is in shambles across the majority of the country, is connected to urban infrastructure and is another crucial facet of urban life.
- The three Fs—**finances, functions, and functionaries**—must be transferred in **order to empower cities and have regular elections**.

Shimla Water: Case Study

- Under the Shimla Municipal Corporation, the Shimla water works transformed into a single utility in 2016-17, called the **Greater Shimla Water Supply and Sewage Circle (GSWSSC)**.
- The Bank rendered help in the form of a soft loan, ensuring an adequate supply of water and proper distribution by the utility, but under the Shimla Municipal Corporation.
- However, in 2017-18, it changed the character of GSWSSC to a company and formed the Shimla Jal Prabandhan Nigam Limited, now run under a board of directors, but outside the ambit of the municipality.
- Such machinations will not serve the purpose and will endanger the fundamental goal of urbanization in India. The World Bank report is another reminder of the tragedy which Indian urbanization is undergoing - "policy gridlock from the top".

Way Forward

- Cities are generally managed by parastatals, and local governments barely have any influence over how well these parastatals operate.
- A Parastatal is used to describe a company or organization which is owned by a country's government and often has some political power
- The World Bank in its report has stated that state-level management of urban water and sewerage functions **may be devolved in a time-bound manner.**
- An improved **urban legal framework** that includes a stable and certain fiscal transfer regime, and accords financial powers to ULBs [urban local bodies] along with rules/regulations will determine the **medium- to the long-term scale of investment flows for urban infrastructure.**

India Lags In Automation Of Industry Despite Possessing Tech Prowess: Robotics Industry

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Science and Technology

Prepp Mains Booster: Growth and Development, Awareness in the fields of IT, Computers and Robotics, Industrial Policy

Context:

- Despite being a technological leader, **India lags in industrial automation.**
- The **industrial robotics market in India** was 3,200 units in 2020 and is expected to grow to 28,000 units by 2030. **Cobots** are expected to account for 2,000 of these units.



Robotics

- Robotics is the branch of technology concerned with the design, construction, operation, structural depositions, manufacture, and application of robots.
- A "robot" is any automatically operated machine that replaces human effort, regardless of whether it resembles a human being in appearance or performs a function in a human-like manner.
- A device can only be called a "robot" if it has a movable mechanism that is influenced by sensing, planning, actuation, and control components.
- In practice, "robot" usually refers to a machine that can be electronically programmed to perform a variety of physical tasks or actions.
- The term robot can refer to both physical robots and virtual software agents, but the latter are commonly referred to as bots.

- The goal of the robotics field is to create intelligent machines that can assist humans in a variety of ways.

India Lagging Behind

- It was observed that India and China's exposure to industrial automation appears to be vastly different, even though both countries share a similar story in terms of consumption.
- For example, while China claimed to have a density of 187 robots per 10,000 employees, **India only had 4 robots for an equal number of employees**, indicating that the latter was clearly lagging in terms of industrial automation despite its technological prowess, they claimed.
- The data point shows how untapped India is in terms of automation, despite its technological advancements.

Investment in Robotics Industry

- India's investments in technology and artificial intelligence have recently increased.
- Even after the negative effects of the global pandemic, investment in the robotics industry has doubled in a year.
- The industrial robotic market in India was **3,200 units in 2020 and is expected to grow to 28,000 units by 2030.**
- 2,000 of these are expected to be cobots.

Difference between Robots and Cobots

- **Robots** typically operate autonomously and without human supervision.
- **Cobots** are collaborative robots and machines that collaborate with humans, such as by serving as a guide or assistant during a task or activity.

Growth Expectations of Industrial Robotics Market

- The Industrial Robotics Market is expected to grow at a CAGR of 12.3% during the forecast period, from \$42.2 billion in 2021 to \$75.3 billion by 2026.
- The collaborative robot market is expected to grow from \$1.2 billion in 2021 to \$10.5 billion by 2027, growing at a CAGR of 43.4% from 2021 to 2027.

Robotics - An Interdisciplinary Field

- Because robotics is used in so many different domains, robotic technology is a highly interdisciplinary field that spans Mechanical, Electronics, and Computer Science Engineering.
- Given that each application domain will present its own set of opportunities and barriers to the adoption of robotics technology, it is critical to strengthen collaboration between industry and academia working in different domains.

Robotics and Artificial Intelligence

- Artificial intelligence (AI) is the branch of computer science concerned with making computers behave like humans.
- AI refers to machines' ability to perform cognitive tasks such as thinking, perceiving, learning, problem solving, and decision making.
- It refers to the ability of machines to perform cognitive tasks such as thinking, perceiving, learning, problem solving, and decision making. Initially envisioned as a technology capable of mimicking human intelligence.
- AI has evolved far beyond its original conception. Intelligent systems can now be deployed to take over a variety of tasks, enable connectivity, and boost productivity, thanks to incredible advances in data collection, processing, and computation power.

- As AI's capabilities have grown dramatically, so has its utility in a growing number of fields.

How are Indian industries utilizing robotics?

- Indian industries are rapidly moving toward automation in order to increase production volume, accuracy, and safety.
- In terms of annual installation, the industrial robotics market in India stood at 5,000 units in 2019 and is expected to reach 11,760 units by 2025, expanding at a compound annual growth rate (CAGR) of 14.41% between 2020 and 2025.
- The automotive, healthcare, pharmaceutical, plastic, metal, electrical, and electronics industries are the primary end-users of industrial robotics in India.
- The automotive industry has been the leading end-user of industrial robots, accounting for 48% of annual installations in 2019.
- Automotive manufacturers have been eager to implement automation solutions in their manufacturing plants in order to boost productivity.
- The strong presence of various international and domestic automotive manufacturers has fueled the country's demand for industrial robotics. Several automotive manufacturers have increased their emphasis on indigenous robot production.
- The demand for industrial robotics is increasing in general manufacturing industries such as plastic, metal, electrical, electronics, food, and pharmaceutical.
- The healthcare industry has also emerged as a prominent user of robotics, particularly in hospital applications, surgery, diagnostics, and rehabilitation.

Environment, Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment, Conservation, environmental pollution and degradation, environmental impact assessment.

As Share Of Renewables Increases In Grid, Govt Explores Storage Options

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Renewables

Prepp Mains Booster: Environment, Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment, Conservation, environmental pollution and degradation, environmental impact assessment.

Context:

- In India, **the world's third largest producer of renewable energy**, non-fossil fuel sources account for **nearly 40% of installed capacity**.
- To support a monthly addition of an average of 1000MW — nearly five times the amount of power produced by a 250 MWe nuclear plant — from non-fossil fuels or renewables to the electricity grid, policymakers believe **India must work urgently on developing viable energy storage options**.

What is Renewable Energy?

- Renewable energy is energy that is generated from naturally replenished resources.
- This includes solar energy, geothermal heat, wind, tides, water, and various biomass types. This energy is never depleted and is constantly replenished.

- They are a viable source of clean, limitless energy that emits less pollution and is readily available locally. When compared to non-renewable energy, the use of renewable energy significantly reduces all types of pollution.
- The majority of renewable energy sources are low-polluting and considered clean. However, despite being a renewable resource, biomass is a major source of indoor pollution.

Sources of Renewable Energy

- Primary Sources** - Renewable energy sources such as solar, wind, and geo-thermal are the primary sources.
- Secondary Sources** - Nonrenewable energy derived from the conversion of coal, oil, natural gas, and other fossil fuels.

India's Renewable Energy

- With a population of 1.3 billion people, India has a massive demand for energy to fuel its rapidly growing economy.
- From a power-deficit nation at the time of independence, efforts to make India energy-independent have lasted more than seven decades.
- India is now a power surplus nation, with a total installed electricity capacity of over 4 lakh MW.
- Keeping in mind the goals of sustainable development, India's power generation mix is rapidly shifting toward a greater share of renewable energy.
- India is the world's third largest producer of renewable energy, with non-fossil fuel sources accounting for 40% of installed capacity.

Installed capacity of renewable sources of energy in India

Solar	Wind	Small hydro	Large hydro	Biopower	Nuclear
48.55 GW	40.03 GW	4.83 GW	46.51 GW	10.62 GW	6.78 GW

Green Push

- Nearly 40% of installed electricity capacity in India comes from non-fossil fuel sources.
- This green push resulted in a 24% reduction in GDP emission intensity between 2005 and 2016, but it has also created challenges with a grid that is increasingly powered by renewables.
- Even though the Lithium-ion storage battery option for grid application has been ruled out as unviable, at least for the time being, an emerging policy resolution is that solar and wind-based generation cannot be pushed down to struggling electricity distribution companies, or discoms.
- According to sector experts, the renewables challenge is exacerbated by the fact that **SECI (Solar Energy Corporation of India Ltd)**, the state-owned company that conducts solar auctions, has locked a number of contracts involving green developers in rigid **PPAs (power purchase agreements)** with no room for innovation.
- Energy storage is required alongside green energy sources to primarily balance out the variability in renewable generation - electricity is generated only when the sun shines or the wind blows. This is not always in sync with the demand cycle. Storage can help to compensate for the shortfall associated with renewables.
- Renewables are not always a viable option for procurers such as state-owned discoms because of these fluctuations in generation trends, which means they must still rely on thermal or nuclear

generation to meet base load demand. Renewables combined with a viable storage option help to solve this problem.

Challenges

- The main challenge is a lack of natural gas to power gas turbines, which would complement the growing RE capacity in the generation mix.
- India's vast fleet of coal-fired power plants of 200 MW series is more than 25 years old, runs on outdated technology, and cannot guarantee long-term reliability.
- Furthermore, given that India's load demand is far from saturated, there is a need to replace obsolete coal-based plants with supercritical highly-efficient coal-based plants as an intermediate goal for total transition.
- However, in light of the impending climate crisis, this may not be acceptable to the international community.

Initiative of the Government

- The government is currently considering two alternatives: **hydrogen and hybrid generation models** combined with off-stream pumped storage.
- As the hidden challenges of the **RE(Renewable Energy)** transition become more visible in 2023, the government is renewing its push for both technologies.
- The cabinet has approved a policy to increase green hydrogen production and capitalize on its potential as a fuel.
- The Union Ministry of Power has also completed a survey of all pumped hydro sites, and hydro PSUs have been directed to pursue pumped hydro schemes.
- The Ministry of Power has also written to the Union Coal Ministry, requesting that opencast mines be considered as potential sites for pumped hydro in the future.

India's Current Installed Generation Capacity

- The country's current installed generation capacity is **404 GW (1 gigawatt equals 1,000 megawatts)**, while maximum demand is around 215 GW.
- As of November 30, 2022, the total installed capacity from **non-fossil fuel-based energy resources was 173.14 GW**, accounting for 42.3% of total installed capacity, primarily solar and wind.
- Pumped-storage hydroelectric plants, which store energy in the form of the gravitational potential energy of water that is generally pumped from a lower elevation reservoir to a higher elevation reservoir when renewable power is available, and is then released to move a turbine to generate electricity when renewable power is not available, are seen as the most viable alternative.
- As a result, these projects function similarly to a massive battery, storing power and then releasing it when needed.
- According to the 2021 edition of the Hydropower Market Report, pumped storage hydropower currently accounts for 93% of all utility-scale energy storage in the United States.
- PSH reservoirs can have an ecological impact on the area from which they originate, similar to the problems encountered by reservoir-based hydro projects.

Way Forward

- India will have to tread carefully and must reduce the percentage of coal-based capacity by closing inefficient fleets while adding new flexible capacity to meet load requirements.

- There should be provisions to convert coal-based capacity to a fuel mix of gas and hydrogen.
- The Central Electricity Authority, the policy arm of the Union Ministry of Power, has estimated a need for 41 GW/190 GWh (gigawatt hour) of Energy Storage System for the integration of 500 GW of non-fossil fuel-based electricity into the grid by 2030.
- In a report titled "Energy Storage Vision 2030 for India," the India Energy Storage Alliance, an industry alliance focused on the development of energy storage, green hydrogen, and e-mobility, estimated the requirement of approximately 160 GWh of Energy Storage System by 2030.

Environment Impact Assessment Must Be Done Before Allowing Urban Development Projects: Supreme Court

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: EIA

Prepp Mains Booster: Environment Impact Assessment (EIA), Conservation, environmental pollution, and degradation, environmental impact assessment

Context:

- Recently, the Supreme Court has urged legislators and policy experts to ensure that **Environment Impact Assessment (EIA)** studies are done **before** giving the green signal for **urban development projects** in India's cities.
- The judgment came in regard to a proposal to convert independent residential units into apartments in **Chandigarh Phase 1**.
- The court prohibited the move in order to protect the heritage status of '**Corbusian**' Chandigarh.



Highlights

- Exercising its powers under **Article 142**, the Court directed the **Heritage Committee** to consider the issue of redensification in Phase I, subsequent to which the Chandigarh Administration should consider revising the Chandigarh Master Plan 2031 and the 2017 Rules applicable to Phase I.
- The court stated that it is time for the legislature, executive branch, and policymakers at the national and state levels to take note of the environmental harm caused by **haphazard growth** and decide to take the required steps to **prevent environmental harm**.
- Bengaluru's "Garden City" has been destroyed by urban growth, as was shown during a significant rainstorm in September 2022.
- The city, which was drowned after the rain, reportedly struggled to find drinking water, according to the court.

- It's crucial to strike the **right balance between environmental preservation and sustainable development.**

Need

- Centres of growth:** As the world gets more urbanised, the city's function as a generator of economic growth has assumed greater significance.
- Cities must be smart in their expansion and investments if they are to take advantage of opportunities.
- Collaboration:** It was said that the legislature, governments, and experts should collaborate in order to "create appropriate arrangements for carrying out Environmental Impact Assessment (EIA) studies before approving the urban expansion,".
- Long-term vision:** It acknowledged that long-term city visioning exercises can incorporate environmental issues, as demonstrated by City Development Strategies (CDSs).
- Environmental Impact Assessment (EIA) aims to ensure that the **environmental effects of decisions relating to a particular activity** are considered before the decisions are made, according to the court.

What is Environmental Impact Assessment (EIA)?

- Environmental Impact Assessment (EIA) evaluates the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural, and human-health impacts, both beneficial and adverse.
- UNEP defines Environmental Impact Assessment (EIA) as a **tool used to identify the environmental, social, and economic impacts of a project prior to decision-making.**

Significance

- It aims to predict environmental impacts early in project planning and design, find ways and means to reduce the adverse effects, shape projects to suit the local environment and present the predictions and options to **decision-makers.**
- Using EIA both environmental and economic benefits can be achieved, such as:
 - reduced cost and time of project implementation and design,
 - avoided treatment/clean-up costs, and
 - impacts of laws and regulations.

Chandigarh

- The Swiss-French urban planner Le Corbusier had planned Chandigarh for half a million Partition-uprooted people.
- Chandigarh is a planned city in India.
- Chandigarh is bordered by the state of Haryana to the east and the state of Punjab to the west and the south.
- It is one of India's first planned cities after independence, Chandigarh is renowned worldwide for its architecture and urban planning.

Capitol Complex- The UNESCO World Heritage Site

- It's one of the most monumental Architectural Compositions of Modern Architecture by Le Corbusier arising out of a unique geo-political and cultural setting.
- It has been given the status of **UNESCO World Heritage.**

- The Capitol Complex is strategically located at Geographic and Topographic "Head" of the city against the back-drop of Shivalik Hills

Conclusion

- More than half of the world's population currently resides in urban areas, according to a publication by the United Nations Environment Programme (UNEP), which was cited in the verdict.
- The Supreme Court ordered that copies of the decision be sent to the Chief Secretaries of every State and the Cabinet Secretary of the Union of India so that they can both take notice of it.
- The court expressed its hope that both the Union of India and the State governments would make serious efforts in that direction.

Rise In Government Capital Spending Pushes Investments Up By 53%

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment; Government Budgeting

Context:

- As per the latest projects survey by investment monitoring firm Projects Today, there is a **sharp 61.2% sequential rise in capital spending by the Central and State governments** lifted fresh investment plans announced in the third quarter (Q3) of 2022-23 to ₹7.1 lakh crore, even though private sector investments dropped 41% from ₹6.31 lakh crore in Q2 to ₹3.71 lakh crore between October and December 2022.

Highlights

- Despite a 15.5% **quarter-on-quarter decline** in new investment plans in Q3 of the year, total investment projects in the first nine months of 2022-23 have crossed ₹21 lakh crore, **53.2% higher than 2021-22** and nearly 2.5 times the investment plans announced in the pre-COVID year of 2019.
- The total investment increased from 13,80,540 crore during the same period a year ago to 21,14,773 crore as a result of **large-scale private investments and higher CAPEX outlays by government entities.**
- Private sector:** The number of **private sectors investment projects decreased**, while the total investment value was 13.6 lakh crore, nearly 38% more than in 2021-2022.
- The decline in private projects indicates that some private enterprises are taking a **wait-and-watch attitude** to unravel their CAPEX plans while having significant **resources and good capacity utilization.**
- Mid-size Indian enterprises are **delaying their investment plans due to:**
 - rising input costs,
 - rising lending rates, and
 - the anticipated slowdown in developed nations.
- The amount of the overall new CAPEX commitments made from Q1 to Q3 this year, however, **should increase the confidence of international investors** and prompt mid-sized Indian enterprises, which are not currently investing extensively, to set their investment plans for 2023-2024.

- A total of 8.68 lakh crore in new investments were announced in the first nine months of 2019–20, with the private sector accounting for less than half of the expenditures.
- Private sector investments made up 71.4% of all assets from Q1 to Q3 of 2021–2022, with their percentage marginally dropping to 64.3% in 2022–2023, as government capital expenditures increased by over a quarter annually to Rs.7.55 lakh crore.
- While new investments have grown by an impressive 143% over pre-pandemic levels so far this year, a corresponding increase in the number of new projects during the same period has not been observed; instead, they have remained nearly on par with such figures for Q1–Q3/FY20.
- **States:** The fact that the number of new infrastructure projects by **State government agencies** has significantly decreased indicates that States still need to fully recover from the **pandemic-induced financial crunch**.
- **Sectors:** All other main industries experienced positive growth in terms of new investments during the first nine months of 2022–23, with the exception of the mining industry, which **showed a 28% decline in investments year over year**.
- Spending on irrigation projects increased roughly five times between 2021 and 2022, although on a low base; in contrast, spending on infrastructure, industry, and power increased 64%, 55%, and 50.6%, respectively.

Seeing a surge

Total investment projects in the first nine months of FY23 have crossed ₹21 lakh crore, 53.2% higher than FY22. The share of government projects increased in FY23, by around 7% points compared to FY22, while that of private sector declined

Ownership	Q1-Q3 FY22	Q1-Q3 FY23
Government	28.56%	35.70%
Central govt.	14.21%	16.40%
State govt.	14.34%	19.30%
Private sector	71.44%	64.30%
Private (Indian)	62.50%	54.66%
Private (Foreign)	8.95%	9.64%
Total investments	13,80,540 crore	21,14,773 crore



What is Capital Expenditure?

- Capital expenditure (CAPEX) is defined by the Union government as money spent on the acquisition of assets such as land, buildings, machinery, and equipment, as well as stock investments.
- The government's expenditure is categorized into two: the one which results in asset development or acquisition known as CAPEX, and that which is utilized to cover operating costs and obligations but does not result in asset creation known as Revenue expenditure.
- **Example:** The portion of government payments that goes toward the construction of assets such as schools, colleges, hospitals,

roads, bridges, dams, railway lines, airports, and seaports is known as capital expenditure.

- The acquisition of new weaponry and weapon systems, such as missiles, tanks, fighter planes, and submarines, necessitates a significant financial outlay.

Significance

- The long-term character of capital investment, which results in the formation of assets, enables the economy to generate income for many years by **expanding or upgrading manufacturing facilities** and increasing operational effectiveness.
- Additionally, it raises the ability of the economy to create more in the future, **increases labor participation, and evaluates the economy**.
- Repaying a loan reduces liabilities, which makes it a capital expenditure along with the **production of assets**.

Revenue Imbalance: Non-Tax Revenue And Disinvestment Proceeds Shortfalls

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Growth and Development, Indian Economy, Government Budgeting

Context:

- Recently, **data released by the Ministry of Finance** reaffirmed the **central government's tax collections' healthy growth this fiscal year**.
- The government's total direct tax collections up to January 10, 2023 were Rs 14.71 lakh crore, nearly **25% higher than the same period last year**.
- The government must investigate the causes of non-tax revenue and disinvestment proceeds shortfalls and adopt a more structured approach.

What is Direct Tax?

- A direct tax is one that is paid directly to the entity that imposed it by an individual or organization.
- Individual taxpayers, for example, pay direct taxes to the government for a variety of reasons, such as income tax, real estate tax, personal property tax, or asset taxes.

What is the total direct tax collection?

- At the aggregate level, the government's total direct tax collections up to January 10, 2023 were **Rs 14.71 lakh crore, nearly 25% higher than the same period last year**.
- After adjusting for refunds, collections increased by nearly 20%. **Direct tax collections have already reached nearly 87 percent of the budget target of Rs 14.2 lakh crore for fiscal year 2022-23.**
- This only reinforces the belief that tax collections will far exceed the government's budget expectations.
- Even though tax revenue growth has been strong, there are **concerns about the government's non-tax revenues and proceeds from disinvestment**.

Collection of Non-Tax Revenue

- **Non-tax revenues were projected to be Rs 2.69 lakh crore in 2022-23**, down from Rs 3.13 lakh crore (revised estimates) in 2021-22.
- It had estimated the dividend/surplus of the central bank, nationalized banks, and financial institutions to be Rs 1.13 lakh crore.
- While this was already lower than the revised estimates of Rs 1.47 lakh in 2021-22, **the Centre has only received Rs 68,254 crore so far this year.**
- Following its board meeting in May 2022, the central bank announced a surplus transfer to the government of Rs 30,307 crore.
- The surplus available with the RBI for transferring as a dividend to the government may remain low in the current fiscal year.
- While the budget expected non-tax revenue to fall from 1.35 percent of GDP in 2021-22 to less than 1% in 2022-23, it was believed non-tax revenue will be even lower than budget expectations by around Rs 50,000 crore.



Shortfall in Disinvestment Proceeds

- While the budget had already reduced the disinvestment target from **Rs 78,000 crore in 2021-22 to Rs 65,000 crore in 2022-23**, total revenue through this route **has been only around Rs 31,106 crore so far.**
- This includes Rs 20,516 crore from the sale of the government's stake in LIC.
- Some transactions are currently in the works, such as the invitation of bids for the sale of the government's stake in IDBI Bank.
- Despite this, it is expected disinvestment proceeds at the end of the fiscal year to be significantly lower than the budget target.

Way Forward

- Considering these shortfalls, the government must reconsider how it develops revenue targets and plans through these channels.
- It must take a more systematic approach, keeping macroeconomic uncertainties in mind.
- More resources at its disposal would undoubtedly aid in augmenting capital expenditure and managing the deficit.

Recession Likely, India May Benefit From Diversification Of Supply Chains: World Economic Forum

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment, Effects of Liberalization on the economy

Context:

- Recently, the **Chief Economists Outlook** published by the **World Economic Forum** predicted that a **global recession** was likely to occur in 2023.
- The report also said that pressures on **food, energy and inflation** were nearing their peak level.
- The WEF added that South Asian economies like **India and Bangladesh** would benefit from a **diversification of supply chains** from China.

Chief Economists Outlook

- The **Chief Economists Outlook** is a **quarterly study** that builds on the most recent policy developments, discussions, and surveys of leading chief economists on the most important economic issues.
- In order to create the report, **more than 50 economists** from the financial, insurance, professional services, and technology sectors as well as those from international organisations and regional development banks were surveyed.
- The World Economic Forum publishes the report in order to **address the accumulating shocks to the global economy from geo-economic and geopolitical events.**
- It strives to **outline the evolving features of the current economic climate and propose priorities for further action** by governments and corporate leaders.



What are the findings of the 2023 report?

- According to the report, **two-thirds of the surveyed chief economists believed that a global recession was likely** to occur in 2023.
- **18% of the total believed that it was very likely** which was nearly twice the number who predicted a similar situation in the September 2022 report.

- There was a **clear consensus among the respondents that the prospects for growth in 2023 were poor** with Europe and the USA suffering the worst.
- 91% of the polled economists expected weak or very weak growth in the USA in 2023 while 100% predicted the same conditions in Europe during 2023.
- The WEF predicted that global businesses would cut costs significantly in response to economic headwinds but were **optimistic about inflation levels and string balance sheets**.
- A majority of the Community of Chief Economists at the WEF expected **geopolitical tensions to continue to shape economic trends** resulting in monetary tightening in the USA and Europe.
- The chief economists were in agreement that wages will not keep up with rising prices in 2022 and 2023 due to the high cost of living, with 90% and 80% forecasting that real wages would decrease in low-income economies and high-income ones respectively during that time.
- While over 80% of respondents anticipated that growing expenses would lead to social unrest in low-income countries, 20% expected similar conditions in high-income economies. Many chief economists expressed concern about the implications of food insecurity in South Asia and Central Asia.
- The report claimed that there would be a **diversification in the global supply chains** with countries moving away from China. This would **benefit South Asian economies like India and Bangladesh**.



How will the diversification of supply chains benefit India?

- Diversified Global Supply Chains are a **boost to globalisation and development** in multiple regions as compared to the development of only the rich nations under previous supply chain models.
- The present global supply chains are **heavily dependent on China** for raw materials and finished goods.
- Shifting the focus of large investors to India would open **new avenues for FDI and sharing of knowledge and technical expertise**.
- The increased demand for products from India would lead to:
 - **Infrastructural development** in terms of industry, communication networks, transport and road, rail, water and air infrastructure.
 - **Employment generation** would increase providing steady incomes to the youth and reducing stress on the agricultural sector.
 - **Rural development** would be another benefit of India's increased role in global supply chains.

- This would also aid India in its aim of building a **\$1 trillion economy** and developing the **agriculture, manufacturing, food processing and SME industries**.
- The shift away from China would also be beneficial for **India's geopolitical interests**, especially in the South and Southeast Asia region.

Global Recession

- A **Recession** occurs when **output declines for two successive quarters** in an economy.
- A **global recession**, according to the **International Monetary Fund** and the **World Bank**, is defined as a **yearly decline in the world's real GDP per person that is accompanied by a significant drop in a number of other economic activity indicators, such as industrial production, trade, capital flows, oil consumption, and unemployment**.
- Global trade uncertainties could lead to a **vicious cycle** where businesses are hesitant to invest more due to lower consumer demand. The lowered capital investment leads to fewer jobs, reduced wages and eventually lower aggregate demand.

World Economic Forum

- The World Economic Forum serves as the global forum for public-private cooperation.
- The Forum works with the leaders in politics, business, culture, and other spheres to influence regional, national, and sectoral agendas.
- It was established by Klaus Schwab in 1971 as a not-for-profit
- foundation called the **European Management Foundation** and is headquartered in **Geneva, Switzerland. It was renamed the WEF in 1987**.
- The forum's primary areas of interest are:
 - mastering the **fourth industrial revolution**
 - addressing the **issues of the global commons**
 - addressing **concerns of global security**
- These three issues have the potential to lead to meaningful global change, according to WEF, and advancement will be made by bringing leaders from all backgrounds together to create a shared understanding, purpose, and, where necessary, course of action.

Centre Cuts Windfall Tax On Oil, Export Of Diesel, ATF

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Windfall Tax

Prepp Mains Booster: Windfall Tax, windfall profit tax, aviation turbine fuel (ATF), India's Fuel Exporters, GS3 - Indian Economy and Related Issues

Context:

- Recently, the government has reduced the **windfall profit tax** levied on domestically produced **crude oil as well as the export of diesel and Aviation Turbine Fuel (ATF)**, in response to falling international oil prices.

- The levy on crude oil produced by companies such as Oil and Natural Gas Corporation (ONGC) has been reduced from Rs.2,100 per tonne to Rs.1,900 per tonne.
- Crude oil extracted from the ground and below the seabed is refined and converted into fuels such as gasoline, diesel, and **aviation turbine fuel (ATF)**.
- The government has also reduced the tax on diesel exports from Rs.6.5 to Rs.5 per litre, and the same on overseas shipments of ATF from Rs.4.5 to Rs.3.5 per litre.
- The new tax rates are effective from January 17.

Background

- The windfall profit tax on domestically produced crude oil is the second lowest since the new levy was implemented in July 2022.
- By December 2022, the tax had dropped to Rs.1,700 per tonne.
- The levy on diesel exports is now equal to the lowest hit in the first half of August and October 2022, as well as the second half of December 2022.
- Following a rise in global oil prices, tax rates were raised at the most recent fortnightly review on January 3.
- Since then, international oil prices have fallen, necessitating the repeal of a windfall tax.

What is a Windfall Tax?

- Windfall taxes are designed to tax the profits a company derives from an external, sometimes unprecedented event — for instance, the energy price- rise as a result of the Russia-Ukraine conflict.
- These are profits that cannot be attributed to something the firm actively did, like an investment strategy or an expansion of business.
- The US Congressional Research Service (CRS) defines a windfall as an “unearned, unanticipated gain in income through no additional effort or expense”.
- One area where such taxes have routinely been discussed is oil markets, where price fluctuation leads to volatile or erratic profits for the industry.

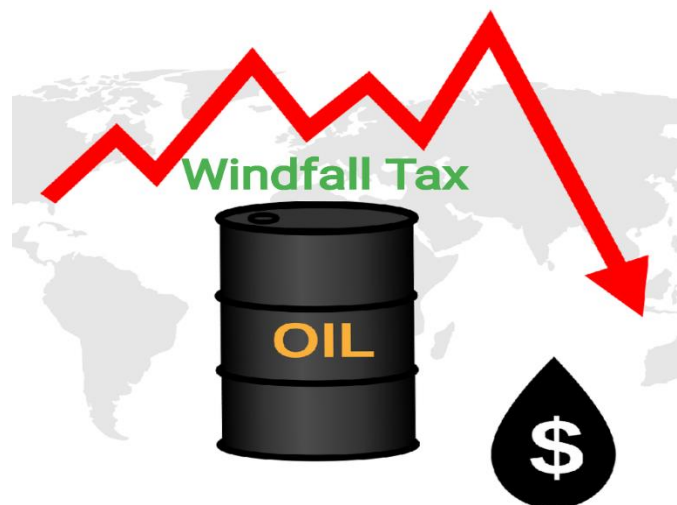
Why govt. introduced windfall tax?

- Redistribution of unexpected gains when high prices benefit producers at the expense of consumers,
- Funding social welfare schemes, and
- Supplementary revenue stream for the government

When did India implement this?

- In July, India announced a windfall tax on domestic crude oil producers who it believed were benefiting from high oil prices.
- It also imposed an additional excise duty on diesel, gasoline, and air turbine fuel (ATF) exports.
- Also, unlike other countries, India was still importing discounted Russian oil.
- India first imposed windfall profit taxes on July 1, joining a growing list of countries that tax super normal profits of energy companies,
- At the time, export duties of Rs.6 per litre (\$12 per barrel) each were levied on petrol and ATF, and
- Rs.13 per litre (\$26 per barrel) on diesel.
- A windfall profit tax of Rs.23,250 per tonne (\$40 per barrel) was also levied on domestic crude production.
- The export tax on gasoline was repealed in the first review.

- The tax rates are reviewed every two weeks based on the average oil price over the previous two weeks.



India's Fuel Exporters

- **Reliance Industries Ltd.**, which operates the world's largest single-location oil refinery complex in Jamnagar, Gujarat, and Rosneft-backed Nayara Energy are the country's primary fuel exporters.
- The government taxes oil producers' windfall profits at any price above \$75 per barrel.
- The levy on fuel exports is based on the cracks or margins that refiners earn on overseas shipments. These margins are primarily determined by the difference between the realized international oil price and the cost.

Why are countries levying windfall taxes?

- **Increase in prices:** Oil, gas, and coal prices have risen sharply since last year and in the first two quarters of this year, though they have recently fallen.
- **Pandemic recovery and supply issues** resulting from the Russia-Ukraine conflict boosted energy demand, driving up global prices.
- Rising prices meant huge and record profits for energy companies while resulting in high gas and electricity bills for households in major and minor economies.
- Because the gains were influenced by external factors, they have been dubbed "windfall profits" by several analysts.

Issues with imposing Windfall Tax

- **Uncertainty in the Market:** Companies are more likely to invest in a sector if the tax regime is predictable and stable. Because windfall taxes are imposed retroactively and are frequently influenced by unexpected events, they can cause market uncertainty about future taxes.
- **Populist in Nature:** It is believed that such taxes are populist and politically expedient in the short term.
- **Reduces Future Investment:** Introducing a temporary windfall profit tax reduces future investment because prospective investors will internalize the possibility of potential taxes when making investment decisions.
- **Not Clearly Defined:** It is not clear what exactly constitutes true windfall profits or how to determine what level of profit is normal or excessive.

- **Risk:** Companies argue that the profit is a reward for the industry's risk-taking in providing the end user with the petroleum product.
- **Who should be taxed:** Another issue is whether to tax only the large corporations that account for the majority of high-priced sales or also smaller corporations. This raises the question of whether producers with revenues or profits below a certain threshold should be exempt.

Global Risks Report: WEF

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: World Economic Forum

Prepp Mains Booster: Conservation, environmental pollution and degradation, environmental impact assessment, Disaster and disaster management, Important International institutions, agencies and fora

Context:

- Recently, the **World Economic Forum WEF** released the **Global Risks Report 2023** according to which "failure to mitigate climate change" and "failure of climate change adaption" were the two major challenges the world would have to face in the coming decade.
- The report also claimed that natural disasters and extreme weather were the second greatest risk followed by biodiversity loss and ecosystem collapse.
- The report was released at the WEF's annual summit in Davos, Switzerland where the world's top leaders engage to shape global, regional and industrial agendas.

What is the Global Risks Report?

- According to the **WEF**, "global risk" is the potential occurrence of an event or condition that, if it materialises, would adversely affect a sizable amount of the global gross domestic product, population, or natural resources.
- The **Global Risks Report** is an **annual** study published by the **World Economic Forum** ahead of the Forum's Annual Meeting in Davos, Switzerland.
- The report describes changes in the worldwide risks landscape that take place annually based on the work of the Global Risk Network.
- The report discovers and analyses key global hazards, and then communicates them to stakeholders and the general public using digital and other media assets.

What are the findings of the 2023 report?

- According to the report the most severe risks to the globe in the next decade are
 - The **failure to prevent** and the **failure to adapt to climate change**.
 - **Natural disasters** and **extreme weather events**
 - **Loss of biodiversity** and **collapse of the ecosystem**
- As per the report, **cost of living** has been ranked as the biggest global risk in the short term (within 2 years).
- The report highlighted the fact that interconnections between biodiversity loss, pollution, natural resource consumption, climate change and socioeconomic drivers pose a threat to the world's ecosystem and its people by 2023.
- The report has attributed the present energy inflation and food crises in Europe to the aftermath of the **pandemic and the war in Ukraine**.

- Natural disasters and extreme weather events have been included in the top five risks in 25 countries especially developing coastal states across Latin America, Africa, South East Asia and India. The effects of these events have affected low and middle-income countries disproportionately.
- Natural disasters were predicted to be the top risk in ten countries including **Barbados, Guatemala and the Philippines** over the next two years.
- Biodiversity loss has been at its highest over the last decade but it has not been viewed as a major short-term risk. The 2023 report ranked **biodiversity loss as the fourth most serious threat for the upcoming decade**.
- 70% of the experts involved in the preparation of the Report believed that **existing measures to tackle climate change have been inadequate**.
- The report claimed that enough progress had not been made on climate change despite thirty years of advocacy by environmentalists and citizens. Failure to address climate change has consistently been among the top global risks in the short and long terms since 2011.
- The present record high levels of nitrous oxide, methane and carbon dioxide in the atmosphere have made limiting global warming to the **1.5-degree limit** very difficult.

India and extreme weather events

- According to **India's Atlas On Weather Disasters published by the Centre for Science and Environment and Down To Earth**, India experienced extreme weather conditions on **291 out of the 334 days** between January 1 and November 30, 2022.
- This indicated that over the course of these 11 months, the nation experienced an extreme weather event of some kind in at least one of its regions.
- According to the **IPCC's sixth assessment report**, connections exist between these extreme events, the climate crisis and human-induced greenhouse gas emissions.
- Weather extremes have become more frequent and intense as a result of human-caused greenhouse gas emissions in the post-industrial period, according to an IPCC assessment from 2021.

What are the possible implications of the findings?

- The speed and scope of mitigation efforts over the next two years will likely decrease due to growing demands on public and private sector resources brought on by socioeconomic issues linked to geopolitical tensions.
- There has been at least a temporary **undoing of the progress made on climate change mitigation**. For instance, the European Union invested at least **€50 billion** in infrastructure and supplies for the production of fossil fuels while **Austria, Italy, the Netherlands, France**, and other nations have reopened their coal-fired power plants.
- Communities and nations that are increasingly being impacted by the effects of climate change could suffer as **adaptation support** from the developed countries will reduce over the short and long term.
- The pledges made as part of the breakthrough **loss and damage agreement** reached at **COP27 in Sharm El-Sheikh** to provide financing for vulnerable nations severely affected by climate disasters are also likely to be affected.

- The 18th edition of the WEF annual report under the theme "Co-operation in a Fragmented World" calls for political will and collaboration among world leaders to solve "climate and human development" in the face of numerous problems.

WEF

- The **World Economic Forum (WEF)** was established in 1971 by **Klaus Schwab** as the **European Management Forum**. It is a non-profit organisation with headquarters in Geneva, Switzerland.
- It is an annual gathering of leaders from business, politics, and academia to discuss the global economy and its challenges.
- Swiss authorities recognise it as an **international entity for public-private partnership**.
- Mission:** Dedicated to making the world a better place by bringing together influential figures from business, politics, academia, and other sectors of society to develop global, regional, and industry agendas.
- The Major Reports published by the WEF are
 - Energy Transition Index**
 - Report on global competitiveness.**
 - Global IT Report** published with **INSEAD** and **Cornell University**.
 - Global Gender Gap Report**
 - Report on Global Risks**
 - Report on global tourism and travel**

Hyderabad Selected To Host WEF Center For The Fourth Industrial Revolution

Priority: Medium



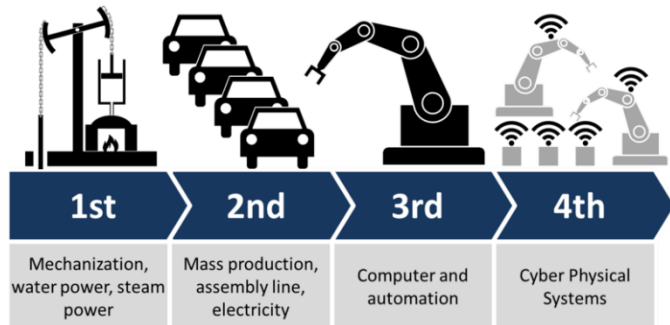
Primary Source: The Hindu

Prepp Prelims Booster: WEF

Prepp Mains Booster: Changes in industrial policy and their effects on industrial growth; Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights

Context:

- Recently, the **World Economic Forum (WEF)** has chosen Hyderabad for establishing its **Center for the Fourth Industrial Revolution focused on healthcare and life sciences**.
- The **C4IR Telangana** will be an autonomous, non-profit organisation and the only such of World Economic Forum in India with a thematic focus on healthcare and life sciences.



About C4IR Telangana

- C4IR Telangana will be the **18th centre** to join **WEF's Fourth Industrial Revolution (4IR)** network that spans four continents.

With the centre, Telangana is poised to become an important node in the global network of 4IR centres.

Significance

- The centre will promote, advance, and quicken the development and uptake of more modern technologies, such as genomics, individualised medicine, and healthcare manufacturing, with an emphasis on how life sciences and technology interact locally and globally.
- In addition to the government's progressive industrial policies, it will make use of the state's strengths, including its large talent pool, world-class infrastructure, and cluster-based approach.
- The new Center will be crucial in **modernising the local, global, and healthcare** industries and enhancing patient access and outcomes.
- It would hasten innovation in service and product delivery across the whole **Indian healthcare sector**.

What is 4th Industrial Revolution (4IR)?

- The 4th Industrial Revolution (4IR) is a fusion of advances in artificial intelligence (AI), the Internet of Things (IoT), robotics, genetic engineering, quantum computing, and more.
- It is the driving force behind a variety of goods and services that are quickly turning into necessities for modern life.

How 4th Industrial Revolution (4IR) will be critical for India?

- Financial:** Industry 4.0 technologies would not only be game-changers but also aid in the economic revival by 2025, enabling businesses to improve India's financial standing in the post-COVID era.
- The application of AI to **"digital inclusion"** in India is anticipated to have a knock-on effect on economic growth and prosperity.
- International nucleus:** Block chain, big data analytics, the Internet of Things (IoT), advanced manufacturing, quantum computing, and artificial intelligence (AI) are among the cutting-edge technologies that are expected to provide India the chance to carve itself out as a "International nucleus" in the near future.
- Economy:** According to analysts, artificial intelligence (AI) would contribute over \$957 billion to the Indian economy by 2035, and more than \$500 billion and roughly 20 million jobs by 2025.
- In addition to building a data-driven society through cutting-edge technologies that offers limitless opportunities to **empower individuals, improve society, and increase the ease of doing business**.
- India has a remarkable opportunity to be a significant contributor to 4th Industrial Revolution (4IR) driven solutions that can further transform agriculture, healthcare, manufacturing, education, and skilling.

Steps taken by India

- In November 2020, the **Modern Coach Factory (MCF) at Raebareli**, Uttar Pradesh, rolled out **smart railway coaches** that are fitted with a battery of sensors to provide a comfortable experience to passengers.
- The sensors use a variety of technologies, including CCTV cameras with facial recognition software, to monitor odour levels in restrooms, check that doors are securely locked, prevent fires from starting, and halt unauthorised travel.
- The **Smart Advanced Manufacturing and Rapid Transformation Hub (SAMARTH) programme**, which brings together manufacturers, vendors, and customers to increase their

awareness of 4IR technologies, was introduced by the Union Ministry of Heavy Industries in May 2020.

- In her address introducing the 2022 budget, Union Finance Minister unveiled a number of new **4IR-driven initiatives, including Drone Shakti**, to support new businesses that will make it easier to deploy drones.
- India even has a **4IR centre run by WEF in Mumbai** that collaborates closely with a number of state governments.
- The Fourth Industrial Revolution for Sustainable Transformation (FIRST) Cancer Care model, developed by the Center, would leverage 4IR technology to improve healthcare for cancer patients.

Challenges

- **Job losses:** Losing a job is the immediate concern, especially in the unorganised sector. There are also concerns that as India moves forward with 4IR, many white-collar employment across industries would be replaced by machines and technology.
- **Indian Railways personnel** have already begun to demonstrate against the installation of **ticket vending machines** in stations and the automation of track maintenance in general.
- The demand for the jobs that are **currently in high demand** to implement 4IR, such as artificial intelligence engineers, data scientists, and robot maintenance workers, will likewise **decline as technologies develop**, according to experts.
- **Safety:** Other important questions like safety, morality, and the immediate and long-term socioeconomic impact remain unaddressed in addition to the issue of unemployment.
- For instance, in January 2022, there were significant delays for flights within the US.
- **Fears of interference between the 5G wireless technology's C band** and the altimeters used by aircraft for navigation, particularly during airport landings, led to this.
- In the US, several airlines abruptly raised safety concerns with government authorities.
- 5G technology (and later 6G) is one of the engines that will propel the 4IR forward
- Additionally, the risks to **human health and the environment** posed by 5G have not been fully addressed.

Steps need to be taken

- **Coordination:** India need coordinated action. To define a mission for maximising the use of the technologies of the Fourth Industrial Revolution, the central government can take into consideration a collaborative platform between ministries, state governments, and industry bodies.
- It will need to establish a **long-term ecology** for professional development.
- **Collaboration with like Minded countries:** India may work with the US, Germany, and EU.
- Skills and capacity building.

Conclusion

- India will have great chances to skip over many developmental stages as a result of the Fourth Industrial Revolution, hastening its transition to a developed economy.
- The Fourth Industrial Revolution is levelling in many ways.
- The same technologies that are employed in the developed world will also be utilised in India.

- In the West, technologies like robots, AI, and IoT are revolutionising industries, and they are poised to do the same in India.

SAMARTH Udyog Bharat 4.0

- **(Smart Advanced Manufacturing and Rapid Transformation Hub) SAMARTH Udyog Bharat 4.0** project is initiated by Ministry of Heavy Industries.
- **Vision:** To facilitate and create eco system for propagation of Industry 4.0 set of technologies in every Indian manufacturing by 2025, be it MNC, large, medium or small scale Indian company.

Ozone Layer To Recover In 4 Decades But Aerosol Injection May Undo Gains: Unep

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: UNEP

Prepp Mains Booster: Environment and Conservation

Context:

- Recently, at the **American Meteorological Society's** annual meeting, the United Nations-backed panel of experts stated the **successful phase-out of banned substances**, as envisioned by the **Montreal Protocol**, has set the stage for **complete ozone layer recovery by the 2060s**.
- Being an accomplishment, the scientists also warned of the **negative effects of geoengineering technologies such as stratospheric aerosol injection on the ozone layer**.



What is the Ozone Layer?

- It is a high-ozone layer in the earth's stratosphere.
- This layer shields the Earth from the Sun's harmful UV radiation. It absorbs 97-99% of the sun's UV radiation.
- Millions of people would be affected by skin diseases, including cancer, if the ozone layer did not exist.
- UV radiation would also have a negative impact on the environment, resulting in lower productivity.
- The ozone layer depletion also has a negative impact on Earth's fauna.

Background

- The first ozone hole was discovered in the stratospheric layers over the Antarctic in 1985, allowing harmful ultraviolet (UV) radiation to pass into the lowest layer of the Earth's atmosphere (troposphere) where humans live.

- UV radiation has been linked to health risks such as skin cancer, cataracts, and other eye conditions, as well as lowered immunity.
- The Montreal Protocol, enacted in 1989, called for a ban on the use and trade of 100 **ozone-depleting substances (ODS)**, and the Scientific Assessment Panel to the Montreal Protocol stated that 99 percent of these have been successfully phased out.

What are the expectations?

- If current policies are maintained, the ozone layer is expected to recover to 1980 levels (before the appearance of the ozone hole) by around 2066 over the Antarctic, 2045 over the Arctic, and 2040 for the rest of the world.
- The concentration of most of these substances in the atmosphere peaked in the 1990s and has been declining in the decades since the Montreal Protocol went into effect.
- According to the **National Oceanic and Atmospheric Administration (NOAA)**, an American scientific and regulatory agency within the United States Department of Commerce, the global concentration of ODS will revert to the 1980s level in August 2022, marking a significant milestone in the ozone layer recovery efforts.
- However, once released, these substances linger in the atmosphere for a long time and continue to deplete the stratospheric ozone layer.
- Furthermore, the reduction of ODS concentrations over the Antarctic has been slow.
- As a result, it will still take nearly four decades for the ozone layer to fully recover.

Impact on Climate Change

- The success of the Montreal Protocol inspires confidence in the scientific community and governments working to reduce greenhouse gas emissions that cause climate change, according to the Scientific Assessment Panel during the meeting.
- The scientists noted that the success of the ODS ban could benefit the implementation of the 2016 Kigali Amendment to the Montreal Protocol, which calls for the phase-out of certain hydrofluorocarbons (HFC).
- Reducing HFC concentrations can help avoid 0.3-0.5°C of global warming above pre-industrial levels by the end of the century.
- Ozone action sets a precedent for climate action. The success in eliminating ozone-depleting chemicals demonstrates what can and must be done urgently to transition away from fossil fuels, reduce greenhouse gases, and thus limit temperature rise.

Geoengineering

- The panel raised one concern: **geoengineering experiments to combat global warming could harm the ozone layer.**
- For the first time, the **Scientific Assessment Panel (SAI)** investigated the potential effects of stratospheric aerosol injection on ozone.
- SAI can increase sunlight reflection, lowering the amount of heat that enters the troposphere.
- But this method could also affect stratospheric temperatures, circulation and ozone production and destruction rates and transport.
- According to a 2016 study, **injecting sulphuric acid into the stratosphere would harm the ozone layer.**

- Aerosol sprays, like other commonly used substances such as dry cleaning solvents, refrigerants, and fumigants, contain ODS.

Conclusion

The ozone layer is a thin layer of the Earth's atmosphere that absorbs nearly all of the sun's damaging UV energy. The ozone layer, which protects life on Earth from lethal solar radiation, is on course to rebuild within decades, but contentious geoengineering proposals to combat global warming could undo that progress.

Science and Technology- developments and their applications and effects in everyday life.

West Bengal Gets Its First M Sand Facility Through CIL's Green Mining Initiative

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: M-Sand

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation; Science and Technology- developments and their applications and effects in everyday life.

Context:

- Recently, Coal India Limited (CIL) has started a facility in West Bengal to produce manufactured sand, the first such initiative in the State.
- It is an attempt towards environmental sustainability and reducing over mining of sand.

What is M-Sand?

- Sand is one of the major geological resources of the country and M sand is a form of artificial sand manufactured by crushing large hard stones into fine particles.
- Sand is required by Eastern Coalfields Ltd (ECL), a CIL subsidiary, for stowing (filling in mined-out areas) in its underground mines on an annual basis of 12 lakh cubic metres. Therefore, M Sand will satisfy 25% of ECL's sand needs, resulting in an annual savings of about 6 crore.
- In many mineral industries, like coal in open cast mines, coal can be extracted only after removing layers of soil, stone, etc. This soil and stone etc is known as over burden.



Advantages of M-sand

- **Eco-friendly:** It is a step in ensuring environmental sustainability is the conversion of overburden material into the sand.
- **Greater Strength:** M- Sand's balanced physical and chemical characteristics allow it to survive any challenging environmental

and climatic circumstances. It also has improved economy, greater strength, and greater durability.

- **Durability:** Better durability and greater strength are provided to concrete by chemically stable sands' superior shape, optimum gradation of fines, smooth surface texture, and consistency in manufacturing parameter
- **Economical:** M-Sand may be used economically since, like river sand, it has no contaminants and virtually no wastage.

Disadvantages

- Sand that has been crushed might have a rougher, angular texture. To get the desired workability, more water and cement may be needed.
- Greater concentrations of micro-fine particles in manufactured sand than in natural sand may impact the concrete's strength and workability.

What are the differences between River sand and Manufactured sand?

Alternatives for Sand

- **Manufactured Sand (M-Sand):** 'Manufactured sand' is the most viable option. A stone-crushing plant produces it.
- M-sand is made from aggregate-producing stones, and its quality is consistent and even better than river sand. M-sand is also less expensive.
- **Fly Ash:** The use of fly ash from the industry as a construction material should be encouraged.
- **Quarry Dust:** According to the results of an experiment, quarry dust can be used as a fine aggregate replacement.
- It has been discovered that replacing 40% of the sand with quarry dust offers the strongest results when compared to standard concrete and then decreases from 50%.
- **Limestone:** In some places where river sand is scarce, there has been an increasing interest in using crushed sand obtained from limestone quarries in recent years.
- **Filtered Sand:** The filtered sand comes from a stagnant river bed.
- Filter sand is used in water treatment facilities as well as major and small building projects, such as man-made lakes and ponds.

Way forward

- According to a 2018 publication by the Ministry of Mines titled "Sand Mining Framework," India's total sand usage was over 700 million tonnes in 2016–17 and is rising by 6–7% a year.
- Several districts in north and south West Bengal are rife with illegal sand mining from riverbeds and riverbanks. It functions as a result of a connection between the sand mafia, local politicians, and the government.
- The CIL's choice to manufacture sand is a step in the direction of sustainability, especially in light of the detrimental effects that unlawful mining from riverbeds and riverbanks has on river morphology.

Viral Nutrition: New Study Reveals Microbes Nourished By Consuming Viruses

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Science and Technology

Prepp Mains Booster:

Context:

- **Viruses have a reputation for destroying public health systems** and human lives at various stages of the COVID-19 pandemic.
- They have an unusual biology in that they are inactive outside of a living body, but inside they use the cellular machinery to feed, replicate, and spread.
- An association with disease and death has come to define their form in the public imagination, not even redeemed by the fact that other microbes destroy viruses.
- However, a **new study published on December 27 by researchers at the University of Nebraska-Lincoln, offers to upend this.**
- Researchers from the University of Nebraska-Lincoln **discovered that a specific genus of plankton, Halteria**, can 'grow and divide given only viruses to eat'. This could be significant for the marine food chain.



Key Highlights

- The authors of the study have reported that a particular genus of plankton can consume viruses as well as "grow and divide given only viruses to eat".
- It is known that other cells, such as macrophage cells in the human immune system, can 'consume' viruses in order to destroy them.
- The distinction is the ability to 'eat' viruses in order to fulfill one's biological imperatives.
- They claim to have discovered plankton of the genus Halteria that can consume 10,000 to a million virus particles per day, increase their population using the metabolized energy, and provide more food for the zooplanktons that consume the Halteria. This could have a significant impact on the marine food chain.

What are plankton?

- Plankton are microscopic organisms that can only move with the current. They lack the resources to actively propel themselves.
- Halteria plankton are ciliates, which means they have hair-like structures called cilia on their surface.
- They can sometimes beat some of these cilia to jump short distances, but not very often because it requires too much energy.

What role do plankton play in the food chain?

- A type of plankton known as phytoplankton can be found near the surface of many bodies of water.
- It is an autotroph, which means it can produce its own food by consuming carbon dioxide, among other compounds, through photosynthesis.

- Small fish and larger plankton known as zooplankton consume phytoplankton for nutrition, which is then consumed by larger fish, and so on.
- When phytoplankton die, they either drift around and become part of a coastal nutrient cycle, or they sink to the seafloor and decompose.
- Their constituents are then available to microbes or are sequestered into the seafloor.
- Phytoplankton transport carbon and other nutrients from the atmosphere and sea surface to the seafloor, where they help replenish the food chain (they also 'trap' carbon in their own bodies and as sediments).
- They are joined by bacteria that produce their own food by oxidizing sulphur, iron, or hydrogen in a process known as chemosynthesis.



Role of Halteria Plankton

- Halteria plankton are found in large numbers in freshwater bodies.
- They are heterotrophs meaning they can't produce their own food.
- Instead, they are well-known bacterivores — they consume bacteria to power themselves.
- They infect and kill both bacteria and plankton, releasing organic matter that dissolves in the water.
- By also consuming viruses for nutrition, Halteria plankton can recover the nutrients lost in the viral shunt and bring them back into the food chain.

What does the new study say?

- Viruses are the single-most populous life-form on Earth;
- Their cumulative biomass outweighs that of humans by a factor of 10^{10} .
- In the new study, the researchers found that Halteria plankton reduced the population of chloroviruses 'fed' to them while growing their own numbers — whereas Paramecium ciliates consumed the chloroviruses but didn't proliferate.

Patent Ecosystem In India

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Patents

Prepp Mains Booster: Science and Technology, Effects of liberalization on the economy, changes in industrial policy, Government Policies

Context:

- The author has discussed the **patent ecosystem in India** and how it has affected **public health obligations** and **long-term national interests** in the article titled 'Enforcing the Patent Bargain' published in the Indian Express on January 30 2023.
- The **National IPR policy** was released in May 2016 by the **Department for Promotion of Industry and Internal Trade** under the Union Ministry of Commerce and Industry to develop a more **innovative and creative Bharat** and has led to numerous structural and legislative changes.

What is the National IPR Policy?

- The **National IPR policy** was published in May 2016 by the **Department for Promotion of Industry and Internal Trade**, earlier known as the **Department of Industrial Policy and Promotion**.
- The document aimed to enable the government's comprehensive **vision for the country's IPR ecosystem and develop a more innovative and creative Bharat**.
- The Document described seven major objectives:
 - **IPR, outreach, and promotion**—raising public understanding of IPRs' positive effects on the economy, society, and culture.
 - Encourage the generation of IPRs by cultivating an **inventive and innovative environment**.
 - Replace obsolete rules with **strong, effective IPR laws** that combine the rights holders' interests with the broader public interest.
 - **Human Capital Development** for Intellectual Property Education, Research, and Skill Building.
 - Modernize and improve **service-oriented IPR administration** through the administration and management of innovation.
 - **IPR commercialization** to maximise IPR value.
 - **Strengthening the enforcement and adjudicative processes** to combat IPR infringements.



What were the outcomes of the National IPR Policy?

- In the six years since the Policy was introduced, a number of administrative and legislative changes have taken place in India.
- As a part of the reforms related to Tribunals, the **Intellectual Property Appellate Board (IPAB)** was dissolved in 2021 and its authority was transferred to the High Courts.
- The **Delhi High Court** later instituted a specific bench (IP Division) dedicated to speedier resolution of IPR disputes.

- The **Indian Patent Office** has undertaken several measures to convey the country's IP-friendly stance to potential investors without compromising the nation's interests and public health commitments.
- The Policy has specifically mentioned the contributions of the domestic pharmaceutical sector in making **India the pharmacy of the world**.

What are the present concerns with the IP ecosystem?

- The **patent-friendliness of the IPR ecosystem** has been interpreted as being in favour of the patentees which could adversely impact the country's public health commitments and national interests.
- Legislative safeguards were introduced in the Indian Patents Act to safeguard national interests and balance the country's decision to grant patents for a 20-year period for substances intended to be used as food, drug or medicine.
- **Sections 3(d), 53(4) and 107A of the Patents Act** were introduced between 2002 and 2005 to prevent the "**evergreening**" of patents, which pharmaceutical companies had utilized in patentee-friendly nations like the USA.
- **Evergreening patents** on drugs related to the treatment of diabetes, cancers, cardiovascular diseases and other serious conditions continue to be granted to pharmaceutical innovator companies by the Indian Patent Office despite the safeguards and are regularly approved by the judicial system. This has become detrimental to generic drug manufacturers and patients.
- In **Novartis AG vs Union of India and Others (2013)**, the Supreme Court had interpreted that the legislative intent behind **Section 3(d)** was to **prevent evergreening** through inconsequential changes or additions that did not affect the drug's therapeutic nature.
- However, the verdict and guidelines issued by the Supreme Court have not been accompanied by similar outcomes from patent authorities and subordinate courts.

Way forward

- Developing the patent ecosystem to attract investment is necessary but this should not mean the adoption of a pro-patentee position that compromises public health obligations and the interests of the nation.

Security challenges and their management in border areas,

Various Security forces and agencies and their mandate.

Caught 22 Drones With Weapons, Drugs In 2022 From Across Border: BSF

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Security

Prepp Mains Booster: Security challenges and their management in border areas, Various Security forces and agencies and their mandate.

Context:

- Recently, it was stated that the **Border Security Force (BSF)** captured 22 drones smuggling weapons, drugs across the border in 2022.

- The force also seized 316.988 kilograms of heroin, killed two Pakistan intruders and apprehended 23 Pakistani nationals in the year 2022.



Key Highlights

- Despite ongoing concerns about drugs, money, weapons, and explosives being smuggled across the Indo-Pak border from Pakistan into Indian territory, the **Border Security Force (BSF)** captured at least 22 drones in 2022.
- The BSF also seized 316.988 kilograms of heroin, as well as 67 weapons and 850 rounds. In other incidents, the border guarding force killed two Pakistani intruders and apprehended 23 Pakistanis.
- In a humanitarian gesture, the force handed over nine Pakistani nationals who had inadvertently crossed the international border to Pakistani rangers.

Background

- The majority of the **unmanned aerial vehicles (UAVs)** were detected and captured by BSF personnel stationed along the border.
- Drones were used to smuggle drugs, arms, ammunition, and explosives in 2019.
- Though the BSF shot down one drone in Punjab in 2021, the number had multiplied by the end of 2022.
- In 2022, BSF men in the Punjab Frontier maintained extremely high level of alertness and vigil as a result of which, 22 drones were brought down, 316.988kg heroin was seized, 67 weapons along with 850 rounds were recovered, two Pakistani intruders were killed and 23 Pakistan nationals apprehended in separate cases.
 - Nine Pakistani nationals were also repatriated who had inadvertently crossed the border.

Number of Drones Detected

- Drone sightings along the 2,289km-long India-Pakistan International Border running through Jammu, Punjab, Rajasthan, and Gujarat were:
 - 77 in 2020,
 - 104 in 2021, and
 - 311 in 2022.
- Approximately 75% of these were discovered in Punjab, where the other side has primarily used drones to smuggle drugs and weapons into Indian territory, according to the spokesperson.
- In 2022, the BSF took several other measures to combat drone incursions, in addition to announcing a Rs.50,000 reward for the 'drone hitting-party' and a 1 lakh reward for informers.

What are the concerns?

- Opposition parties in Punjab have consistently expressed concern about the use of drones to smuggle weapons and drugs from Pakistan.
- It was expressed concern about these weapons and drugs finding their way into the hands of those attempting to disrupt peace in Punjab.
- **Punjab Governor Banwarilal Purohit** visited the state's border districts of Pathankot, Gurdaspur, Amritsar, Tarn Taran, Ferozepur, and Fazilka in September and April of this year to assess the security situation.
- He met with officers from the Central and State governments, as well as village heads (sarpanch) in these districts, and asked for their help in becoming the security forces' "eyes and ears" and informing them whenever they discovered any nefarious activity, such as the air dropping of drugs, weapons, and other contraband across the international border using drones or other means.

Measures

- Men were given special training to shoot down flying objects, and our coordination with Punjab Police and other sister agencies, as well as residents of border villages, aided in addressing the drone challenge at some level this year.
- On the border, an anti-drone technology is currently being tested.
- It was emphasized that greater coordination among security agencies was needed to deal with such emergencies.

Border Security Force (BSF)

- It is India's border guarding force along Pakistan and Bangladesh's borders.
- **Administrative Control:** Ministry of Home Affairs (MHA).
- **Purpose:** It was established on December 1, 1965, following the 1965 War, as India's first line of defense to ensure the security of India's borders and related matters.
- **Deployment:** On the Line of Control (LoC) with the Indian Army and in anti-Naxal operations.
- **Officials:** The BSF has its own cadre of officers, but its head, designated as a Director-General (DG), has been an officer from the Indian Police Service (IPS) since its inception.

Village Defence: The Return Of J&K's System Of Armed Civilians

Priority: High



Primary Source: Indian Express

Prepp Prelims Booster: Village defence

Prepp Mains Booster: Security challenges and their management in border areas

Context:

- Recently, **Lt Governor Manoj Sinha** assured the people of Jammu and Kashmir that they would be given a **Village Defence Committee (VDC)** similar to those in Doda district.
- The demand has come after militants killed six people in two days in Jammu and Kashmir's Upper Dangri village recently, hence **locals demanded that they be given weapons to combat the attackers.**

Background

- Village Defence Guards (VDGs), formerly known as Village Defence Committees, is a militia formed in the mid-1990s in the Chenab Valley area of Jammu and Kashmir for the self-defense of locals,

particularly Hindus in remote hilly villages, against militancy. It is made up of villagers as well as police officers.

- Jammu and Kashmir police established new VDCs in Kishtwar as recently as 2019. Kishtwar has over 3,251 VDC members, 800 of whom are armed.
- As of December 2019, there were 4,125 VDCs in Jammu and Kashmir.
- The Indian Army holds training camps for VDCs that include weapons training and intelligence gathering basics.
- On September 15, 2019, the Army trained VDCs in the Doda sector. They were primarily established to safeguard Hindus and Muslims.
- Following the assassination of a Kashmiri-Hindu Sarpanch in June 2020, former Jammu and Kashmir police chief Shesh Paul Vaid suggested that Hindus and Muslims be armed and Village Defence Committees be formed with proper planning.



About Jammu and Kashmir

- Jammu and Kashmir is an Indian union territory that consists of the southern portion of the larger Kashmir region, which has been the subject of a dispute between India and Pakistan since 1947 and between India and China since 1962.
- The Line of Control separates Jammu and Kashmir from the Pakistani-administered territories of Azad Kashmir and Gilgit-Baltistan in the west and north.
- It is located to the north of the Indian states of Himachal Pradesh and Punjab, and to the west of Ladakh, which is also disputed as part of Kashmir and is administered by India as a union territory.
- The Jammu and Kashmir Reorganisation Act, 2019, which was passed by both houses of India's Parliament in August 2019, contained provisions for the formation of the union territory of Jammu and Kashmir.
- The act reconstituted the former state of Jammu and Kashmir into two union territories, one of which is Jammu and Kashmir and the other is Ladakh, with effect on October 31, 2019.

What is a VDC?

- VDCs were established in the former Doda district (now Kishtwar, Doda, and Ramban districts) in the mid-1990s as a force multiplier against militant attacks.
- The then-administration of Jammu and Kashmir decided to arm residents of remote hilly villages and train them to defend themselves.
- The VDCs have been renamed Village Defence Guards (VDG). The Union Ministry of Home Affairs approved a new scheme to establish VDGs in vulnerable areas of J&K in March of last year. Each VDG will

be given a gun and 100 rounds of ammunition, just like a VDC member.

VDGs and VDCs

- Both the VDG and the VDC are civilian groups that are given guns and ammunition to fight militants until security forces arrive.
- The government will pay Rs 4,500 per month to those in charge of VDGs under the new scheme, while others will receive Rs 4,000 each.
- Only the Special Police Officers (SPOs) in charge of the VDCs were paid a monthly stipend of Rs 1,500.
- SPOs, the lowest rank in the J&K Police, were previously retired army, paramilitary, or police personnel.
- The VDGs will be directed by the SP/SSP of the district concerned.

What was the composition of VDCs?

- Each VDC had a minimum of 10-15 ex-servicemen, ex-policemen, and able-bodied local youth enrolled on a voluntary basis.
- On average, at least five of them were provided.
- 303 rifles with 100 rounds each, obtained from the district Superintendent of Police.
- The number of weapons distributed may increase depending on the credentials of the volunteers, the total population of a village, and the security needs as determined by the district magistrate and SSP in charge.

Why was the need for VDCs felt?

- By the mid-1990s, the militancy that began in Kashmir in the early 1990s had spread to the neighboring Doda district.
- The demand for arming civilians began after the massacre of 13 people in Kishtwar in 1993.
- As the killings increased, forcing Hindus to migrate from villages to nearby towns, the Home Ministry decided in 1995 to establish VDCs to halt this exodus, which came after Kashmiri Pandits were forced to flee the state in the early 1990s.
- Later, as militants expanded their operations to Udhampur, Reasi, Rajouri, Poonch, Kathua, and Samba districts, the scheme was expanded to other areas of the Jammu division.

How did the idea of arming civilians emerge?

- The concept was inspired by the 1965 and 1971 Indo-Pak wars, when the government armed ex-servicemen and able-bodied youth in border villages to prevent Pakistani spies from infiltrating.
- Locals guarded their areas at night and even provided information to Army troops, which resulted in the decimation of Pakistani posts and the arrest of Pakistani spies.

Role of VDCs in combating militants

- During the peak of militancy in most parts of Jammu division, particularly in the Chenab Valley and Pir Panjal regions, the hills of Udhampur, and Reasi and Kathua districts, VDCs played an important role in combating militancy.
- They were the most feared armed groups among militants in areas where poor road networks delayed the arrival of security forces.
- The villagers, who were well-versed in the local topography, averted many militant attacks and assisted in their capture and execution.

What controversies did the VDCs get into?

- Along with their successes, the VDCs were accused of human rights violations and other crimes, such as murder, rape, and extortion.
- According to official figures presented on the floor of the former Jammu and Kashmir Legislative Assembly in 2016, 27,924 civilians were serving in 4,248 VDCs across the state.

- There were 221 FIRs filed against them, including 23 murders, seven rapes, rioting (15), NDPS Act (3), and 169 other cases.

Disarming of VDC Members

- Following the restoration of peace, there were calls from some quarters to disband the VDCs in 2002.
- Since then, the demand has risen on occasion, but successive governments have refrained from disbanding them.
- However, the number of VDC members has decreased significantly over time, either due to their involvement in a criminal case or the government taking back their weapons once they turned 60.
- Aside from that, many VDC members have surrendered their weapons in the absence of remuneration.

When did the new demand arise?

- The demand for the revival of VDCs arose after militant activities resurfaced in areas where peace had long since been restored.
- Drones were used to drop weapons, explosives, and cash at various locations, particularly in border areas of Jammu, Samba, and Kathua districts.

Current situation in the UT

- According to official figures, a total of 186 militants, including 56 foreigners, were killed in 98 successful encounters in J&K in 2022.
- From the previous year, there was a 37% decrease in local youth joining terror ranks this year.
- During this time, 17 of the 100 youth who joined militancy were arrested, and 65 were killed in encounters. The hunt is on for the remaining 18.
- Police have seized 188 AK series rifles, 275 pistols, eight M4 carbines, 354 grenades, 61 IEDs, and sticky bombs, among other things.
- A total of 649 people were charged under the PSA for supporting militancy, while 55 vehicles and 28 houses were seized for being used for militant activity.

GENERAL STUDIES 4

Ethics of Influencer Endorsements

Priority: Moderate

Primary Source: The Hindu

Prepp Mains Booster: Ethical concerns and dilemmas in government and private institutions; laws, rules, regulations and conscience as sources of ethical guidance; Accountability and ethical governance; Strengthening of ethical and moral values in governance; Ethical issues in international relations and funding; corporate governance.

Why in the news?

Endorsement Guidelines for celebrities and social media influencers were recently published by the Union Government. Endorsements are a type of advertising that makes use of well-known figures or celebrities that enjoy a high popularity, trust, respect, and/or recognition.

What is the main objective of guidelines?

The guide's main goals are to prevent people from misleading their audiences when recommending goods or services and to ensure that they adhere to the Consumer Protection Act and any related rules or regulations.

What are the ethical aspects involved?

Manipulation with use of trust of the followers

Negative Aspect:

- Advertising that is intentionally manipulative tries to modify the purchasing habits of the public without disclosing reasons. They have a psychological impact on people who are powerless in the situation. We must choose between taking the ethical way and taking the effective path in this situation. Do we want to uphold our integrity and earn the public's trust, or do we want to disregard ethics in favour of success? The first choice would be preferable in terms of public relations because no one wants to be lied to.
- When harmful or ineffective goods and services are marketed by celebrities, the most serious conflicts occur. Celebrities may influence shoppers to make harmful or useless purchases. When a celebrity endorsement is used to discount professional advice, it is highly unethical. When a famous person weighs in with a non-expert perspective, it should not be construed as undermining that of more knowledgeable people.

Positive Aspect:

- If we take an example of a group attempting to improve the health of the public, and if it involves subtle deception. Although it would be more moral to be upfront with the public, we shouldn't be too critical if endorsements are more effective at modifying bad behaviour. Additionally, if a firm consistently encourages its customers to modify their behaviour for the better, such as eating healthier, and those customers stick with it over time, the organisation will have improved someone's life.

Vulnerable groups as target:

- Targeting of vulnerable groups, such as young people or children, who might not be able to examine properly the goods that influencers are advocating
- Endorsement without accountability: Influencers have greater potential to convince consumers but are also less accountable. Yet, there is no system in place for vetting the products that have been recommended.
- Concern regarding differentiation of commercial messaging: Influencer marketing frequently appears to be general advice rather than a commercial. Advertisements are presented online without any sort of disclosure and are difficult to identify.

What are the new guidelines by the government?

Disclosures:

- Endorsements must be made in simple, clear language and terms such as "advertisement," "sponsored," or "paid promotion" can be used. They should not endorse any product or service and service in which due diligence has been done by them or that they have not personally used or experienced
- Any celebrity, influencer or virtual influencer who has access to an audience and can influence their purchasing decisions or opinions about a product, service, brand, or experience must disclose any material connection with the advertiser.
- Before endorsing, the product and service must have been actually used or experienced by the endorser. In case of default, the consumers can seek legal action.

Penalty:

- As per fresh guidelines, violators have to pay a fine of Rs 10 lakh and fine can go up to Rs 50 lakh for repeated offenders.
- The Central Consumer Protection Authority (CCPA) can bar the influencer from endorsing products in case of repeated non-compliance with the guidelines.
- If there are any violations, the penalty prescribed for misleading advertisements under the Consumer Protection Act 2019 will be applicable.
 - The Consumer Protection Act, 2019 provides the framework for the protection of consumers against unfair trade practices and misleading advertisements.

Acts against misleading advertisements in India

- Consumer Protection Act, of 2019: The new guidelines are in alignment with the Consumer Protection Act, of 2019, which was enacted to protect consumers from unfair trade practices and deceptive advertising.
 - Recently the Central Consumer Protection Authority (Authority) notified the Guidelines for Prevention of Misleading Advertisements and Endorsements for Misleading Advertisements, 2022 (Guidelines) under Section 18 of the Consumer Protection Act, 2019 (Consumer Protect Act).

'ENDORERS NEED TO DO DUE DILIGENCE'		
Misleading advertisements are those, which: > Falsely describes a product or service > Gives a false guarantee to, or likely to mislead the consumers > Deliberately conceals important information	Bait advertisements: Where goods, products or services are offered for sale at low prices to attract consumers	
	Surrogate or indirect advertising: Advertisements for goods, products or services whose advertisement is prohibited by law	
	Free claims advertisements: Only those where consumers need to pay only for collecting or paying for delivery of items	
WHAT'S BANNED		
> Misleading & surrogate advertisements > Advertisements that condone or encourage practices detrimental to children's physical or mental wellbeing > Claims that consumption of a product helps enhancing physical or mental ability	without valid scientific evidence	
	> Advertisements targeting children that develop negative body image > Advertisements giving impression that advertised products are better than natural or traditional food	
DISCLAIMERS BY MANUFACTURERS & ADVERTISERS		
> Disclaimers must be in same language & font size as the main ads	> In audio-visual ads, voice over must be clear & not quick ones	> Owners/promoter in companies need to disclose their stake
Responsibility of endorsers: Endorsers need to do due diligence to gain adequate information of the product		

Way Forward

- Social media influencers should have a code of ethics that includes ensuring the legitimacy of the things they promote to their audience and advocating safe and useful goods.
- This code may be construed in accordance with the policies of social media intermediaries, and they are responsible for informing influencers of its different facets.
- The influencer marketing sector has to develop a set of standards and best practices that influencers can use to make sure their promotions are morally righteous and open.
- Adequate parental controls and age limitations to stop children and teenagers from being targeted by such deceptive marketing.
- Establishing a governmental due diligence framework: The government can set up a committee or a forum to routinely examine goods and services.
- Establishing a mechanism for governmental due diligence: The government can set up a committee or a forum to regularly examine goods and services for their claims. This will reduce the duty for due diligence placed on celebrities and foster a sense of brand accountability.

PRELIMS

Pashmina Shawls: A New Age French Touch

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Pashmina Shawls

Prepp Mains Booster: Art & Culture

Context:

- Recently, **Pashmina shawls, a traditional product of Kashmir, are getting a new age French touch.**
- The artisans of the valley are now incorporating contemporary designs and patterns in their shawls, making them more attractive to the younger generation and to the global market.

What is a Pashmina?

- Pashmina is a **Geographical Indication (GI) certified wool from the Kashmir region of India.**
- **Pashmina Shawls are cashmere wool shawls.** Cashmere wool is derived from the Changthangi goat, which is indigenous to Ladakh's high plateau.
- Pashmina Shawls, known for their softness, have long been a status symbol for the wealthy in India and around the world.
- Originally, Kashmiris used Pashmina shawls to keep warm during the winter.
- The term "Pashmina" is derived from the Persian word "Pashm," which means a weavable fiber, specifically wool.
- Pashmina shawls are quite expensive due to the high quality of the wool used and the labor-intensive process required to create each individual piece.
- Weaving a single Pashmina shawl takes a long time, depending on the type of work required. One shawl can take up to 72 hours to complete.

Significance of Pashmina

- Pashmina is one of the finest and highest quality wools in the world.
- The Pashmina Shawl drew the attention of people from all over the world, making it one of the most sought-after shawls in the world.

- Its high demand boosted the local economy.

Paisley's to Abstract Paintings

- For centuries, the traditional paisley design has been a staple in pashmina shawls.
- However, the artisans are now experimenting with new designs, such as abstract paintings and geometric patterns.
- These new designs are finding a lot of appreciation among the young generation, as well as in the international market.

What is the French Connection?

- The French touch in pashmina shawls is the result of a collaboration between the artisans of Kashmir and French designers.
- The French designers have been working with the artisans to create new designs and patterns that are contemporary and appeal to the younger generation.
- This collaboration has helped to revamp the traditional pashmina shawl and make it more attractive to the global market.



Promoting Handlooms

- The collaboration with French designers is also promoting handlooms in Kashmir.
- Many of the new designs are created using handlooms, which helps to preserve the traditional art of weaving and also provide livelihoods for the artisans.

Conclusion

Pashmina shawls are a traditional product of Kashmir, but the artisans are now giving it a new age French touch. By incorporating contemporary designs and patterns, they are making the shawls more attractive to the younger generation and to the global market. This collaboration with French designers is also promoting handlooms in Kashmir and preserving the traditional art of weaving.

21 Andaman Islands Named After Param Vir Chakra Awardees

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Events of National Importance

Prepp Mains Booster: Modern Indian history from about the middle of the eighteenth century until the present- significant events, personalities, issues.

Context:

- Recently, the Prime Minister of India, Narendra Modi, announced that **21 of the latest unnamed islands in the Andaman and Nicobar archipelago** would be named after winners of the **Param Vir Chakra**.

- A hill in Andaman has also been dedicated in honour of Captain Vikram Batra from the Kargil War.



How are the islands being named?

- The islands will be named after 21 winners of the **Param Vir Chakra**.
- The largest unnamed island will be given the name of the first person to receive the Param Vir Chakra, followed by the name of the second person to receive the Param Vir Chakra, and so on.



What is the message behind the move?

- According to the Prime Minister, the renaming of the islands is aimed at sending out messages of **unity and patriotism**.
- The move is in line with the idea of **'Ek Bharat, Shrestha Bharat'** and commemorating the bravery of the Indian Armed Forces.

- The move is also expected to ignite popular support and respect for the ideas of **'Bharat Mata'** and **'India First'**.

Previous renaming of Andaman islands

- In 2018, the Government of India officially renamed three islands in the Andaman and Nicobar islands in honour of **Netaji Subash Chandra Bose** on the 75th anniversary of his visit.
- Havelock Island has been renamed Swaraj island, Ross Island was renamed as Netaji Subash Chandra Bose Islands and Neil Island was named Shaheed Island.**
- Netaji had visited the islands in 1943 to take charge after their capture by the **Japanese forces and the Azad Hind Fauj** from British control.
- He had then suggested that the Andaman and Nicobar islands be renamed as the **Shaheed Dweep** and **Swaraj Dweep**.

What is the process to rename a state?

- The **Constitution's Articles 3 and 4** provide **Parliament** the authority to rename states.
- A bill for renaming a state may be introduced in the Parliament on the **recommendation of the President**.
- Prior to the bill's introduction, the President must send it to the appropriate state legislature for comment within a certain timeframe.
- The President and the Parliament are **not bound by the state assembly's opinions**.
- The bill will be sent to the Parliament for consideration after the time limit has passed. **A simple majority** is required for the bill to become a law.
- Once the President approves the bill, the name of the state is changed.
- If the state assembly requests the change, it must first pass a resolution in support of the change before sending the resolution to the Union Home Ministry.
- The **Union Home Ministry** then drafts a note for the Union Cabinet proposing an amendment to **Schedule 1** of the Constitution.

Name of the Param Vir Chakra Awardee

Major Somnath Sharma
Subedar and Hony Captain (then Lance Naik) Karam Singh
2nd Lt Rama Raghoba Rane
Nayak Jadunath Singh,
Company Havildar Major Piru Singh
Capt G S Salaria,
Lt Col (then Major) Dhan Singh Thapa,
Subedar Joginder Singh,
Major Shaitan Singh
CQMH Abdul Hamid,

Lt Col Ardeshir Burzorji Tarapore,

Lance Naik Albert Ekka

Major Hoshiar Singh

2nd Lt Arun Khetrapal,

Flying Officer Nirmaljit Singh Sekhon

Major Ramaswamy Parameswaran

Naib Subedar Bana Singh

Captain Vikram Batra,

Lt Manoj Kumar Pandey,

Subedar Major (then Rifleman) Sanjay Kumar

Subedar Major (Honorary Captain) Yogendra Singh Yadav.

Andaman and Nicobar Islands

- There are 265 large and tiny islands in this archipelago located in the **Bay of Bengal**.
- The Andaman and Nicobar islands are located between 92° 10' and 94° 15' east and between 6° 45' and 13° 45' north.
- North, Middle, and South are the three main islands that make up the Andaman Islands.
- Little Andaman and South Andaman are separated by the **Duncan passage**.
- **Ten Degree Channel** divides the Nicobar group of islands in the south from the Great Andaman group of islands in the north.
- The Great Nicobar is the biggest of the Nicobar islands.
- The majority of these islands are composed of tertiary sandstone, limestone, and shale and have a volcanic origin.
- North of Port Blair lie the volcanic Barren and Narcondam Islands.
- Coral reefs surround a few of the islands while most have dense forests.

The highest peak is **Saddle peak (737 m)** in North Andaman.

Oppn. To Karnataka's Mahadayi River Water Project Mounts In Goa



Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Inter state water council

Prepp Mains Booster: Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure

Context:

- Recently, the environmental action groups in Goa have started a letter-writing campaign against the Mahadayi river water project, and the government of Goa has opposed the Union government's approval to the revised Detailed Project Report (DPR).
- The DPR for the decades-old Kalasa-Banduri drinking water project in the inter-State Mahadayi river basin was approved by the Central Water Commission (CWC), subject to receiving additional required permissions.

Background

- **Karnataka** created a network of dams and canals in the 1980s and 1990s to **direct water from the Mahadayi River to Malaprabha**, a tributary of the Krishna River, citing an ongoing water shortage in the state's northern region.
- The upper riparian state of **Goa objected** to these diversions, arguing that they would cause **saline water to enter the Mahadayi**.
- In 2006, when all attempts at negotiation between the two states fell through, the case was brought before the Supreme Court. 2010 saw the creation of the **Mahadayi Water Disputes Tribunal**.

What is the issue?

- **Ecological damage:** Environmentalists' major argument is that the proposal would cause permanent ecological damage.
- The river is the **lifeline** of the Western Ghats.
- If water is diverted from the river, it will not only have an **impact on the surrounding forests and wildlife** but also on the river's fish population.
- The reduced inflow in the river affects the **drainage of the river into the sea**.
- This has an impact on the estuary's delicate ecosystem.
- **Survival of Poor:** Since the majority of the poor rely on the fishing sector for survival, this will have a direct impact on Goa's economy.
- Goa claims its population depends on the river's natural course, any attempt to divert it would have an adverse effect on the state's delicate ecosystem.
- **Mangroves:** It was said that the state's mangroves and green belt would eventually die due to the **incursion of saltwater into the river**, which is dependent on the monsoons, disrupting the natural balance as well as the interaction between people and the land.
- **Source of drinking water:** The majority of Goa's 11 rivers include saline water, and the Mandovi ensures both water security and a significant fishery for the state.

What does the Kalasa-Banduri Nala project entail, and why is there a disagreement?

- The Kalasa Banduri Nala project aims to divert water from Mahadayi **to satisfy the drinking water** needs of Belagavi, Dharwad, Bagalkot and Gadag districts.
- A conflict between **Karnataka, Goa, and Maharashtra has prevented** the project from moving forward even though it was first planned in the early 1980s.
- According to the proposals, barrages would be built against the **Kalasa and Banduri streams**, which are tributaries of the Mahadayi, and water will be **channelled to the dry parts of Karnataka**.

Mahadayi Water Disputes Tribunal

- In order to resolve the conflict, Goa sought the creation of a tribunal for water issues in 2002. The state also filed a petition in 2006 with its claim before the top court. On November 16, 2010, the Mahadayi Water Disputes Tribunal was established as a result of the Goan government's persistent efforts.
- The Tribunal in 2018 awarded 13.42 TMC water from Mahadayi river basin to Karnataka, 1.33 TMC to Maharashtra and 24 TMC to Goa. In Karnataka's share, 5.5 TMC was to meet drinking water needs and 8.02 TMC was for hydro-electricity generation.
- 3.8 TMC of the 5.5 TMC was to be diverted through Kalasa and Banduri Nalas to the Malaprabha basin (canals).
- In July 2019, Goa filed a Special Leave Petition in the Supreme Court contesting the allocation's amount following the Tribunal's decision.
- It then filed a contempt petition with the SC in October 2020, charging Karnataka with illegally diverting water from the Mahadayi basin.



About Mahadayi river

- Mahadayi river originates in the **Western Ghats**, from the Bhimgad Wildlife Sanctuary in Khanapur taluk of Karnataka's Belagavi district.
- Flowing westward, it enters Goa from the Sattari taluk of North Goa districts.
- A number of streams join the flow of the river to form the Mandovi which is one of two major rivers that flow through Goa.
- It joins the **Arabian Sea** at Panaji.
- The Mahadayi river, also spelt Mhadei or Mahadeyi, stretches 111-km. Over two-thirds of the river's stretch lies in Goa (76km).

Bhimgad Wildlife Sanctuary

- Bhimgad Wildlife Sanctuary is located in Khanapur taluk, **Karnataka-Goa border in Belagavi district**, and is spread over an area of around 190 sq km.
- This sanctuary is known for the **Barapede caves**, the only known breeding area of the **Wroughton's Free-tailed Bat**, a threatened species on the verge of extinction.
- The sanctuary is also home to other species like the Velvet-fronted Nuthatch, Malabar Grey Hornbill,

Imperial Pigeon, Emerald Dove, and the elusive Malabar Trogon.

Interstate water Dispute tribunal

- Inter state water Dispute tribunal is established to settle the disputes on the water sources between the states.
- According to Article 262(1), Parliament may pass laws to resolve disputes or complaints about the usage, distribution, or control of transboundary waters in a river or river valley.
- Under this, the Parliament has enacted the Inter-State Water Dispute Act, 1956 under which the states can approach the centre to constitute a tribunal for solving inter-state water disputes through consultations.

Rbi To Issue Green Bonds In Two Tranches Of ₹8,000 Cr. Each

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Green Bonds

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation; GS3 - Indian Economy and issues relating to planning

Context:

- Recently, the RBI said that maiden Sovereign Green Bonds (SGRBs) would be issued in two tranches for an aggregate amount of Rs 16,000 crore, on January 25 and February 9.
- The RBI will sell two bonds maturing in five years and 10 years.

Highlights

- On January 25, there will be an auction of sovereign green bonds worth Rs **8,000** crore, including Rs 4,000 crore in **5-year sovereign green bonds** and Rs 4,000 crore in **10-year sovereign green bonds**.
- As part of the 8,000 crore rupee next auction, which is set on February 9, there will also be 4,000 crore rupees in 5-year and 4,000 crore rupees in 10-year sovereign green debt.
- The RBI said that the sovereign green bond auction will use the uniform pricing mechanism and that 5% of the notified amount of the sale will be set aside for retail investors under the non-competitive bidding facility.

Significance

- **Reducing carbon intensity:** The proceeds will be deployed in public sector projects which help in reducing the carbon intensity of the economy. Carbon intensity is the volume of carbon emissions per unit of gross domestic product (GDP).
- **Green Infrastructure:** As stated in the Union Budget 2022-2023, the central government will issue Sovereign Green Bonds (SGRBs) as part of its overall market borrowings to mobilize green infrastructure funding.
- **Eligible for SLR:** Additionally, sovereign green bonds would be eligible for consideration as Statutory Liquidity Ratio (SLR) instruments and for repurchase, or repo, operations.
- **No restrictions on foreign investment:** The sovereign green bonds will qualify for secondary market trading and be labelled as "specified securities" under the "Fully Accessible Route" for non-

resident investment. No restrictions on foreign investment apply to securities listed on the RBI's "Fully Accessible Route."

- According to RBI regulations, sovereign green bonds will be eligible for 'when issued' trading just like conventional government securities.
- When **issued trading** is a category of transactions that permits market participants to make offers at specific price points prior to the bond's actual auction.

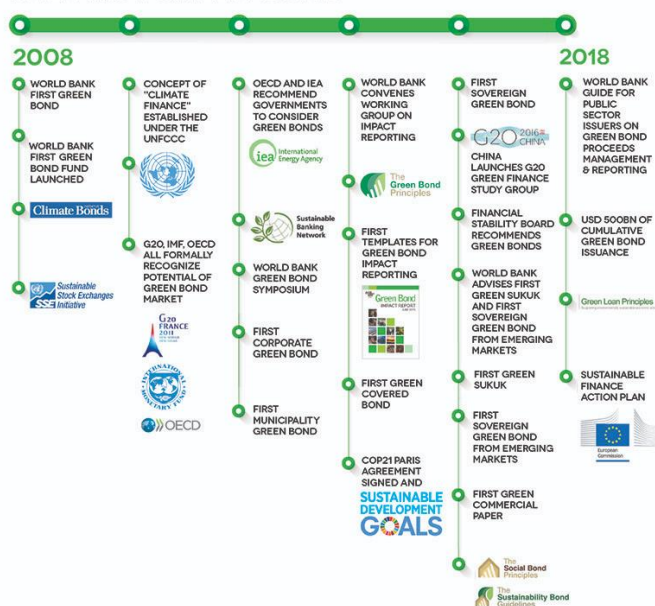
What are sovereign green bonds?

- The green bonds signify its commitment exclusively to use funds raised to finance or **re-finance "green" projects, assets, or business activities**.
- They are known as sovereign green bonds (SGrB) when they include guarantees from the **sovereign or the government** for principal repayment and interest payments.

What distinguishes them from traditional government bonds? Will they increase the total amount of government debt?

- Treasury Bills and dated or long-term securities** are the two standard categories for government bonds or government securities (G-Secs).
- Treasury Bills do not have coupon rates** and have a **maturity of less than a year**.
- These are redeemed at face value but are **issued at a discount**.
- Government securities have a maturity longer than one year or up to forty years have coupon rates and can be traded on the stock exchange.
- SGrB is one form of dated security.
- It will have an interest rate and tenor.
- The sum of the funds raised by SGrB is included in total government borrowing.

THE FIRST GREEN BOND



Other countries

- According to Bank for International Settlements (BIS) database, SGrB is part of Green, Social and Sustainability (GSS) bonds.

- The **first green bond** ever issued was a **Climate Awareness Bond** from the **European Investment Bank** in 2007.
- In November **2008**, the **World Bank issued its first green bond**.
- Poland and France were the first countries to issue sovereign green bonds in early 2017.
- According to the BIS database, the total amount of outstanding GSS bonds increased by more than four times from January 2019 to \$2.9 trillion at the end of June 2022. Data show that these bonds have been successful everywhere.

Way Forward

- Globally, green bonds are issued at a premium to other types of debt since the instruments are intended to make it easier for environmentally friendly initiatives to access less expensive finance.
- This means that compared to other financial instruments, green bonds give investors a lower interest rate.
- The success of the government's green bond scheme would to a large extent depend on the establishment of a **conductive ecosystem** for such securities.
- An established **network of foreign investment** would be crucial for the successful issuance of green bonds.

Human Rights Watch Report 2023: India Intensified Crackdown On Activists, Media In 2022

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Human Rights Watch Report

Prepp Mains Booster: Important international institutions, agencies

Context:

- Recently, on 12th January 2023, **The Human Rights Watch Report** for 2023 was released.
- According to the report, Indian authorities had intensified and broadened the crackdown on activists and the media through 2022.



What is the Human Rights Watch?

- Founded in **1978**, it is an international **non-governmental organization**, headquartered in New York City, that conducts **research and advocacy on human rights**.
- The organization frequently advocates on behalf of refugees, children, migrants, and political prisoners and puts pressure on governments, policymakers, corporations, and individuals who violate human rights.
- Originally known as **Helsinki Watch**, it was created to keep tabs on how the former Soviet Union was adhering to the **Helsinki Accords**. Watch Committees for the Middle East, Asia, and Africa were added in 1985, 1988, and 1989 respectively.
- All of these groups were brought together in **1988** to establish Human Rights Watch.
- Human Rights Watch produces research reports on alleged transgressions of international human rights standards outlined in the **Universal Declaration of Human Rights** and other universally recognized human rights standards.

What are the key findings of the Human Rights Watch Report 2023?

- According to the report, **authoritarianism** by governments has resulted in widespread suffering across the world.
- The Report condemns the violation of human rights during the Russia-Ukraine crisis that has led to a **loss of life, property, and global economical instability**.
- The **Ethiopian** government's siege of the **Tigray** region continued through 2022, denying the civilian population access to food, medicine, and life-saving humanitarian aid, as well as electricity, banking, and communication, in violation of international law.
- The report has noted that 2022 saw an increase in the number of civil protests against the **encroaching of the state into the private lives** of its citizens. Protests against **cultural policing in Iran**, **anti-Taliban protests in Afghanistan**, and the **campaign against the financial crisis in Sri Lanka**.
- As a group, the **Pacific Island States** have called on the most polluting nations to reduce their emissions even further, and **Vanuatu** is leading an attempt to have the **International Court of Justice** consider the negative effects of climate change.
- Along with slow-onset impacts like sea-level rise, every region of the planet experienced an almost **constant cycle of extreme weather events** that will worsen due to climate change.
- The report concludes that this is the price of inaction on the part of the government, the continuous onslaught by major polluters, and the toll on communities, with those who are already marginalized suffering the most.
- The Report recommends governments focus on their obligation to protect and promote the rights of their citizens and display **solidarity** with other nations undergoing similar crises.

What does the report say about India?

- The report found that the promotion of a Hindu majoritarian ideology has led to discrimination against the minority Muslim community by authorities and supporters of the majoritarian view.
- Meenakshi Ganguly, South-Asia Director at Human Rights Watch, added that the government should do more to rein abusers instead of jailing critics.
- HRW noted that authorities had arrested activists, journalists, and critics on politically motivated charges including terrorism.

- There were instances of misuse of religious conversion laws to target minorities.
- Due process was not followed nor was legal authorization sought before demolishing the homes and properties of the accused before completing judicial proceedings.
- The release of the convicts in the Bilkis Bano case indicated a discriminatory attitude towards women and offenses against women.
- On the matter of Jammu and Kashmir, it was found that there still were restrictions on free expression, peaceful assembly, and other rights three years after the abrogation of **Art 370**.
- Allegations of torture and extrajudicial killings persisted with the **National Human Rights Commission** registering **143 deaths in police custody** and **104 alleged extrajudicial killings** in the first nine months of 2021.
- An August report by a parliamentary standing committee noted that children's learning had "suffered immensely and because the education sector also provides help, nutrition, and psychological services, the overall welfare of the children has declined substantially."
- The report also questioned the alleged use of enforcement and tax authorities to harass rights groups.
- The Supreme Court of India has been praised for its verdicts barring the use of the **two-finger test on victims of sexual assault** and the **Colonial era sedition laws**.

Universal Declaration of Human Rights

- The **United Nations General Assembly** adopted the **Universal Declaration of Human Rights (UDHR)** as a global statement. It establishes the liberties and rights of every human being.
- In accordance with **Resolution 217**, it was approved by the UNGA during its meeting on December 10, 1948. 48 members of the UN at the time voted in favor, 0 members voted against, 8 members abstained, and 2 members did not cast a ballot.
- The **30 articles** that make up the UDHR describe a person's "**basic rights and fundamental freedoms**." All people, regardless of their color, religion, or nationality, can use it.
- It served as a model for the creation of international human rights law and served as the foundation for the **International Bill of Human Rights (completed in 1966 but in force since 1976)**.
- The Universal Human Rights Declaration is **not legally enforceable**, but its principles have been developed and incorporated into later international agreements, regional human rights instruments, and national legal frameworks of numerous nations.
- All 193 United Nations members have accepted at least one of the UDHR's nine legally binding treaties, with the majority doing so in terms of four or more.



Fifth Scorpene- Class Submarine INS Vagir Commissioned Into The Navy



Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: INS Vagir

Prepp Mains Booster: Achievements of Indians in science & technology; Indigenization of technology and developing new technology, Security challenges and their management in border areas

Context:

- The **fifth Scorpene class conventional submarine** was commissioned into the Indian Navy as **INS Vagir** on 23rd January, 2023 in the presence of **Chief of Naval Staff Admiral R. Hari Kumar** at Naval Dockyard Mumbai.
- The **sixth and final Scorpene-class submarine** built in India under technology transfer is **currently undergoing sea trials and will be delivered to the Navy in 2024.**
- The **Navy now has 16 conventional and one nuclear submarine** in service.
- It consists of seven Russian Kilo class submarines, four German HDW submarines, five Scorpene class submarines, and the indigenous nuclear ballistic submarine INS Arihant.



Background

- Vagir was launched on November 12, 20 under Project 75 (P75), and was delivered to the Indian Navy on December 20, 22** following the completion of sea trials.
- Vagir has the distinction of having the shortest build time of any indigenously manufactured submarine to date.

About INS Vagir

- Vagir is the fifth of the six diesel-electric attack submarines of the **Kalvari class** that had been planned under **Project 75.**
- Vagir has been named after a predatory marine species called the Sand Fish that is found in the Indo-Pacific region.

- In 1973, a Russian submarine was inducted into the Indian Navy and named INS Vagir. The vessel was later decommissioned in 2001.
- The new submarine is capable of operating in a wide range of naval combat including anti-warship and anti-submarine operations, intelligence gathering, surveillance and naval mine laying.
- The submarine is armed with precision-guided missiles and has stealth features like advanced acoustic absorption techniques, low radiated noise levels, and hydro-dynamically optimised shape.
- The submarine is built to function in all operational environments and to cooperate with other members of a Naval Task Force.
- Torpedoes and tube-launched anti-ship missiles can be used to launch attacks, whether the target is above or below the surface.

What are the specifications of Vagir?

- The latest submarine is named after the former Vagir, a submarine that served in the Navy between 1973 and 2001 and performed a variety of operational missions.
- The new Vagir's construction began in 2009, and it made its first sea voyage in February last year.
- The submarine, also known as the Sand Shark, was delivered to the Indian Navy in December 2022.
- Vagir represents stealth and fearlessness, as it comes with features such as an advanced acoustic absorption technique.
- Vagir will help the Indian Navy advance its maritime interests by performing a variety of missions such as anti-surface warfare, anti-submarine warfare, intelligence gathering, mine laying, and surveillance missions.

Background of the Kalvari Class

- Vagir is a Kalvari-class submarine**, which also includes the **INS Kalvari, INS Khanderi, INS Karanj, INS Vela, and INS Vagsheer.**
- Kalvari and Khanderi were commissioned in 2017 and 2019, respectively, and Vela and Karanj were inducted in 2021.
- Vagir has now been commissioned, and Vagsheer was launched in 2022 and is expected to be inducted next year.
- The current Kalvari-class submarines are named after previously decommissioned classes of submarines called Kalvari, which included the Kalvari, Khanderi, Karanj, and Vela classes - comprising Vela, Vagir, and Vagsheer.
- The now-decommissioned Kalvari and Vela classes were among the first submarines in the post-independence Indian Navy, belonging to the Foxtrot class of Soviet origin.
- Vagir, like Kalvari, is named after a predatory marine species, the Sand Fish. Khanderi was named after an Island Fort built by Chhatrapati Shivaji that played an important role in his Navy.
- Karanj is also named after an island located south of Mumbai.

What is the Significance?

- Vagir will be the Navy's third submarine in less than 24 months. This is a significant accomplishment that demonstrates the maturation of India's shipbuilding industry and the maturation of our defense ecosystem.
- It is also a shining example of our shipyards' expertise and experience in constructing complex and complicated platforms.
- These aspects also serve to reaffirm the Indian Navy's unwavering commitment and steadfast determination to become a fully Atma Nirbhar force by 2047.

What is Project 75?

- Around the time of the Kargil War in the late 1990s, a three-decade plan for domestic submarine construction in cooperation with foreign parties took shape. This plan was known to have two independent series of submarine-building lines, codenamed Project 75 and Project 75I (approved in 2007).
- At an estimated cost of ₹ 43,000 crores, the project calls for the domestic manufacturing of six Scorpene-Class assault submarines, which weigh 1,500 tonnes and can dive to a depth of 300 metres fitted with the most advanced Air Independent Propulsion technology.
- The programme has enabled indigenous defence producers to collaborate with top international defence corporations in developing cutting-edge military platforms and lessen reliance on imports.
- A \$3.75 billion agreement was inked in October 2005 under which the Mazagon Dock Shipbuilders Limited (MDL) was contracted to build six Scorpene submarines with technical support from the Naval Group of France.
- The first submarine in the series, INS Kalvari, entered service with the Indian Navy in December 2017, followed by INS Khanderi in September 2019, INS Karanj in March 2021, and INS Vela in November 2021.
- Vagsheer, the sixth and final submarine, is anticipated to be delivered to the Navy by the end of 2023.

Strategic Importance

- India currently operates one nuclear-powered Chakra submarine and two other nuclear-powered Arihant submarines, as well as submarines from three Diesel Electric classes — Kalvari, Shishumar, and Sindhughosh — some of which are aging.
- The nuclear-powered and diesel-electric submarines play specific roles in Carrier Battle Groups, which are formations of ships and submarines led by Aircraft Carriers.
- According to the basic principles of submarine deployment and the minimum requirement for India to create strategic deterrence, there is a specific number of submarines of both types that India must have in active service.
- India currently has fewer submarines than is required, with some more of both types under construction. India currently has a less-than-ideal number of submarines, with many new ones in various stages of construction.
- In the late 1990s, around the time of the Kargil war, a three-decade plan for indigenous submarine construction took shape, which is known to have two separate series of submarine building lines – codenamed Project 75 and Project 75I – in collaboration with foreign entities.
- The Ministry of Defence is also known to have established a roadmap for indigenous design and subsequent construction of submarines, which will add to the Navy's arsenal.

Further Enhancement

- Vagsheer, the sixth and final Scorpene class submarine built by Mazgaon Dock Shipbuilders Limited (MDL), was launched into water in April 2022 and is expected to be delivered to the Navy by the end of 2023.
- Six Scorpene submarines are being built by the MDL under Project-75, with technology transferred from the Naval Group of

France under a \$3.75 billion deal signed in October 2005. The project is about four years behind schedule.

- The first submarine, INS Kalvari, was commissioned in December 2017;
 - the second, INS Khanderi, in September 2019;
 - the third, INS Karanj, in March 2021; and
 - the fourth, INS Vela, in November 2021.
- Similarly, the tender for six more advanced conventional submarines under Project-75 is in the Request For Proposal (RFP) stage but has been delayed.
- Due to delays in submarine induction, the SSK-209s (German HDWs) and EKMs (Russian Kilos) are being put through the Medium Refit Life Certification process, which will give them an additional 10 to 15 years of life.
- To increase endurance, the Navy has planned to install **Air Independent Propulsion (AIP)** modules on all Scorpene submarines as they undergo refit in the coming years, beginning with INS Kalvari.
- The Defence Research and Development Organization is working on an indigenous AIP module.

M1 Abrams

Priority: Medium



Primary Source: The Hindu, Indian Express

Prepp Prelims Booster: M1 Abrams

Prepp Mains Booster: International Relations

Context:

- After weeks of tense back-channel negotiations with Germany's chancellor and other European leaders, **US President Joe Biden announced recently that he would send M1 Abrams tanks to Ukraine.**
- The leaders insisted that the only way to open a flow of heavy European arms was for the US to send its own tanks.



Background

- As **Russia-Ukraine invasion enters its 12th month**, all parties are bracing for a major escalation of the conflict.
- Russia, which suffered some setbacks after its initial thrust into Ukraine last year, is attempting to build battlefield momentum with minor advances.
- Ukraine, whose troops are struggling to defend the frontlines in the east and south, has asked NATO allies for heavier weapons.
- While **Germany initially refused to send its Leopard 2 battle tanks to Ukraine, it has now agreed to send the tanks** and allow other countries to re-export German-built tanks to Ukraine.

- After some hesitation, the United States is also sending M1 Abrams tanks to Kyiv.

What is M1 Abrams?

- The **M1 Abrams tank is one of the most powerful ground weapons in the United States'** arsenal, capable of closing in on enemy tanks, troop positions, and other targets, blasting them with cannon and machine guns, and then speeding away.
- The M1 Abrams was introduced in 1980 and is the main battle tank of the United States Army and, formerly, the United States Marine Corps (USMC).
- It is a third-generation American main battle tank designed by Chrysler Defense (now General Dynamics Land Systems) and named after General Creighton Abrams.
- Egypt's, Kuwait's, Saudi Arabia's, Australia's, and Iraq's armies all use the export version.
- The M1, M1A1, and M1A2 are the three main operational Abrams variants, with each new iteration improving armament, protection, and electronics.
- Extensive improvements have been made to the latest formerly designated M1A2 System Enhancement Package version 3 or SEPV3 and M1A2 SEPV4 versions, including improved composite armor, better optics, digital systems, and ammunition.

US to send 31 M1 Abrams battle tanks

- The United States will send 31 M1 Abrams battle tanks to Ukraine, reversing months of Biden administration arguments that the tanks were too difficult for Ukrainian troops to operate and maintain.
- The US decision came after Germany agreed to send 14 Leopard 2 A6 tanks from its own inventory. Germany had stated that the Leopards would not be sent unless the US put its Abrams on the table, not wanting to incur Russia's wrath without the US also committing its own tanks.
- Since then, both sides have engaged in "good diplomatic conversations" that have made a difference, as part of the "extraordinary shift in Germany's security policy" regarding providing weapons to Ukraine since Russia's invasion 11 months ago.

What is the current state of the war?

- After Ukraine launched a counteroffensive in September, recapturing swaths of the Kharkiv Oblast in the northeast and Kherson city in the south (the only provincial capital the Russians had taken since the war began), the conflict had devolved into a war of attrition — until recently.
- For the past six months, Russian troops, primarily the private military Wagner Group, have attempted to seize Bakhmut, a city in Donetsk in the Donbas region that Moscow now claims as its own.
- As those efforts failed to bear fruit, Russia's attention has recently shifted to Soledar, a town just 18 kilometers from Bakhmut.
- Russian troops quickly broke through Ukrainian defenses in Soledar, capturing the town and making further advances towards Bakhmut.
- In the south, Moscow claimed that its troops had broken through the frontlines in Zaporizhzhia, one of the four Ukrainian provinces that Russian President Vladimir Putin unilaterally annexed in September.
- Russia currently controls only parts of the Zaporizhzhia province, including its eponymous nuclear plant, Europe's largest.

- However, by pushing through the frontlines in the east and south, Russia is putting enormous pressure on Ukraine's army, raising alarm bells in Kyiv and western capitals.
- Ukraine now requires immediate supplies, and the West is scrambling for weapons.

About Leopard 2 tank

- The Leopard 2 is one of the world's leading battle tanks, having been used for decades by the German Army and the militaries of more than a dozen other European nations, as well as armies as far apart as Canada and Indonesia.
- It has seen action in conflicts in Afghanistan, Kosovo, and Syria.
- The tank, which is powered by a diesel engine, has night-vision equipment and a laser range finder that can measure distance to an object, allowing it to better aim at a moving target while traveling over rough terrain.
- The Leopard 2 comes in a variety of iterations with varying features and designs.

First Time In A Decade, Uk Vessel Sails To Port Blair

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: International Relations

Prepp Mains Booster: - Important geographical features of the Indian sub-continent, Effect of policies of developed countries on India's interests, Bilateral relations

Context:

- Recently, a vessel of the Royal Navy of the United Kingdom entered Port Blair for the first time in a decade.
- Over the next five days, the ship and its crew will participate in capability demonstrations and maritime exercises with the Indian Navy.

Why is the Royal Navy of the UK present in the Andaman and Nicobar Islands?

- The **HMS Tamar**, an **offshore patrol vessel** reached Port Blair in the Andaman and Nicobar islands as part of its permanent deployment in the Indo-Pacific.
- This is part of the UK's efforts to strengthen the shared maritime domain awareness and the shared commitment to collaborate with India in the Indian Ocean and Indo-Pacific.
- **HMS Spey** is the other offshore patrol vessel of the Royal Navy that has been permanently deployed in the region.
- This is the first time since 2011 that a naval vessel from the UK has entered the Andaman and Nicobar islands although they have visited other ports in mainland India.
- The visit by a UK naval vessel indicates the infrastructural development and naval capacities of the Andaman and Nicobar Command.

Why are the Andaman and Nicobar islands important?

- The Andaman and Nicobar islands are the **gateway to the Indo-Pacific region**.
- The port has been visited by naval vessels of the USA, Australia, and New Zealand although it has not been on a regular basis.
- The Andaman and Nicobar islands host the Andaman and Nicobar Command which is the **first and only Tri-Services Command theatre** of the Indian armed forces.

- It consists of **30% of India's Exclusive Economic zone** and is a major port on the trade route between Asia, Africa, and the Pacific nations.
- The region acts as a **buffer zone** between India and the other countries of the Indo-Pacific and is vital to the defense of India's interests in the IOR.



What is the procedure to be followed by a ship visiting a foreign port?

- Indian officials said that a foreign ship seeking to visit Indian ports has to apply beforehand to the government.
- After the application is cleared by the Indian Navy and the Ministry of external affairs, the foreign country is informed.

What are the other India - UK maritime initiatives?

- In 2021, the UK posted its first liaison officer at the **Information Fusion Centre** of the Indian Navy at Gurugram. The IFC-IOR project aims at enhancing maritime security, and information sharing in the region.
- The UK has also signed a **White Shipping Agreement** with India that enables information sharing throughout the entire Indian Ocean.
- The UK has also agreed to join India's **Indo-Pacific Oceans Initiative** which is an open, non-treaty-based initiative for countries to work towards cooperative and collaborative solutions to common regional challenges.
- In 2021 India and the UK participated in the **Konkan Shakti exercise** in the Arabian Sea, which was the first joint tri-service exercise between the two countries.

Andaman and Nicobar Islands

- The Andaman and Nicobar Islands are located in the **Bay of Bengal** and form a short chain that stretches from 6° 45' N to 13° 45' N.
- There are around 265 large and minor islands in this archipelago.
- North, Middle, and South** are the three main islands that make up the Andaman Islands.
- Little Andaman and South Andaman are separated by the **Duncan passage**.
- Ten Degree Channel** divides the Nicobar group of islands in the south from the Great Andaman group of islands in the north.
- The Great Nicobar Islands and the Indonesian Sumatra Islands are separated by the **Grand Channel**.
- The North Andaman Islands and the Coco Islands of Myanmar are separated by the **Coco Strait**.

- The Andaman Nicobar Islands' capital, Port Blair, is located in South Andaman.
- Great Nicobar is the biggest of the Nicobar islands. India's southernmost point, **Indira Point**, is located on Great Nicobar Island, which is divided from Indonesia by the 163-km **Six Degree channel**.
- The Andaman and Nicobar Islands are also known as the **Emerald Isles**.



India And Britain Exchange Letters For Young Professionals Scheme

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: International Relations

Prepp Mains Booster: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

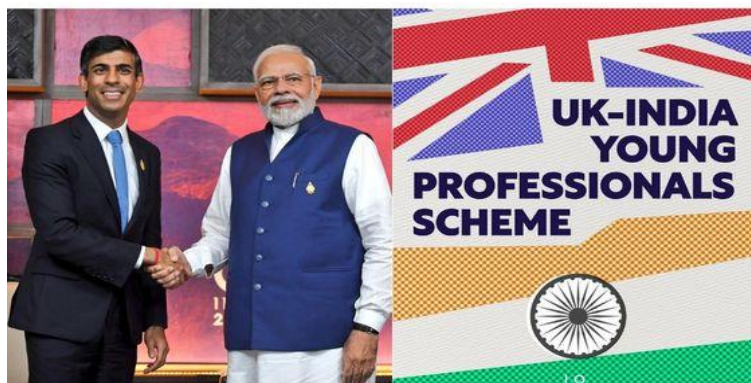
Context:

- Recently, the governments of India and the U.K. launched the Young Professionals Scheme, allowing up to 3,000 of their degree-holding citizens between the ages of 18 and 30 to live and work in each other's nations for a period of two years.

Highlights

- The scheme's introduction was announced in November at the G20 conference in Bali, where U.K. Prime Minister Rishi Sunak met with Indian Prime Minister Narendra Modi.

- The initiative was developed as part of an **India-U.K. Migration and Mobility** MoU agreed upon in May 2021.
- The scheme **aims to increase mobility for a limited number of** young people between India and the UK.
- Young people from Britain and India would be allowed to visit, study, or work in each other's nations for a period of two years.
- The scheme provides for exchange visas for up to **3,000 individuals per year**.
- It **isn't even necessary to have a job** in hand when one applies for a visa.
- Once in their host nation, successful candidates may explore employment, educational, or cultural opportunities. They may also just visit.
- It will give you the **opportunity to work and study**.
- In the context of the trade negotiations, whose sixth session was held in New Delhi in December, the government is also pushing for easier access for students and professionals with advanced degrees to travel from India to the U.K.



Benefits

- It would benefit Indian researchers, scholars, and migrants for both economic and professional reasons, as well as those eager to contribute through various projects to the **economic development of both nations**.
- By enabling talent to move freely, an MoU can help the **innovation ecosystem** in both nations.

Challenges

- **Cross-border movement:** The signing of the agreement belies more difficult problems including cross-border human mobility.
- Part of the Migration and Mobility agreement of 2021 seeks to **address the return of illegal migrants** to their home countries.
- **Free trade agreement:** The governments of the two nations had hoped to reach a "free trade" agreement before Deepavali last year, but negotiations were hampered in part by the U.K. Home Secretary Suella Braverman's remarks that Indians made up the largest group of visa overstayers in Britain and that the agreement with India had "not necessarily worked very well."
- In response, the Indian High Commission in London stated that it has handled every instance of visa overstaying that the British authorities had reported to it and that the government was awaiting "demonstrable progress" on certain of the U.K.'s obligations under the agreement.

Indo-Russian Joint Venture Begins Manufacturing AK-203 Assault Rifles In Up

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indo-Russian JV

Prepp Mains Booster: Global groupings and agreements involving India and/or affecting India's interests, GS3 - Defense Technology

Context:

- Recently, **Indo-Russian Rifles Private Limited (IRRPL)**, a joint venture **between India and Russia**, has begun producing AK-203 Kalashnikov assault rifles in Korwa, Uttar Pradesh.
- Last week, Army Chief Gen. Manoj Pande stated that the first batch of 5,000 rifles would be delivered to the Army by March.
- The **joint venture intends to manufacture AK-203 rifles entirely in India**, and it may increase output and upgrade its production facilities in the future to produce advanced rifles.

Key Highlights

- The **Korwa Ordnance Factory in Amethi, Uttar Pradesh**, has produced the first batch of 7.62 mm Kalashnikov AK-203 assault rifles. The deliveries to the Indian Army are expected to begin soon.
- It was stated that the factory's capacity allows it to fully equip the personnel of other law enforcement agencies in India with AK-203 assault rifles, which, due to their high adaptability, are suitable for a wide range of operators, adding that the joint venture will also be able to export to third countries.
- According to Gen. Pande, the joint venture will complete the contract for over six lakh AK-203 rifles in 128 months, or nearly ten years.
- Out of this, 70,000 of these are to be built in 32 months, with indigenous content ranging from 5% to 70%.
- With the start of serial production of Kalashnikov AK-203 assault rifles, high-quality, convenient, and modern small arms will enter service with India's defense and law enforcement agencies.
- The model combines excellent ergonomics, adaptability to different shooters, and high performance characteristics, making it one of the best assault rifles in the world.



Background

- **The Indian Army has contracted with Russia to purchase 670,000 AK-203 assault rifles to replace the Indian Small Arms System (INSAS).**

- The first 70,000 rifles were purchased from Russia and delivered in January 2022.
- The remaining 600,000 rifles will be manufactured in Amethi, India, under a technology transfer agreement by the joint venture company **Indo-Russian Rifles Private Limited (IRRPL)**.

Why AK-203 assault rifles?

- The AK-203 assault rifle is considered the most recent and advanced version of the AK-47 rifle.
- It is a 7.62×39mm variant of the AK-100 rifle family (one that offers the AK-74M system, in multiple cartridges and lengths).
- This variant is expected to replace the Indian Small Arms System (INSAS) 5.56×45 mm assault rifles currently used by the Army, Navy, and Air Force, as well as other security forces.
- INSAS rifles are not suitable for use at high altitudes. Other problems with these rifles include gun jamming, oil leakage, etc.

Complete localization

- The joint venture intends to manufacture AK-203 rifles entirely in India, and in the future, it may increase output and upgrade its production facilities to produce advanced rifles based on the Kalashnikov assault rifle platform.
- As previously stated, full-scale production of the rifles is expected to begin within the next 2-3 years.

About Indo-Russian Rifles Private Limited (IRRPL)

The IRRPL was established in 2019 in collaboration with India's former OFB [now Advanced Weapons and Equipment India Limited (AWEIL) and Munitions India Limited (MIL)] and Russia's Rosoboronexport and Kalashnikov.

India-Russia Defense Cooperation

- Russia has provided some of the most sensitive and important weapons platforms that India has required from time to time, including nuclear submarines, aircraft carriers, tanks, guns, fighter jets, and missiles.
- When it comes to arms transfers, For Russia: India is the largest importer and For India: Russia is the largest exporter.
- Between 2000 and 2020, Russia accounted for 66.5 percent of India's arms imports, particularly fighter jets, tanks, helicopters, and submarines, among others, with several major deals in the works.
- Russia has also been a major supplier of fighter aircraft to India, including hundreds of Sukhoi and MiG jets.
- In 2021, India and Russia agreed to a Rs.5000 crore deal for the production of 6.1 lakh AK-203 assault rifles in Uttar Pradesh.
- In 2017, the first-ever Tri-Services exercise, known as "INDRA 2017," took place.

Collection Of State's Views On Identifying Minorities: Sc To Centre

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: National Commission for Minorities

Prepp Mains Booster: Welfare Schemes for vulnerable sections of the population by the Centre and the states and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Context:

- Recently, the **Supreme Court** directed the **Union Government** to collect the views of all the states regarding the **identification of minority communities**.
- The **National Commission for Minorities** had, in a report published in October 2022, suggested that the **identification of minority communities should be done at the state level**.

What does the National Commission for Minorities report say?

- According to the report, the **Commission agreed with the definition of 'minority'** but recommended that the **identification of minorities be conducted on a statewide basis** rather than nationally.
- The state has to be considered the unit for determining linguistic and religious minority.
- The Commission referred to the Court's judgements in the **T.M.A. Pai Foundation verdict (2002)** and **Bal Patil verdict (2005)** where the apex court had clarified that the state should be the basis for determining religious and linguistic minorities.



What is the position of the centre and other ministries?

- The **National Commission for Minority Educational Institutions**, a statutory body notified by the Centre, too had referred to the T.M.A. Pai Foundation judgment on the demography of the state as being critical to determining minority status. The **Ministry of Education** had also agreed with this.
- A status report filed by the Central Government before the Supreme Court agreed with the report of the Commission for Minorities. However, the Government has not issued any fresh notifications to change the process.
- In front of the Supreme Court panel hearing the PIL, the Central Government said that it required the views of four states and two Union Territories including Jammu & Kashmir, Lakshadweep, Arunachal Pradesh, Jharkhand, Rajasthan and Telengana.
- The other states have responded in a mixed manner with some preferring the status quo, others believe the identification should be done at the state level.
- The **Ministry of Home Affairs** said that it did not have any specific comments and the **Ministry of Law** said that it required more comments from the states.

What is the case before the Supreme Court?

- **Section 2(f) and Section 2(c) of the National Commission for Minorities Educational Institutions Act, 2004** and the **National Commission for Minorities Act, 1992**, respectively, passed by the Parliament specifically empowered the Centre to notify a minority community.
- The petition challenged **Section 2(c) of the NCM Act**, which gave the central government the power to arbitrarily notify five communities, namely: Muslims, Christians, Sikhs, Buddhists, and Parsis as minority community without a clear definition or any state-level identification standards.
- Despite the Supreme Court's three-judge bench's unequivocal denial of minority status in the **Bal Patil case**, the Jains were added to the list as the sixth minority in 2014.

Who are the minorities?

- India has a multitude of various religious and linguistic communities. Hindus cover nearly 80% of India's total population, with an estimated 172.2 million Muslims, 27.8 million Christians, 20.8 million Sikhs, 4.5 million Jains, etc.
- The controversial term "minority" or "minorities" is used in the Constitution in some articles like **Article 29, Article 30, Article 350(A), and 350(B)** but is not clearly defined in the Constitution.
- The **National Commission on Minorities Act 1992** has recognized 6 minority communities that is Muslims, Christians, Sikhs, Buddhists, Parsis, and Jains.
- Currently, only those communities notified under **section 2(c) of the NCM (National Commission for Minorities) Act, 1992**, by the central government are regarded as minorities.

What is the National Commission for Minorities?

- The **National Commission for Minorities** is a **statutory body** that was originally titled Minorities Commission. With the enactment of the **National Commission for Minorities Act 1992**, the Minorities Commission (a non-statutory body) was renamed as National Commission for Minorities. The commission works for the development of the recognized minorities in India.
- The NCM consists of a **Chairperson, a Vice-chairperson and 5 nominated members** who hold office for a term of 3 years.
- The duties of the National Minorities Commission are as follows:
 - It assesses how well minorities are doing in terms of development under both the central and state governments.
 - It oversees the implementation of constitutional laws passed by the union and state governments to protect the rights of minorities.
 - It offers suggestions for the implementation of minority protection measures.
 - It is the designated organisation to investigate complaints alleging violations of minority communities' rights and protections.
 - It launches studies on the problems caused by discrimination against minorities.
 - It carries out studies, research, and analysis on topics related to minorities' socioeconomic and educational growth.
 - It provides the national govt with recurring or one-time reports about minorities and their problems.

Constitutional Provisions regarding minorities

Article 29:

- It states **that any citizens residing in any part of India having a distinct language, script or culture of their own, shall have the right** to conserve the same.
- It grants **protection to both religious and linguistic minorities**.
- The Supreme Court has previously held that the scope of this article is not limited to just minorities as the term '**section of citizens**' includes minorities as well as the majority.

Article 30:

- All minorities shall have the right to establish and administer educational institutions of their choice.
- The protection under **Article 30** is granted only to religious and linguistic minorities and does not extend to other sections of citizens as under Article 29.

Article 350-B:

- This article which was inserted into the Constitution via the **7th Constitutional (Amendment) Act 1956** provides for a **Special Officer for Linguistic Minorities**.
- The Special Officer is to be appointed by the President of India and is empowered to investigate all matters relating to the safeguards provided for linguistic minorities under the Constitution.

Oxfam Inequality Report: Taxing The 'Obscenely' Wealthy May Not Be The Right Solution

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Oxfam Inequality Report

Prepp Mains Booster: Issues Related to Poverty, Inequality; Inclusive Growth

Context:

- One of the most significant economic consequences of the Covid-19 pandemic has been the **widening income recovery gap between the upper and lower income groups**.
- The **Oxfam 'Survival of the Richest'** report collaborates this with **"obscene" wealth concentration and uneven income growth**.
- According to the report, **there are now 166 billionaires in India, up from 106 in 2020**:
 - It is estimated that wealth is concentrated among the top deciles, with the top 30% accounting for 90% of wealth.
- This contrasts with the global figure, where **the richest 1% are estimated to have captured nearly two-thirds of new wealth**.
- While the reported figures may compel the reasonable to advocate for an equalizing wealth tax — a recommendation that the UN has long considered; to an expert, the report does little more than scrape the surface.

Background

- According to Oxfam India's report on inequality in India, released recently, only **5% of Indians own more than 60% of the country's wealth**, while the bottom 50% own only 3%.
- According to the report **"Survival of the Richest: The India Story,"** between 2012 and 2021, 40% of the wealth created in India went to just 1% of the population, and only 3% of the wealth went to the bottom 50%.

- The total number of **billionaires in India increased from 102 in 2020 to 166 billionaires in 2022.**
- The **combined wealth of India's top 100 has surpassed \$660 billion** (Rs 54.12 lakh crore), enough to fund the entire Union Budget for more than 18 months.

Key Highlights

- When the economy is facing an unprecedented rise in prices and a sluggish recovery in job prospects, it is natural to argue for an increase in taxes that are quick to collect and affect only a few.
- Oxfam's global report recommends a wealth tax, a tax on unrealized capital gains, and higher corporate taxes. It also claims that indirect taxes are regressive.
- The pursuit of such reforms necessitates a nuanced understanding of the existing taxes. That is, income, capital gains, and wealth taxes are all interconnected, and changes cannot be recommended in isolation.
- If the income tax is significantly higher and capital gains are implemented, the wealth tax must be calibrated accordingly.
- Furthermore, the mix of taxes raised by a country is determined by its institutional capacity, tax base structure, and desire for simplification. The report avoids these issues in favor of optics.



About Wealth Tax

- **Wealth tax** is defined as a direct tax that is levied on the **assets owned by individuals and Hindu Undivided Families (HUFs)** even though these assets may not generate any income. It was brought in to achieve social objectives in society and to bring parity among taxpayers.
- Wealth tax was abolished in Budget 2016 as the cost incurred for recovering taxes exceeded the underlying benefits of the tax.

Tax Collection

- The report raises two important points:
 - the lower corporate tax rate in lieu of incentives and the implementation of GST, both of which are viewed as costly experiments in tax policy in India.
- The corporate tax cuts reduced the statutory tax rate from 30% to 25.175%. According to the statement of revenue foregone, the "cost" of this measure is Rs 1.03 lakh crore.
- However, it is obvious that this is not the equivalent of revenue that would have been realized in the absence of the incentive.
- The jury is still out on the measure's investment impact, but where such a tax cut would have positively impacted investments, the same revenue would not have been realized in its absence.

- Furthermore, comparing corporate tax collections is unjust because the simplified corporate tax regime was implemented after 2019.
- Even in FY2021, tax collections exceeded pre-pandemic levels. The paper also criticizes the GST for having a disproportionate impact on the lowest deciles.
- The paper uses NSS 2011-12 to show that the bottom 50% of the population pays six times more indirect tax as a percentage of income than the top 10%.

Current Tax System

- The current income tax system exempts incomes up to Rs 5 lakh from taxation, and the GST rate structure places a higher burden on luxuries.
- In fact, despite the **K-shaped recovery**, the upward trend in GST collections after 2021, accompanied by higher retail sales of luxury goods, suggests that the tax may, on the contrary, be progressive.
- Furthermore, an indirect tax can be more efficient in a tax system where direct tax compliance is limited. As a result, the report downplays the importance of indirect taxes.
- In terms of direct taxes, India implemented a surcharge on top incomes in recent years, raising the marginal tax rate to 42.74 percent.

How Can Taxing India's Billionaires Aid Inequality?

- According to the report, taxing India's top ten wealthiest individuals at 5% could raise enough funds to return children to school.
- Furthermore, if India's billionaires were taxed once at 2% on their entire wealth, it would fund the country's nutritional needs for the next three years, amounting to Rs 40,423 crore.
- A one-time 5% tax on the country's top ten billionaires (Rs 1.37 lakh crore) is more than 1.5 times the funds estimated by the Health and Family Welfare Ministry (Rs 86,200 crore) and the Ministry of Ayush (Rs 3,050 crore) for fiscal year 2022-23.

What are the concerns?

- Although the report conveys the right message about rising inequalities and the need for tax reform, it misplaces this in generalization.
- A siloed approach to tax policy, with interlinkages between different taxes that apply to the same base, is ineffective.
- Historically, countries such as India used a wealth tax, but the collections were pitiful, making it a costly tax to implement. Furthermore, taxes do not cover everything.
- Other macroeconomic policies, such as low interest rates and regulatory interventions, must not be overlooked.
- According to estimates, the revenue that India is expected to earn from the implementation of the wealth tax would result in a tax gain of 10% of current direct tax collections.
- The report leaves one wondering why the same goal cannot be achieved by gradually increasing overall tax progressivity rather than relying on a tax that is precariously dependent on volatile asset prices.

What is the way forward?

- The rising wealth inequality necessitates immediate interventions to reduce existing inequality by taxing the wealthy and improving access to public services for the poor.

- The report also suggests lowering the tax burden on the poor and marginalized by lowering the slabs of the goods and services tax on essential commodities, which comprise the majority of the poor and middle classes' spending habits, and raising taxes on luxury goods.
- It has proposed measures to improve access to public services such as health and education, such as increasing the budgetary allocation for health to 2.5% of GDP by 2025 and that for education to the global benchmark of 6% of GDP.

Two Infected With Norovirus In Kerala

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Norovirus

Prepp Mains Booster: Issues relating to the development and management of Social Sector/Services relating to Health

Context:

- Recently, **Norovirus infection** has been confirmed in two schoolchildren in **Ernakulam, Kerala**.
- Norovirus is an important cause of acute **non-bacterial gastroenteritis** in **children as well as adults** worldwide.

What is NoV and how does it spread?

- The Virus was initially identified in 1968 in association with an outbreak of acute diarrheal illness in Norwalk, Ohio.
- It was called the Norwalk Virus.
- Later, a number other stomach flu viruses that were closely related to the Norwalk virus were discovered; they are now collectively referred to as noroviruses.
- Numerous outbreaks of **stomach flu**, usually on cruise ships, have been linked to NoV.
- Over 20 million instances of **acute diarrheal disease** caused by NoV are reported annually in the United States, according to the Centers for Disease Control and Prevention (CDC), a significant portion of which are **food-borne infections**.
- NoV was discovered to be the **second most prevalent virus (25.7%) after rotavirus** in one study in New Delhi a birth cohort study discovered that 11.2% of diarrheal episodes were caused by NoV.



- **Symptoms:** Acute nausea, vomiting, cramping in the stomach, and diarrhoea are signs of infection.
- The symptoms often start 12 to 48 hours after exposure to the infectious agent and go away in two days or less.
- **Transmission:** Ingestion of contaminated water, food, or surfaces that may have been contaminated when handled carelessly by an

infected person or his caretaker are the **primary routes of faecal-oral transmission**, whether directly or indirectly.

- **Treatment:** There is **no special treatment**; relaxation and warm fluid rehydration should be sufficient.
- In most cases, the illness is self-limiting and not dangerous—only when severe dehydration is allowed to progress.
- If very small children, the elderly, or pregnant women are infected, extra care is required.
- **Prevention:** The basis of prevention is **hygiene**.
- Before and after using the bathroom and before consuming food, people should thoroughly **wash their hands with soap and water**.
- Before consuming, fruit and vegetables **should be well cleaned**. Oysters should be thoroughly cooked because they may have developed in hazardous waterways.
- Only boiled, potable water should be used.
- Infected persons should rest at home and maintain utmost personal hygiene to prevent transmission.

Why it is a public health concern?

- NoV is a **highly contagious virus** and transmission occurs at a rapid pace because of heavy viral shedding by the infected person.
- Large-scale outbreaks can be started even with the smallest infectious dose, usually in settings like hostels, schools, hospitals, or nursing homes.
- Experts also point out that NoV could increasingly become a **public health concern** because of rapid expansion of the food industry.
- A single infected worker in the kitchen or a food handler who contracts the virus even slightly can spread it to hundreds of others.

WHO Report: 5 Billion People Globally Still Vulnerable To Health Hazards

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: WHO Report

Prepp Mains Booster: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources, Important International institutions, agencies and fora

Context:

- Recently, a report released by the **World Health Organization** revealed that nearly **5 billion people globally** are still vulnerable to health hazards due to the use of **industrially produced trans-fats** despite numerous countries implementing regulatory policies.
- In 2018, the WHO had recommended the **elimination of industrially produced trans-fats by 2023** to reduce the incidence of heart diseases and death.

Countdown to 2023- WHO Report On Global Trans Fat Elimination 2022

- The report titled "**Countdown to 2023 - WHO report on global trans fat elimination 2022**" is an annual status report published by the **World Health Organization** in association with **Resolve to Save Lives**.
- The report aims to track the progress made towards achieving the **goal of trans fats elimination by 2023**.

- According to the report, 5 billion people around the world are at risk of contracting various diseases due to the consumption of industrial trans-fat containing products.

What are trans-fats?

- Trans fat, or trans-fatty acids, are unsaturated fatty acids that come from either natural or industrial sources.
- Although a **minor percentage** also exists naturally as **Natural TFAs**, the majority of these fats are manufactured industrially.
- TFAs are produced artificially through a chemical reaction involving hydrogen and oil to create fats that resemble pure ghee/butter.
- Natural TFAs are found in **meats and dairy products**, however, partially **hydrogenated vegetable oils** like vanaspati/margarine are the main sources of artificial TFAs.
- Food packaging, baked goods, cooking oils and spreads frequently include industrial trans fat.



Why has the WHO recommended the elimination of transfats from diets?

- Up to 5,00,000 early deaths from **coronary heart disease** occur worldwide each year as a result of trans fat consumption.
- According to WHO Director-General, Dr Tedros Adhanom Ghebreyesus, transfats have no known benefits and are huge health risks with increasing costs for health systems.
- It raises the risk of **obesity, type 2 diabetes, metabolic syndrome, insulin resistance, infertility, and several malignancies**. It can also result in **poor prenatal development**, which could harm the unborn child.
- Eliminating trans fat is cost-effective and has enormous benefits for the health of communities.

What are the ways to reduce trans fats?

- The WHO has developed **two best policy** alternatives to eliminate trans fats
 - All foods must adhere to a statutory **national limit of 2 grams of industrially manufactured trans fat per 100 grams of total fat**
 - A mandatory national **ban on the production or use of partially hydrogenated oils** which are a major source of trans fat as an ingredient in all foods.
- The World Health Organization (WHO) suggests that nations concentrate on four areas
 - Implementing best-practice policies
 - Monitoring and surveillance,
 - Healthy oil substitutes
 - Advocacy.
- The world's food manufacturers have been urged to stop producing items containing trans fats in line with the pledge made by the **International Food and Beverage Alliance**.

What is the status of trans fats elimination policies globally?

- Most high-income countries from Europe and the Americas have implemented effective policies to eliminate the use of trans fats.
- Middle-income nations, including Argentina, Bangladesh, India, Paraguay, the Philippines, and Ukraine, are implementing or adopting regulations to control trans fats in line with WHO recommendations.
- Trans fats policies have not yet been effectively implemented in any low-income countries.



Steps taken by India

- By 2022, India had established goals to reduce the amount of industrially produced trans fat to **less than 2%**, one year earlier than the WHO's plan.
- The **Food Safety and Standards Authority of India (FSSAI)** initiated the **Eat Right Movement** and **Heart Attack Rewind** mass media campaigns in order to meet the goal.
- The **Eat Right Movement** was established in **2018** and is based on the principles of "**Eat Healthy**" and "**Eat Safe**." It intended to reduce the consumption of salt, sugar, and oil by **30%** over three years.
- Heart Attack Rewind** is a 30-second Public Service Announcement that was shared on social media sites in 17 different languages. The campaign's goal was to inform the public about the risks of consuming trans fats and provide advice on how to do so by consuming healthier fat alternatives.
- Food Safety and Standards (advertising and claims) regulation 2018 allows the trans-fat free claim on foods that contain 0.2-gram trans fats per 100 gm / 100 ml.

WHO

- In 1948, the **World Health Organization (WHO)**, a division of the UN dedicated to health, was established with its headquarters in Geneva, Switzerland.
- The **World Health Assembly**, WHO's top decision-making body, is attended by representatives from all of the organization's member states.
- The World Health Assembly's decisions and policies are carried out by the **WHO Executive Board**.

- Its specialised duties include **drug standardisation, epidemic control, and quarantine procedures**. WHO encourages everyone to achieve "the highest potential degree of health."

REPLACE

- REPLACE** is a step-by-step guide released in 2018 by **WHO** to remove TFAs from the global food chain.

In Odisha's Rain-Fed Malkangiri, A Water Scheme Helps Farmers Grow A Second Crop



Priority: Medium

Primary Source: Indian Express

Prepp Prelims Booster: Micro-irrigation

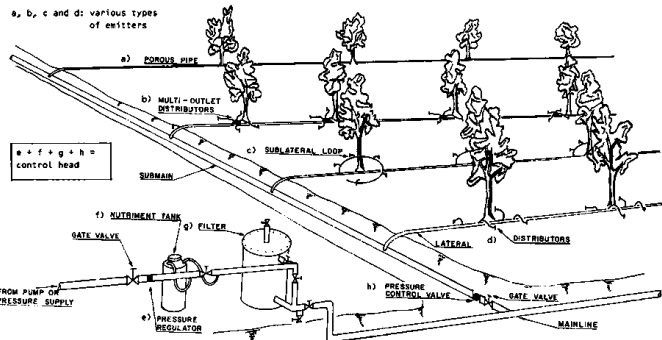
Prepp Mains Booster: Role of civil services in a democracy; GS3 - Major crops-cropping patterns in various parts of the country, - Different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints;

Context:

- Recently, Vishal Singh, Collector & District Magistrate, was among the 19 winners of The Indian Express Excellence in Governance Awards for 2020 and 2021. He was awarded in the agriculture category.
- The biennial awards celebrate the finest work done by District Magistrates, women and men considered the foot-soldiers of **governance** as they script change that touches the lives of countless people across the country.

Role of District Administration

- Malkangiri is a **rain-fed** district and had few irrigation facilities because of which farmers couldn't grow a second crop.
- A **micro-irrigation system** was implemented by the district administration in 2019–20 as part of a special initiative for the promotion of **integrated farming**.
- This method has been a game-changer for district farmers, who now harvest at **least two crops annually**.
- The administration developed a **lift irrigation system**, as part of which water was directed through a 1,500-metre mainline and smaller branch lines, and took water from various perennial streams in the area, including Hatiamba nullah in Totaguda.
- With the help of more than 20 strategically placed portable **sprinklers and rainguns**, water was distributed across the command area.



Role of villagers

- Partners:** The administration **designated villagers as "partners"** who not only provided **financial contributions** as needed but also assisted with physical labour while excavating land to lay pipelines and oversee the projects in order to ensure that everyone had a stake in its success.
- The village contributed Rs 3 lakh of the Rs 19 lakh needed to complete the project.
- Collaboration:** In collaboration with the residents, authorities **mapped the region** before starting the project.
- In addition, it instructed the people in **effective water management** and conducted surface geology and **agricultural pattern surveys**.

Impact

- The administration hopes to guarantee **adequate soil moisture** during the kharif season with this initiative.
- The micro-irrigation system in Totaguda supports 23 families and a **command area** that is roughly 53 acres in size.
- Migration:** A lot of people from villages who were forced to migrate to the cities because there was nothing to do on the farms will stay back in the village and grow more crops.
- Income and food supplies:** It also helps to ensure more continuous food supplies and income by enabling farmers to grow crops on a regular basis.
- Earlier, it was difficult to make ends meet for some families, but now it has **empowered** them to secure the future of their three children.
- With the initiative translating into **better yields**, the farmers say they now want better marketing facilities for the cash crops and want the mandi system to be streamlined.

Micro Irrigation

Micro irrigation is the slow application of continuous drips, tiny streams or miniature sprays of water above or below the soil surface.

Need for Micro Irrigation:

- India is facing the twin challenges of **water scarcity and population explosion**.
- The agriculture sector is the **major consumer** of water in India.
- It accounts for approximately **90 percent of annual freshwater withdrawals** in the country.
- Climate change has aggravated water scarcity concerns.
- The effects of climate change are even more noticeable in Indian agriculture, where 60% of agriculture is dependent on the whims of the monsoon and 85% of farmers are small and marginal.

Significance of Micro irrigation

- Micro-irrigation **can reduce labour, water, and fertiliser needs while increasing yields**.
- Direct irrigation of the root zone prevents water loss due to evaporation, deep percolation, runoff, and conveyance.
- Traditional irrigation methods cannot avoid these losses; however, **micro-water-saving irrigation's strategy** has made it possible for higher water use efficiency of about 75–95%.
- Fertigation, which combines the irrigation of water and fertiliser, is another resource-saving technique made available by micro-irrigation.
- Fertigation leads to balanced nutrient application, a 7–42% decrease in fertiliser requirements (saving the farmer money), greater nutrient uptake, and improved nutrient usage efficiency.

Way forward

- It is clear that micro-irrigation is crucial to achieving sustainability in Indian agriculture and cannot be overlooked.
- However, there is still a long way to go, and to educate the Indian farming community about the benefits of micro-irrigation, there must be intensive demonstrations, training, and awareness programs.

'Immediate Action' Needed On Sub-Standard Drugs Causing Deaths: Who

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: WHO

Prepp Mains Booster: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources, Statutory, regulatory and various quasi-judicial bodies

Context:

- Recently, the **World Health Organization** called for immediate action by countries against **faulty and sub-standard medicines and medical products** used for children.
- More than 300 deaths, mostly children, have been reported in countries like **Gambia, Uzbekistan and Indonesia**.



WHO Alert

- The **World Health Organization** has alerted countries about the contamination of over-the-counter cough syrups with **diethylene glycol and ethylene glycol**.
- The two compounds are industrial solvents that if consumed even in small doses can result in acute kidney damage, abdominal pain, and even death.
- According to the WHO, there were an estimated 300 deaths in Gambia, Uzbekistan and Indonesia associated with similar substandard medicines and medical equipment.
- Timor-Leste, Cameroon, Senegal and the Philippines have also been mentioned as affected countries by the WHO.
- The WHO had previously released three similar alerts in October 2022(Gambia), November 2022(Indonesia) and January 2023(Uzbekistan) recommending the removal of these drugs from the market.

What are the WHO recommendations?

- The WHO has called upon the different stakeholders in the global medical supply chain to take immediate action to prevent further loss of life.
- It has directed all 194 member states to adopt a three-pronged approach:

- Detection of contaminated medicines and their removal from circulation in domestic and international markets.
- Increased surveillance and diligence within regional and domestic supply chains.
- Immediate notification of the WHO in case any contaminated product is discovered and implementation of measures to build public awareness about the dangers and toxicity of such substances.
- Drug manufacturers have been advised to purchase only pharmaceutical-grade inert ingredients or **excipients** and implement comprehensive testing mechanisms.
- Manufacturers have been directed to provide quality guarantees for their products while suppliers and distributors should only sell authorised medicines while maintaining proper records to ensure accountability.

How was India involved in the controversy?

- The cough syrups that were sold in Gambia and Uzbekistan were exported from India by Maiden Pharmaceuticals and Marion Biotech respectively.
- Uzbekistan had accused the Indian manufacturer of causing the deaths of 18 children in Samarkand and had ordered the removal of the medicine from circulation.
- India's highest drug regulatory body, the **Central Drugs Standard Control Organization** had recently flagged 70 batches of drugs that had failed a random drug test in December 2022.
- Five different batches of Maiden Pharmaceuticals' CSP Cough Syrup for Throat & Chest were determined to be spurious, misbranded, and not of standard quality in test findings released by the CDSCO in December 2022.
- Marion Biotech has not been mentioned in the CDSCO list, but it did lose its license for failing to respond to the regulator's enquiry about its cough syrups that were being tested in the Regional Drug Testing Laboratory, Chandigarh.

CDSCO

- The **National Regulatory Authority (NRA)** for drugs in India is the **Central Drugs Standard Control Organization (CDSCO)**, which falls under the Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India.
- The CDSCO is headed by the **Drug Controller General of India (DCGI)**.
- According to the Drugs and Cosmetics Act, the CDSCO is in charge of approving new drugs, conducting clinical trials, establishing drug standards, monitoring the quality of drugs imported into the nation, and coordinating the efforts of state drug control organisations by offering professional guidance to ensure consistency in the enforcement of the **Drugs and Cosmetics Act**.
- CDSCO, in cooperation with state regulators, is in charge of granting licences for certain specialised categories of important drugs such as blood and blood products, intravenous fluids, vaccines, and sera.

WHO

- In 1948, the World Health Organization (WHO) was established as a division of the UN concerned with health and had its headquarters in Geneva, Switzerland.

Functions:

- It acts as the **overseeing and coordinating body for work in international health**
- To create and sustain productive partnerships with the UN, specialised agencies, governmental health administrations, professional associations, and any other organisations that may be deemed necessary.
- To support governments in enhancing health care upon request and provide suitable technical support and, in times of need, any assistance required at the request or acceptance of governments
- To provide or aid in providing health services and facilities to certain groups, such as the residents of trust territories, as requested by the United Nations
- Encouraging and advancing efforts including technical and administrative services to **combat endemic, epidemic, and other diseases**
- To encourage the improvement of **food, housing, sanitation, leisure, economic conditions, working conditions**, and other aspects of **environmental hygiene**, cooperating with other specialist organisations as required.
- To encourage collaboration between academic and professional organisations that advance health interests.
- To submit suggestions for conventions, agreements, and laws, as well as proposals about issues of international health,

Silent Valley Bird Species' Number Goes Up To 175**Priority: Medium****Primary Source:** The Hindu**Prepp Prelims Booster:** Silent Valley National Park**Prepp Mains Booster:** Environment, Biodiversity and Conservation**Context:**

- Recently, a **bird survey** was conducted in the last week of December at **Silent Valley National Park** identified 141 species, **17 of which were new**.
- So far, 175 different bird species have been spotted in Silent Valley.
- The Silent Valley Bird Survey, held on December 27, 28, and 29, **marked the 30th anniversary of the first bird survey**.

**About Silent Valley**

- This region is known for its biodiversity and is located in Kerala, India.
- **Location:** Palakkad district in Nilgiri Mountains of Kerala.

- In 1914 the forest of the Silent Valley area was declared a reserve forest.
- **Save Silent Valley movement:** Plans for a hydroelectric project that threatened the park's rich and unique wildlife stimulated an environmentalist social movement in the 1970s, which resulted in cancellation of the project.
- It was declared as a National Park in the year of 1984.
- **Flora:** Humid wet Evergreen Rain Forests. The major plants of the park are Teak, Amla, Sermal, Rosewood along with bamboo.
- **Fauna:** Silent Valley Park is known for many highly endangered species such as lion-tailed macaque, tiger, gaur, leopard, wild boar, panther, Indian Civet and Sambhar.

**Silent Valley National Park**

- The Silent Valley National Park is located in Kerala's Nilgiri hills.
- Silent Valley National Park is one of Kerala's most magnificent natural wonders. It is located in the Nilgiri hills and is a key component of the Nilgiri Biosphere Reserve.
- To protect the flora and fauna, the park is completely surrounded by a buffer zone.
- The national park is one of the South Western Ghats' most protected and untouched areas of rain forests and tropical moist evergreen forest.
- The Western Ghats World Heritage Site includes the Silent Valley National Park. In 2007, UNESCO designated parts of the Western Ghats as World Heritage Sites.

Previous Survey

- The Silent Valley Bird Survey, held on December 27, 28, and 29, marked the 30th anniversary of the first bird survey.
- Despite the fact that the first survey was conducted in the last week of December 1990, the anniversary could not be celebrated in December 2020 due to COVID-19 restrictions.
- Veteran birders P.K. Uthaman and C. Sushant were the only members of the seventh survey team who had participated in the **first survey in 1990**.
- A total of 30 birders and forest staff participated in the bird survey by staying in seven camps within the Silent Valley core area.
- It was stated that another bird survey would be conducted in the national park's buffer zone soon.

- The survey was conducted in collaboration with the **Kerala Natural History Society**.
- In a **2006 survey**, 139 birds were identified, and the number of **species increased to 142 in the 2014 survey**.

New Species Identified

- Brown wood owl, Banded bay cuckoo, Malabar woodshrike, White-throated kingfisher, Indian nightjar, Jungle nightjar, and Large cuckooshrike** were among the 17 new species discovered in the Silent Valley.

Other Species

- Silent Valley was home to a plethora of birds, including the Crimson-backed sunbird, Yellow-browed bulbul, Black bulbul, Indian white-eye, and Indian swiftlet.
- Several species endemic to high elevation areas were also identified by Silent Valley officials during the survey.
- Nilgiri laughingthrush, Nilgiri flowerpecker, Brown-cheeked fulvetta, Black-and-orange flycatcher, Grey-headed canary-flycatcher, Greenish warbler, Common chiffchaff, Tytler's leaf warbler, Shaheen falcon, Nilgiri wood pigeon, and Malabar whistling thrush were among the birds they spotted.

New Tech Can Filter Microplastics With Minimal Energy, Says Study

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Microplastics

Prepp Mains Booster: Environment; Pollution; Science and Technology- developments and their applications and effects in everyday life.

Context:

- Recently, South Korean researchers have created a **novel water filtration device that can swiftly and effectively remove microplastics**.

What exactly is this technology?

- The **slow adsorption rate and high heat energy** needed for recycling are **drawbacks** of **carbon-based porous materials** employing current adsorption processes.
- It has been challenging to produce materials that concurrently fulfill outstanding **recyclability, high efficiency, inexpensive raw material efficiency**, and industrialization potential.

New technology

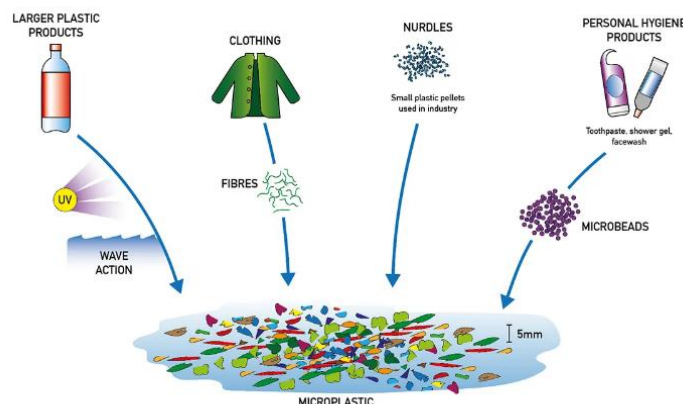
- Inexpensive and effective:** The team synthesized a porous polymer with excellent adsorption performance and photothermal properties by reacting with an inexpensive and effective precursor.
- Fast adsorption:** The new technology enables a material with quick adsorption of micro-pollutants in the aquatic environment.
- Recyclability:** The polymer's ability to be recycled and reused several times without losing performance was validated through studies, according to the researchers.
- The team developed a **water treatment membrane capable of evaporating water using solar energy** as a driving force through the developed polymer's ability to absorb light broadly and convert the absorbed light into heat.
- The water treatment membrane coated with the oxidised polymer was confirmed to purify phenolic **impurities using sunlight**.

What are Micro-Plastics?

- Microplastics are **small plastic pieces less than five millimeters** in diameter, which can harm our ocean and aquatic life.
- Microplastics can come from various sources, including larger plastic pieces that have broken apart, **resin pellets used for plastic manufacturing, or microbeads**, which are small, manufactured plastic beads used in health and beauty products.
- These tiny particles easily **pass through water filtration systems** and end up in the ocean posing a potential threat to aquatic life.
- While some **conventional carbon-based filters** may remove microplastics, they have **drawbacks**, including a **slow adsorption rate** and inefficient energy use.

Where do they come from?

- Microplastics can be produced, like the microbeads found in cosmetics and other beauty goods, or they can develop as larger plastic pieces degrade.
- The small, shiny particles advertised as **"cooling crystals"** in certain toothpaste qualify as microplastics if the ingredients of the toothpaste mention **"polyethylene"**.
- 90% of the plastic garbage that is generated is not recycled, making it one of the main causes of this pollution.



- Some examples of the bigger pieces that degrade into microplastics and eventually find their way into the soil, water, and air we breathe are plastic bottles, bags, fishing nets, and food packaging.

Sovereign Green Bonds

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Sovereign Green Bonds

Prepp Mains Booster: Conservation, Mobilization of resources, GS2-Government policies for development

Context:

- Recently, on 6th January 2023, the RBI that it will issue **Sovereign Green Bonds** worth **16000 crores** in two tranches of 8000 crores in this financial year.
- This will be the first instance of the RBI issuing green bonds with the framework released in November 2022.

What are green bonds?

- Green bonds are **bonds issued by any sovereign entity, inter-governmental groups, alliances, and corporates with the proceeds to be used for environmentally sustainable projects.**
- Green Bond projects may involve projects like green buildings, sustainable transportation, and renewable energy.
- It differs from regular bonds, which allow the issuer to use the proceeds for a variety of things.
- Since 2007, there have been issuances in the global green bond market totaling more than USD 1 trillion.
- According to the London-based Climate Bonds Initiative, by the end of 2020, 24 national governments had issued sovereign green, social, and sustainability bonds worth a total of USD 111 billion.

What is the importance of SGBs?

- Green bonds are an important **tool to deal with the threats of climate change and associated environmental challenges.**
- According to the International Finance Corporation, a subsidiary of the World Bank, climate change threatens communities and economies and poses risks to agriculture, food, and water supplies.
- These challenges require large amounts of financing. Environmental projects need to be linked with capital markets and investors to ensure that capital is challenged into sustainable projects.
- Green bonds are a **means of establishing this link between projects and markets.**
- Governments and authorities are sent a signal of intent about environmental challenges and sustainable development through the issue of sovereign green bonds.
- It will **spur the growth of domestic markets and encourage institutional investors.**
- It will facilitate the expansion of a local market by offering **benchmark pricing, liquidity, and a demonstration effect for local issuers.**
- Sovereign guarantees can help jump-start these significant capital inflows, with the IEA's World Energy Outlook 2021 projecting that 70% of the additional USD 4 trillion spending to reach net zero is necessary for emerging/developing nations.

How do Green Bonds benefit investors?

- Green bonds offer a platform to develop **good investor practices.**

- It is a means of hedging against the risks of climate change while gaining returns from the investment.
- According to the IFC, green bonds **disincentivize high carbon-emitting projects.**

When does the Government plan to issue these bonds?

- As per the government's self-determined contributions under the Paris Agreement, **India is committed to reducing the emission intensity of its economy by 45% of 2005 levels by 2030.**
- Another commitment was to **ensure 50% of the cumulative electric power installed capacity from sustainable non-fossil fuel sources.**
- In order to achieve these goals, the Union Budget 2022-23 introduced Sovereign Green Bonds.
- India's actions toward combating climate change have so far been **domestically financed.**
- The move to issue green bonds will target the **generation of additional financial resources from abroad.** The government can attract potential investors in **public-sector enterprises aimed at reducing the carbon intensity of the economy.**

Where will the profits go?

- The proceeds from the sale of the bonds will be used by the government to **finance or refinance the expenditure of various green projects** including **renewable energy, clean transportation, energy efficiency, climate change adaptation, water and waste management in a sustainable manner, and prevention and control of pollution.**
- The projects can be financed either in **part or in whole.**

Way Forward

- India should emulate **France, where each item in the budget is given a green coefficient based on how environmentally friendly it is** in comparison to the EU's top environmental goals (**climate change mitigation, climate change adaptation, water management, circular economy, pollution, and biodiversity**).
- To create a healthy green bond market, it is vital to **harmonize national and international regulations** and standards for green bonds.
- The emergence of a global green bond market will be aided by **uniformity in the regulation of green investments.**
- Institutional barriers** to entry into the market could be reduced by helping issuers in emerging nations raise awareness of the advantages and associated processes connected to green bonds.

Progress Report On National Clean Air Programme (NCAP) 2023: No Change In Air Quality In Most Cities

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: National Clean Air Program

Prepp Mains Booster: Environmental pollution and degradation; pollution; Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

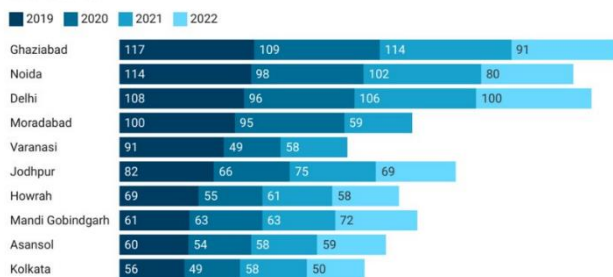
Context:

- Recently, the report **Tracing the Hazy Air 2023: Progress Report on National Clean Air Programme (NCAP)** by the Centre for Research on Energy and Clean Air (CREA), stated that Four years since the introduction of the National Clean Air Programme (NCAP) — India's first national policy on curbing air pollution —

air quality has improved in only 49 out of 131 cities in FY 21-22, compared to the previous year.

- According to agreements made between State Pollution Control Boards (SPCBs), Urban Local Bodies (ULBs), and the Centre, just 38 of the 131 cities that were set yearly pollution reduction targets managed to reach the targets for FY21-22, the report stated:
- Lack of technology:** The **smaller, more harmful PM2.5 particles aren't examined** as closely in all cities, primarily because of a lack of technology.
- Funding:** The Central Pollution Control Board, which oversees the program, only takes PM10 levels into account when allocating funding because these are the significantly larger, coarser particles.
- Beginning in 2020-21, cities must quantify the improvement, which calls for a 15% or greater reduction in the annual average PM10 concentration and a parallel rise in "clean air" days to at least 200.
- Anything less will be deemed "low," and the funding, provided by the Centre via the Environment Ministry, consequently be reduced.
- Outdated data:** The source apportionment studies, which identify and quantify the principal sources of pollution in a city, are only complete in 37 out of 131 cities, according to CREA. These investigations are expected to be finished in 2020.
- Almost majority of these reports currently lack public availability and no city action plan has been updated with fresh findings of the study as it was envisioned in the NCAP when it was presented in January 2019.

How 2019's most polluted cities fared in 2022 based on PM 2.5 levels



Source: CPCB

Suggested Measures

- For India to meet the NCAP objective of 1,500 monitoring stations by 2024, CREA predicts that more than 300 manual air quality monitoring stations must be installed annually.
- In the past four years, just 180 stations have been installed thus far.
- India has a vast network of ambient air quality monitoring stations that have been placed by industries in accordance with various regulations and the environmental clearance procedure.
- This infrastructure needs to be utilized and use the data for air pollution regulation.
- Data from industries should be made available to the public and connected with government ambient air quality monitoring, which would not only help boost public access to air quality data but also improve the industries' accountability and force them to run the stations effectively.

What is National Clean Air Program?

- The National Clean Air Programme is a **pollution-control initiative** that was started by the **Ministry of Environment** with the goal of reducing the concentration of coarse (particulate matter with a diameter of less than 10 micrometers, or PM10) and fine (particulate matter with a diameter of less than 2.5 micrometers, or PM2.5) particles.
- NCAP envisages reducing air pollution by 20-30% in 131 cities in terms of Particulate Matter (PM10) concentrations by 2024 over the baseline of 2017.
- NCAP has been extended till 2025-26 and targets have been revised to 40%.**
- City-specific action plans** have been created under NCAP and include actions for enhancing the network of air quality monitors, lowering vehicle and industrial emissions, raising public awareness, etc.

Non-Attainment city

- Non-attainment city is defined as a city whose air quality did not meet the national ambient air quality standards of 2011 to 2015 under the National Air Quality Monitoring Program (NAMP).

National Air Quality Monitoring Program (NAMP)

- The National Air Quality Monitoring Program (NAMP), administered by the Central Pollution Control Board, is a nationwide program for monitoring ambient air quality.
- The network has 804 active stations that serve 344 cities and towns in 28 states and 6 union territories.
- The National Air Quality Monitoring Programme's goal is to identify current conditions and trends in ambient air quality as well as any deviations from the established requirements.
- Four air pollutants have been identified under N.A.M.P. for routine monitoring at all the locations.
- They include sulfur dioxide (SO₂), nitrogen oxides (NO), respirable suspended particulate matter (RSPM / PM10), and fine particulate matter (PM2.5).

What is Central Pollution Control Board (CPCB)?

- The Central Pollution Control Board (CPCB), the statutory organization, was constituted in September 1974 under the Water (Prevention and Control of Pollution) Act, 1974.
- Further, CPCB was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.
- It serves as a field formation and also provides technical services to the Ministry of Environment and Forests of the provisions of the Environment (Protection) Act, 1986.
- Principal Function of the CPCB, as spelled out in the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981:
 - to promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution, and
 - to improve the quality of the air and to prevent, control, or abate air pollution in the country.

Study Sheds Light On How Blackbuck Survive Challenges

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Environment

Prepp Mains Booster: Biodiversity and Conservation

Context:

- Recently, a new study conducted by the Indian Institute of Science (IISc) sheds light on how **blackbuck in India** have fared in the face of natural and human-induced threats to their survival.
- **Only the Indian subcontinent is home to the blackbuck.** Males have corkscrew-shaped horns and black-to-dark brown coats, while females are fawn-colored.
- Black Buck is protected under **Wildlife Protection Act 1972**. According to IUCN, it comes under the category of Least Concern and **CITES APPENDIX III**.

About Black Buck

- The **Blackbuck (Antelope cervicapra)**, or the **Indian Antelope**, is a species of antelope native to India and Nepal.
- It is widespread in Rajasthan, Gujarat, Madhya Pradesh, Tamil Nadu, Odisha, and other areas throughout peninsular India.
- It is considered as the epitome of grassland.
- It is considered to be the fastest animal in the world next to Cheetah.
- The blackbuck is a diurnal antelope (active mainly during the day).
- It has been declared as the **State Animal of Punjab, Haryana, and Andhra Pradesh**.
- The animals are mostly seen in **three broad clusters across India, which correspond to the northern, southern, and eastern regions**.
- According to IISc, the geographic separation and dense human habitation between the clusters would make it difficult for them to move from one location to another.
- Black Buck is protected under **Wildlife Protection Act 1972**. According to IUCN, it comes under the category of Least Concern and **CITES APPENDIX III**.
- **Cultural Importance:** It is a symbol of purity for Hinduism as its skin and horns are regarded as a sacred object. For Buddhism, it is a symbol of good luck.



Habitat

- Blackbuck prefers grassy plains and lightly forested areas.
- Due to its constant need for water, it prefers areas where water is always available.
- It is found in Central-Western India (MP, Rajasthan, Gujarat, Punjab, Haryana, Maharashtra, and Odisha) and Southern India (Karnataka, Andhra Pradesh, and Tamil Nadu).

Protection Status:

- Wildlife Protection Act 1972: Schedule I
- IUCN Status: Least Concern
- CITES: Appendix III

How was Genetic Profiling done?

- According to IISc, the study was one of the first of its kind in its scope, and it involved analyzing the genetic profiles of blackbucks found across the country.
- Faecal samples of blackbuck were collected from 12 different locations across eight Indian states.
- To collect the samples, the researchers tracked the animals on foot and in vehicles from a safe distance. In the lab, they extracted and sequenced DNA from fecal samples to study the genetic makeup of blackbuck, and then used computational tools to map the genetic data's geographic locations.
- The researchers also used simulations to determine how the three current clusters descended from their common ancestor.
- They discovered that an ancestral blackbuck population first split into two groups: the northern and southern clusters.
- Even though it is geographically close to the northern cluster, the eastern cluster appears to have emerged from the southern cluster.

Challenges for Survival

- The researchers examined the genetic profiles of blackbucks found in India.
- Despite massive losses in grassland habitats across India, blackbucks appear to have well-adapted to human-altered landscapes, and their numbers are on the rise.
- Human activities such as indiscriminate tree cutting and the construction of dams across rivers have slashed natural landscapes.
- These changing landscapes are confining animal species to smaller areas and preventing them from migrating to new areas in search of mates, which is critical for maintaining genetic diversity.
- A population requires genetic diversity to survive because a diverse population is more adaptable to changing environments.

Widespread Dispersal

- Despite all odds, the team discovered that male blackbuck disperse more than expected, contributing to gene flow in this species.
- Females, on the other hand, appear to remain mostly within their native population ranges, as determined by unique mitochondrial signatures in each population.
- The data also revealed an upward trend in blackbuck population numbers when compared to recent years.

Antelopes Found in India:

- Black Buck, Barasingha/Swamp Deer, Chital/Spotted Deer, Sambar Deer, Sangai/Brown-Antlered Deer, Himalayan Serow, Barking Deer/Indian Muntjac, Nilgiri Tahr/Nilgiri Ibex, Tibetan Antelope, Himalayan Tahr, Nilgai/Blue Bull, Chinkara/Indian Gazelle.

Prithvi-II Tactical Ballistic Missile Successfully Tested

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Prithvi-II Missile

Prepp Mains Booster: Science and Technology, indigenization of technology, and developing new technology

Context:

- Recently, on 10th January 2023, India successfully carried out a test launch of the **Prithvi-II ballistic missile** from a test range in Odisha.

- The Prithvi-II is a **Surface-to-Surface Short-Range Ballistic Missile (SRBM)** developed by the **DRDO** under the **Integrated Guided Missile Development Programme (IGMDP)**.
- The Prithvi-II missile is an integral part of **India's nuclear deterrence**.

What is the Prithvi-II missile?

- The Prithvi-II is a **Surface-to-Surface Short-Range Ballistic Missile (SRBM)** developed by the **DRDO** under the **Integrated Guided Missile Development Programme (IGMDP)**.
- The missile has a range of 250 - 350 km and a payload of one tonne.
- The Prithvi-II is a **single-stage liquid-fueled** missile capable of mounting a 500-1000 kg warhead.
- It is powered by **light propulsion twin engines** and was developed for the Indian Air Force and was later adopted into the Indian Army as well.
- The missile employs an **advanced inertial guidance system** with a manoeuvring trajectory to strike pre-set targets.



What was the result of the testing?

- The tests were conducted at the **Integrated Testing range Chandipur** in Odisha, established in 1982 by the DRDO.
- According to the Ministry of Defence, the testing validated all of the missile's technical and operational parameters.
- The missile had previously been tested during the night in 2018 and 2019.

What is the Prithvi class of missiles?

- The Prithvi missile system is made up of several tactical Surface-to-Surface Short-Range Ballistic Missiles (SRBM) with an expected range between 150 and 300 km.
- It was **India's first homegrown ballistic missile project**, and its development began in 1983.
- The initial test firing took place at the **SHAR Center in Sriharikota** in 1988.
- The Prithvi I and Prithvi III class missiles' naval variant is known by the codename **Dhanush**.
- The Indian Army has been using Prithvi missiles since 1994.

Nuclear Deterrence

- According to the military doctrine known as **nuclear deterrence**, the **threat of a nation using its nuclear**

weapons as retaliation will deter other nations from attacking that nation.

- This concept is founded on the fundamental idea that no country would deploy nuclear weapons since doing so would result in a severe humanitarian crisis and put millions of people's lives in danger.
- India has a **minimum but credible** nuclear deterrence policy.
- India follows the principle of **No First Use**, which says that India would only use nuclear weapons in retaliation to a nuclear attack on Indian territory or forces.

Free Food Scheme Named 'PM Garib Kalyan Anna Yojana'

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: PM Garib Kalyan Anna Yojana

Prepp Mains Booster: Issues relating to poverty and hunger, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security

Why in the news?

- Recently, the **Union Ministry of Consumer Affairs, Food, and Public Distribution** announced that the **new food grain distribution scheme** under the **National Food Security Act 2013**, would be named the **PM Garib Kalyan Anna Yojana**.
- The scheme will be implemented from January 1st, 2023, and shares the name of the foodgrain distribution scheme introduced in 2020.



What is the PMGKAY?

- The **PM Garib Kalyan Anna Yojana or PMGKAY** is the new foodgrain distribution scheme of the Union Government.
- The scheme is expected to **provide free foodgrains to the nearly 80 crore Antyodaya Ann Yojana and Primary Household beneficiaries in 2023**.
- The integrated scheme will strengthen the provisions of the **National Food Security Act 2013**.
- Two subsidy schemes of the Department of Food and Public Distribution will be subsumed under the PMGKAY scheme.
- The two schemes are the **Food subsidy for FCI** and the **Food Subsidy For Decentralized Procurement** that deal with the procurement, allocation, and delivery of food grains to the states under NFSA 2013.

- The ministry has said that action has been taken to resolve technical issues at Fair Price Shops including the process of marking prices as zero for beneficiaries and determining margins for dealers.
- Officers of the Department of Food and Public Distribution and the FCI have been directed to coordinate with the state governments to ensure the smooth implementation of the scheme.
- The Central government has committed to spending more than **₹2 lakh crores** as food subsidies under the NFSA and other schemes in 2023.

How does the new scheme differ from the scheme implemented during the pandemic?

- As part of the **PM Garib Kalyan Package** to help the poorest of the poor during the Covid-19 pandemic, the government had introduced a PM Garib Kalyan Anna Yojana in 2020.
- As per the scheme, beneficiaries were entitled to get **an additional 5 Kg of foodgrains (rice/wheat) per person in a month** over and above the 5 kg provided through the Public Distribution System.
- However, beneficiaries were required to **pay the subsidized rate** to purchase their entitlements. Rice cost ₹ 2 per Kg, wheat ₹ 3 per Kg, and coarse grains ₹ 1 per Kg.
- Antyodaya Ann Yojana beneficiaries were entitled to 35 Kg a month while Primary Households could avail of 5 Kg per person every month.
- The new PMGKAY scheme, although having the same name as the pandemic era scheme differs in its implementation.
- The government has eliminated the condition requiring beneficiaries to pay the subsidized rates and made **food grains available for free** throughout the year.
- The new scheme also **removed the additional entitlement** received by the beneficiaries under the old scheme. Now households will only receive the quota under NFSA entitlements.

How will the scheme benefit the poor?

- **80 crore** of the poorest families will receive free food grains, thus reducing the individual **household burden of expenditure on nutrition**.
- Access to food grains is expected to counter the **nutritional challenges** faced by Indians like **malnutrition** and help achieve the target of **food security**.

NFSA 2013

- The purpose of the Act is to ensure access to sufficient amounts of **high-quality food at reasonable rates** for people to live dignified lives. It takes a life cycle approach to address food and nutritional security.
- According to the programme, up to **50% of urban residents and 75% of rural residents i.e 67% of the entire population** are eligible.
- Priority households according to state government regulations and households that are subsidized by the current Antyodaya Anna Yojana are included under the Act.
- Rice, wheat, and coarse grains are provided in quantities of 5 kg per person each month at a cost of Rs. 3/2/1 per kg respectively.
- 35 Kg of foodgrains will be given to each existing AAY home every month.

- **Meals and maternity benefits** for expectant and nursing mothers worth Rs. 6,000 during pregnancy and the first six months following childbirth.
- Meals for children up to age 14.
- Beneficiaries receive a **food security allowance** if their meals or food grains are not provided as specified.
- State and district-level channels for **grievance redressal** have been set up.
- The NFSA had **81.35 crore beneficiaries as of July 2022**.
- Beneficiaries of the NFSA are given access to food grains at subsidized rates.
- Food grains are purchased by the centre at the **Minimum Support Price (MSP)** from farmers and then sold to the states at prices set by the centre.
- The Central Government periodically sets prices, although they never exceed MSP.

Vagir, Navy's 5th Scorpene Class Submarine

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: INS Vagir

Prepp Mains Booster: Achievements of Indians in science & technology; indigenization of technology and developing new technology, Security challenges and their management in border areas

Context:

- Recently, the **Indian Navy** announced that it is set to commission its fifth **diesel-electric Scorpene class submarine** named **Vagir** on January 23 2023.
- Vagir has been developed under **Project 75** by **Mazagon Dock Shipbuilders Limited (MDL)** and **France's M/s Naval Group**.



What is Vagir?

- Vagir is the fifth of the six diesel-electric attack submarines of the **Kalvari class** that had been planned under **Project 75**.
- Vagir has been named after a predatory marine species called the **Sand Fish** that is found in the Indo-Pacific region.
- In 1973, a Russian submarine was inducted into the Indian Navy and named INS Vagir. The vessel was later decommissioned in 2001.
- The new submarine is capable of operating in a wide range of naval combat including **anti-warship and anti-submarine**

operations, intelligence gathering, surveillance and naval mine laying.

- The submarine is armed with **precision-guided missiles** and has stealth features like **advanced acoustic absorption techniques, low radiated noise levels, and hydro-dynamically optimised shape.**
- The submarine is built to function in all operational environments and to cooperate with other members of a Naval Task Force.
- Torpedoes and tube-launched anti-ship missiles can be used to launch attacks, whether the target is above or below the surface.

What is the Kalvari Class of Submarines?

- Kalvari means a **deep sea Tiger Shark in Malayalam.**
- The submarines in this class are attack submarines, or "**hunter-killer**" types, which are intended to target and sink hostile naval vessels.
- These submarines are a part of Project 75, and they are based on the design of the **Scorpene class** of submarines created and built by **Spanish state-owned company Navantia and French defence contractor Naval Group, previously DCNS.**
- They were built in Mumbai by the government-owned **Mazagon Dock Shipbuilders Ltd (MDL).**
- The Kalvari class of submarines are equipped to conduct **minelaying, anti-warship, and anti-submarine operations,** among other types of naval warfare.
- It has a top speed of 11 knots while surfaced and 20 knots when submerged.

What is Project 75?

- Around the time of the **Kargil War** in the late 1990s, a three-decade plan for domestic submarine construction in cooperation with foreign parties took shape. This plan was known to have two independent series of submarine-building lines, codenamed **Project 75** and **Project 75I** (approved in 2007).
- At an estimated cost of **₹ 43,000 crores,** the project calls for the domestic manufacturing of six Scorpene-Class assault submarines, which weigh 1,500 tonnes and can dive to a depth of 300 metres fitted with the most advanced **Air Independent Propulsion technology.**
- The programme has enabled indigenous defence producers to collaborate with top international defence corporations in developing cutting-edge military platforms and lessen reliance on imports.
- A **\$3.75 billion** agreement was inked in October 2005 under which the Mazagon Dock Shipbuilders Limited (MDL) was contracted to build six Scorpene submarines with technical support from the Naval Group of France.
- The first submarine in the series, **INS Kalvari,** entered service with the Indian Navy in December 2017, followed by **INS Khanderi** in September 2019, **INS Karanj** in March 2021, and **INS Vela** in November 2021.
- **Vagsheer,** the sixth and final submarine, is anticipated to be delivered to the Navy by the end of 2023.

Significance

- This is a significant step towards "**Aatmanirbhar Bharat**" and boosting the country's self-confidence in defence construction.
- Currently, **India's fleet consists of 14 diesel-electric submarines** that are members of the **Kalvari, Shishumar, and Sindhughosh**

classes. Additionally, India also maintains one submarine each in the nuclear-powered **Chakra** and **Arihant** classes.

- The Scorpene class of modern submarines possesses an **Air Independent Propulsion (AIP)** feature which helps in information collection by allowing non-nuclear submarines to operate for extended periods of time without access to surface oxygen.
- Kalvari class vessels are equipped with a variety of surveillance and intelligence-gathering equipment and may fire a variety of weapons.
- The **Defence Research and Development Organization (DRDO)** is now working on a project to develop an AIP system based on fuel cells for Indian Naval Submarines.
- The nuclear- and diesel-electric submarines each have specific functions within aircraft carrier battle groups.
- Submarines powered by diesel and nuclear energy must be kept in sufficient numbers in order to maintain the country's deterrence and defence capabilities.
- China has been expanding its nuclear submarine capabilities in the Indo-Pacific region as a result of which India has had to develop its naval arsenal to protect the region from Chinese incursions.

DRDO

- The Government of India created the **DRDO** in 1958 by merging three significant defence organisations, namely the **Defense Technical Development Establishment (DTDE), Directorate of Technical Development and Production, and Defence Science Organisation (DSO) (DTDP)**
- The Government of India's **Ministry of Defence** maintains administrative control of DRDO.
- In addition to providing defence services with globally competitive equipment and solutions, it also aims to develop India as a world-class centre for science and technology.
- **Mission:**
 - Design, develop, and oversee the manufacturing of cutting-edge weapon systems, platforms, and supporting machinery for our defence services.
 - Deliver technical solutions to the Services in order to maximise combat effectiveness and advance soldier welfare.
 - Build infrastructure, dedicate quality labour, and a solid native technological base.
- DRDO began with just 10 facilities and currently has more than 50 labs conducting research across the country in various defence and technology-related fields.

Spot Bellied Eagle Owl Spotted In Seshachalam Forest Of Andhra Pradesh For The First Time

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Spot bellied Eagle Owl

Prepp Mains Booster: Conservation; Biodiversity

Context:

- Recently, a "**Spot Bellied Eagle Owl**" (*Bubo Nipalensis*) was discovered by a wildlife team for the first time in the **Seshachalam forest** and for the third time in Andhra Pradesh.
- But it was sighted only twice in the State earlier, and both times it was at **Nagarjunasagar Srisailem Tiger Reserve (NSTR).**

Spot Bellied Eagle Owl

- The bird's habitat, found on large trees in thick forests, is spread across the Indian subcontinent.
- The bold predatory bird, measuring 20-25 inches in length and weighing between 1.5 kg and 2 kg, feeds on small rodents and lizards.
- The bird makes a strange scream similar to humans and it is hence called the '**Ghost of the Forest**' in India and 'Devil Bird' in Sri Lanka.

Protection status

- The [IUCN \(International Union for Conservation of Nature\) Status](#) - Least Concern.
- [CITES \(the Convention on International Trade in Endangered Species of Wild Fauna and Flora\)](#) status is 'Evaluated' for the spot-bellied eagle-owl (*Bubo nipalensis*) and **listed in Appendix II**.
- **Distribution:** India, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, China, Thailand, Laos, Cambodia, Vietnam.
- In India, these spot-bellied eagle-owl species are distributed in the states of Tamil Nadu, Kerala, Goa, Karnataka, Maharashtra, Uttarakhand, Sikkim, Assam, Arunachal Pradesh, Nagaland, Meghalaya, Manipur, Tripura and Mizoram.



Mottled wood owl

- The mottled wood owl species are endemic to India.
- These mottled wood owl species have moderate forest dependence.
- These species occur in altitudes from 0 to 100 meters.
- The IUCN (International Union for Conservation of Nature) Status - **Least Concern**.
- The CITES status is 'Evaluated' for the mottled wood owl (*Strix ocellata*) and listed in Appendix II.

Seshachalam hill ranges

- Seshachalam hill ranges of the Eastern Ghats lies in **southern Andhra Pradesh**, Peninsular India.
- The ranges were formed during the Precambrian era (3.8 billion to 540 million years ago).

- The hilly terrain is rugged and picturesque with gorges, steep slopes, plateaus and valleys.
- This area is also famous for its beautiful **waterfalls like Talakona, Gundalakona and Gunjana**.
- In 2010, it was designated as a **Biosphere Reserve**.
- It has large reserves of **red sandalwood** which is used in medicines, soaps, spiritual rituals, etc.

Nagarajunasagar Srisailem Tiger Reserve (NSTR)

- Nagarajunasagar Srisailem Tiger Reserve (NSTR) is located in the **Nallamala hill ranges** (offshoot of the Eastern Ghats) of Andhra Pradesh.
- It attained the status of a Tiger Reserve in 1983.
- The total area of the reserve including core and buffer is 3727.82 Square Kilo meters and it is **India's largest Tiger Reserve**.
- NSTR spreads across Prakasam, Nandyal and Palnadu Districts of Andhra Pradesh.
- Two wildlife Sanctuaries, namely **Rajiv Gandhi Wildlife Sanctuary and Gundla Brahmeswaram Wildlife Sanctuary (GBM)** constitute the Tiger Reserve.
- The **river Krishna** traverses through this Tiger Reserve for a linear distance of around 270 Kilo meters.

Simlipal National Park A Poacher's Paradise

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Environment

Prepp Mains Booster: Environment; Biodiversity and Conservation

Context:

- Over the last few years, **Simlipal National Park in Odisha's Mayurbhanj district has become a hunting ground for animal poachers**.
- According to data from the eastern state's forest and environment department, **Similipal has seen 11 elephant deaths since 2019, with four occurring in 2021-22**.
 - Some of them were linked to **poaching**.
- Recently, **a male elephant carcass was discovered in the Talabandha wildlife range**. Forest officials believe the animal was killed by poachers for its ivory tusks.

Key Highlights

- As a result of several elephant, tiger, and leopard killings, Similipal has become a haven for hunters and poachers.
- The **state's last elephant census in 2017** recorded 344 males out of a total of 1,976.
- Every year, about 20 adult breeding male elephants die, most from unnatural causes such as poaching and electrocution. The dwindling breeding male population and isolated populations caused by fragmented forests are weakening the gene pool due to mating among immature individuals and inbreeding.
- Since 2016-17, a total of 406 elephants have died in Odisha.
- In Odisha, 93 elephants died in 2018-19, 82 in 2019-20, 77 in 2020-21, and 30 in 2021 as of August 31.



- According to the data, 11 people were killed by poachers, 54 by electrocution, 14 by train collisions, four in car accidents, and 90 died for unknown reasons.

About Simlipal National Park

- Simlipal National Park is a national park and tiger reserve in Odisha's Mayurbhanj district.
- It is part of the Similipal-Kuldiha-Hadgarh Elephant Reserve, also known as the Mayurbhanj Elephant Reserve.
- Simlipal National Park gets its name from the abundance of semul (red silk cotton trees) that bloom here.
- It was India's second-largest national park.
- Its reserve has been a member of the UNESCO World Network of Biosphere Reserves since 2009.
- The park has a protected area of 845.70 square kilometers and some beautiful waterfalls such as Joranda and Barehipani.
- It is home to 99 royal Bengal tigers and 432 wild elephants.
- It is also known for gaurs (Indian bison), chausingha, and an orchidarium.

About Elephants

- India is home to the largest population of Asian elephants.
- It is also found in Nepal, Bangladesh, Bhutan, and Myanmar.



Conservation Status:

- International Union for Conservation of Nature (IUCN): Endangered
- Convention of Migratory Species (CMS): Appendix I
- Wildlife Protection Act of 1972: Schedule I

About Project Elephant

- Project Elephant (PE) is a federally funded initiative that began in February 1992 to protect elephants, their habitats, and corridors.
- It also aims to address the issues of human-wildlife conflict and the welfare of domesticated elephants.
- Through Project Elephant, the Ministry of Environment, Forests, and Climate Change provides financial and technical assistance to major elephant range states in the country.

The Dark Sky Is A Natural Resource, And Too Much Light Is Polluting It

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Light Pollution

Prepp Mains Booster: Environmental pollution and degradation

Context:

- Recently, researchers from Germany and the U.S. examined, a global database of more than 51,000 entries submitted by citizen scientists to determine the dimmest star visible from a specific location.
- They found that **non-natural light had increased the brightness** of the artificial glow of the night sky, or skyglow, by 9.2-10% every year between 2011 and 2022.

What is light Pollution?

- Light pollution refers to **artificial light** that alters the **natural patterns of light and dark in ecosystems**.
- Ecological light pollution can be caused by sky glow, illuminated buildings, streetlights, fishing boats, security lights, lights on cars, flares on offshore oil platforms, and even lights on research vessels that are submerged in the ocean.
- The animal and plant kingdoms as well as people are **negatively impacted**.

Significance of study

- The study '**Citizen scientists report global rapid reductions in the visibility of stars from 2011 to 2022**' is noteworthy since it contradicts satellite-based statistics that suggested the rate of rise had been roughly 2% annually.
- The mismatch, according to the current study, is likely caused by the satellites' inability to "detect" blue light emitted by LEDs and to analyse light that is emitted parallel to the ground.

India

- According to a 2016 study, 19.5% of people in India, the lowest percentage among the G20 nations, **are exposed to levels of skyglow** that, at the least, prevent visibility of the **Milky Way galaxy** and, at the very worst, prevent "dark adaptation for human eyes."
- The effects include stimulating the cone cells in human eyes, which is possible only when an environment is considered to be well-lit.
- According to a 2017 study, India's illuminated area increased between 2012 and 2016 by 1.07 to 1.09%, and the average radiance of "stably lit areas" — i.e., areas free of wildfires — climbed by 1.05 to 1.07%.



Dark Sky Reserve

- The district administration of Ladakh on December 14, 2022, designated six hamlets within the **Changthang Wildlife Sanctuary** a "dark-sky reserve" – an area whose skies were free of light pollution.
- The designation meant that the reserve had a responsibility to keep the skies dark, particularly for the astronomical observatories located in the area.
- A Dark Sky Reserve is a designation given to a place that has policies in place to ensure that a tract of land or region has minimal artificial light interference.

What are the consequences?

- "Regardless of historical or geographic context, humans tend to use as much artificial light as they can get for around 0.7 percent of GDP," the 2017 report observed.
- Even when LEDs are more effective, they are still used at the same rate, which means that their manufacturing and usage are still responsible for the same **amount of carbon emissions**.
- Numerous studies have also revealed that artificial nighttime lighting has significant effects on both people and wildlife.
- A 2003 study found that illuminated beaches **discourage sea turtles** from coming ashore to lay their eggs.
- According to a review from 2006, skyglow prevents **trees from detecting seasonal changes**.
- **Young seabirds that nest in burrows** were found to wait until nightfall before taking to the flight, according to a 2017 study.
- According to a 2019 study, when exposed to artificial light at night, **clownfish eggs do not hatch, killing the young**.
- A 2020 study found that skyglow affects **various parts of insect life** and prolongs the time that bug predators can hunt.
- Artificial nighttime light can interfere with the **circadian cycle**, preventing the body from producing melatonin, a key hormone that affects mood, cognition, and sleep.
- A small 2009 review found that night shift workers had a 40% higher risk of breast cancer due to **circadian** disturbance, which can be brought on by changed melatonin levels.
- By disrupting the circadian rhythm, artificial light at night can hamper the production of **melatonin**, an influential hormone in the human body with effects on sleep, moods and cognition.
- A small 2009 review concluded that circadian disruption – which altered melatonin levels can cause – increased the risk of breast cancer among night-shift workers by 40%.

- Australian researchers stated in a paper published in 2020 that the **erasure of the night sky** attempts to obliterate Indigenous connection to the stars, serving as a type of **ongoing cultural and ecological genocide**.

Way forward

- When **SpaceX's Starlink constellation** of small satellites started to block ground-based telescopes' views of the Earth, the notion of the sky as a natural resource capable of being polluted became popular.
- These events also highlighted the **need for a global agreement** to minimize light pollution.
- The scientists advise using light sources that cast light at an **angle below the horizon**, capping their emissions, and adjusting their output in accordance with the overall brightness of the area being illuminated.

Kelp Forests Losing Unique Traits Due To Climate Change Says Study

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Kelp Forests

Prepp Mains Booster: Geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes, Conservation, environmental pollution and degradation

Context:

- Recently, a study published in the Nature journal showed that underwater ecosystems called **kelp forests were declining because of climate change**.
- Climate change has caused **warming at or beyond thermal tolerance levels** in the particularly vulnerable equatorward ranges of kelp forests.

What are Kelp Forests?

- Kelp forests are **underwater ecosystems** formed in shallow water by the dense growth of several different species called kelps.
- Kelps are large brown algae seaweeds. They exist in waters that are between 5 to 20 degrees Celsius in temperature.
- Kelp forests can be found all around the world in **temperate and polar coastal waters** while some species have been observed exclusively in tropical oceans.
- Kelp forests are rarely shallower than 20 feet and never deeper than 80 feet.
- These brown algal populations require clean water with good light permeability to survive.
- Kelp forests serve as a habitat for hundreds of marine species such as invertebrates, fishes, and other algae and are among the most diverse ocean habitats.
- They have great economic value as well as an ingredient in local cuisines, toothpaste, dairy products, frozen foods and pharmaceuticals.



What are the findings of the study?

- According to the study, kelp populations have declined due to the effects of **climate change**.
- The study examined freshly collected samples of the kelp across the southwest Pacific and accessed specimens in herbariums of rare and extinct populations.
- The unique adaptive or evolutionary genetic diversity of rear-edge populations has also come under threat due to rapid warming of the waters in warm, low latitudes according to the study conducted in Eastern Australian low latitude range-edge populations.
- Projections developed during the study revealed that **further decline and contraction of ranges of kelp populations** under expected future climate scenarios were possible.
- Researchers have observed that the most dominant and widely distributed **Laminarian kelp** in the Southern Hemisphere, **Ecklonia radiata**, has succumbed to warming temperatures beyond 27 degrees Celsius in the spring and summer.
- The findings indicated newer populations in the shallower and cooler winter months with temperatures around 20 degrees Celsius.
- The region between Rockhampton and Moreton Island had an ideal mean annual temperature of 23°C during the last glacial maximum.
- E. radiata* is generally extinct in Lord Howe where the temperatures (up to 26 degrees Celsius) of the east Australian current exceed thermal tolerances in summer.
- Kelp populations have been observed to exist in isolated deep-sea water habitats around the cooler Norfolk Island (around 25 degrees Celsius).
- The study further showed that kelp populations could survive in lower latitudes when aided by **cool water upwelling and in deep water refugia where they are protected by the thermocline**.
- Identification of these refuge areas is vital in order to ensure the protection of important genetic diversity and to understand how present and past climate change has affected species distribution and evolutionary diversity.
- The report showed that there was a high evolutionary diversity in the lower latitudes as marine organisms were able to survive within ice-free refuge areas during the Ice Age.
- The report also mentioned that while it was unlikely that **in-situ protection** could halt declines of kelp populations with the rapid increase in warming, their unique genetic diversity could be

protected and studied **ex-situ** in culture banks for use in restoration, hybridisation or assisted adaptation strategies.



Significance of kelp

- Since they are **Keystone Species**, losing them would probably cause a substantial change in the demographics and physical structure of the environment.
- It serves as a crucial food source for a variety of marine creatures. Kelps are responsible for producing up to 60% of the carbon found in coastal invertebrates.
- It may be consumed directly or colonised by bacteria, which predators then feed on. Additionally, the abundance of moving invertebrates in kelp beds makes them home to numerous fish species.
- As a **diverse invertebrate and fish ecosystem**, they serve as a habitat for birds to forage.
- It releases carbon into the coastal ecology, increasing its productivity. New biomass, detritus, and other materials are produced through primary production by kelp.
- It reduces the water's flow, which is crucial when animals are spawning and releasing their larvae.
- They serve as **natural breakwaters** and stop coastal erosion.
- They can influence the oceanographic patterns along the coast and perform a variety of ecosystem functions.
- It is a significant source of iodine and potash. Many kelps produce algin, a complex carbohydrate used in the ice cream and tyre industries.

'States Fall Short Of Target To Improve Forest Cover, Quality'

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Forests

Prepp Mains Booster: Conservation, environmental pollution and degradation

Context:

- Recently, according to data accessed via the [Right To Information Act, 2005](#) India is lagging behind in the targets to increase the number and quality of tree- and forest-cover plantations set in the Green India Mission.
- [National Mission for a Green India \(GIM\)](#) is one of the eight Missions under the National Action Plan on Climate Change.

Highlights

- From 2015-16 to 2021-22, the Centre - based on submissions from 17 States - had approved a target of enhancing tree/forest cover by 53,377 hectares and improving the quality of the degraded forest by 1,66,656 ha.
- However, in response to queries by Kerala-based RTI campaigner, the Environment Ministry responded with figures from 17 States noting tree/forest cover had increased by 26,287 hectares and forest quality improved in only 1,02,096 hectares as of December 31, 2022.
- The Ministry disclosed that although the Center had allotted 681 crores for the execution of these projects, only 525 crores had been used.
- States:** Andhra Pradesh, which had a target of 186 ha but only achieved 75 ha; Uttarakhand, which had a target of 6,446 ha but only achieved 1,505 ha; Madhya Pradesh, which had a target of 5,858 ha but delivered 1,882 ha; Kerala, which committed 1,686 ha but provided 616 ha; and Punjab, which had an unusually high commitment of 629 ha but delivered 1,082 ha.

What is the National Mission for a Green India (GIM)?

- National Mission for a Green India (GIM) is one of the eight Missions under the [National Action Plan on Climate Change](#).
- It attempts to combat climate change by preserving, restoring, and improving India's forest cover.
- The mission's goal is to **increase the number of trees** and improve the **quality** of forests over 10 million hectares (Mha) of forest and non-forest lands.
- In order for India to fulfill its international obligations to reduce greenhouse gas emissions, increasing forest cover is essential for sequestering carbon and bolstering its carbon reserves.

National Action Plan On Climate Change

- The National Action Plan On Climate Change was developed by the Union Government in order to reduce the effects of climate change and prepare for it.
- It aims to increase public understanding of the threat posed by climate change and the efforts being taken to combat it.
- The heart of the NAPCC is made up of eight national missions.
- It includes missions such as National Solar Mission, The National Mission For Enhanced Energy Efficiency, National Mission On Sustainable Habitat, National Water Mission, and more.

India State of Forest Report-2021

- The ISFR-2021 contains data on the extent of forest cover, tree cover, mangrove cover, increasing stock, carbon stock in Indian forests, monitoring of forest fires, forest cover in tiger reserve areas, above-ground estimations of biomass using SAR data, and climate change hotspots in Indian forests.
- According to the India State of Forest Report-2021, since the previous evaluation in 2019, the nation's forest and tree cover has grown by 2,261 square kilometres.
- The total area covered by trees and forests in India was 80.9 million hectares, or 24.62% of its total land area.
- According to the report, more than 33% of the land in 17 States and Union Territories was covered by forests.**
- The state with the most forest cover was Madhya Pradesh, which was followed by Arunachal Pradesh, Chhattisgarh, Odisha, and Maharashtra.

- Mizoram (84.53%), Arunachal Pradesh (79.33%), Meghalaya (76%), Manipur (74.34%), and Nagaland (73.90%) were the top five States in terms of forest cover as a **percentage of their total geographic area**.
- Total mangrove cover in the country is 4,992 sq km.
- An increase of 17 sq Km in mangrove cover has been observed as compared to the previous assessment of 2019.
- Top three states showing mangrove cover increase are Odisha (8 sq km) followed by Maharashtra (4 sq km) and Karnataka (3 sq km).

Status check

The table shows State-wise physical progress under the Green India Mission. It lists the targeted increase in tree cover, achievement and shortfall for select States



T. APPALA NAIDU

Green cover: A view of a forest in Andhra Pradesh.

State	Target	Achievement	Shortfall
Uttarakhand	6,446	1,505	-4,941
Madhya Pradesh	5,858	1,882	-3,976
Kerala	1,686	616	-1,070
West Bengal	558	175	-383
Maharashtra	1,316	933	-383
Andhra Pradesh	186	75	-111

All figures are in hectares

Criticism

- However, critics have noted that the majority of the increase in green cover was achieved through **commercial plantations**, which were **monocultures** and, from an ecological perspective, were unable to make up for natural forests and their biodiversity.
- They were also more vulnerable to **pest infestations**.

Wayanad Becomes Country's First District To Provide Basic Documents To All Tribal People

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Events of National importance

Prepp Mains Booster: Government policies and interventions, Issues related to SCs&STs

Context:

- Recently, **Kerala's Wayanad became the first district in the country to provide all tribespeople** with basic documents and services such as Aadhaar cards, ration cards, birth/death certificates, election ID cards, bank accounts, and health insurance.
- As part of the **Akshaya Big Campaign for Document Digitisation** campaign in the district, **1,42,563 services were provided to 64,670 beneficiaries**.



Background

- **Wayanad, the state's largest tribal population**, has been hit hard by natural disasters in recent years.
- Many citizens, including tribal members, have lost important documents. Several people encountered difficulties in obtaining a duplicate copy.
- ABCD was established to address the problem by digitizing and storing tribal population documents.
- The scheme's implementation started in November 2021. The documents were collected from tribal families, digitized, and stored in DigiLocker through the use of 26 special camps organized by various local bodies.
- **Thavinjal Panchayat was the first to implement the program.** The scheme was expanded to all 23 panchayats and three municipalities in Wayanad after its success.

Key Highlights

- The Wayanad district administration earned the honor by providing 1,42,563 services to as many as 64,670 tribal beneficiaries as part of the **Akshaya Big Campaign for Document Digitisation (ABCD)** campaign.
- Through the ABCD campaign, ration cards were distributed to 15,796 families,
 - Aadhar cards to 31,252,
 - birth certificates to 11,300,
 - voters' identity cards to 22,488 people, and
 - digital locker facilities to 22,888 people.
- The drive was launched in November 2021 at Thondarnadu grama panchayat.

About Scheduled Tribes

- Article 366(25) refers to scheduled tribes as those communities who are scheduled in accordance with Article 342 of the Constitution.
- According to Article 342 of the Constitution, the Scheduled Tribes are the tribes or the Tribal communities or part of or groups within these tribes and tribal communities which have been declared as such by the President through a public notification.
- As per 2011 census the Scheduled Tribes represents 8.6 percent of the country's population. Over 700 tribes have been notified.

What is the significance?

- The campaign's goal is to provide basic documents **to all citizens who are members of Scheduled Tribes communities**, and these documents are digitalized and saved in DigiLocker accounts that have been set up for them.

- Because all relevant departments are brought together in a camp under one roof, each beneficiary receives all necessary services at the camp, saving them the time and effort of visiting multiple offices.
- Aside from basic documents, the camps also provide income certificates, ownership certificates, age certificates, and applications for new pensions.
- Digitizing the documents with DigiLocker will allow beneficiaries to easily retrieve them if they become lost or damaged.

White Tufted Royal Butterfly, A Rare Species Found In Kerala's Kannur

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: White Tufted Royal Butterfly, Kerala's Kannur, Wildlife Protection Act, 1972, GS3 - Environment; Biodiversity

Prepp Mains Booster: Environment; Biodiversity

Why in the news?

- Recently, a team of researchers and butterfly observers discovered **white tufted royal butterflies** which are a rare species at **Kalliyad, a town in Kannur.**
- The White tufted royal butterfly is protected under **Schedule 2** of the **Wildlife Protection Act, 1972.**



White Tufted Royal

- The **White Tufted Royal** is a rare species of butterfly that has recently been observed by a team of researchers in Kalliyad, in the north of Kerala.
- The species had previously been spotted in the **Agasthyakoodam Biosphere Reserve** in 2017 and the **Shendurney Wildlife Sanctuary** in 2018.
- The butterfly belongs to the **genus Pratapa, species deva**, and **subspecies deva**.
- It has a **wingspan of 32-40 mm** and during its larvae stage feeds on **Scurrula Parasitica (cinnamon mistletoe)**, a plant belonging to the **Loranthaceae** family.

What were the observations recorded by the team?

- Mr. P.K Girish Mohan, a member of the 'Walk with V.C.' team that observed the butterfly was responsible for collecting the egg and rearing the butterfly.
- According to him, there were **eight species** of this butterfly, of which two were common and the remaining **six were rare**.

- The butterfly has only been photographed in Kerala and not much information is available about its life cycle.
- However, the egg secured by the team will allow for more detailed studies of the species.
- Mr. Mohan also expressed concern about the **unregulated granite and laterite mining** in quarries in the area. These were a threat to the survival of the many butterfly species in the region.

Wildlife Protection Act 1972

- The **Wildlife Protection Act 1972** was passed in order to protect various plant and animal species.
- Any **wild animal listed in Schedules I, II, III, and IV of the act is not allowed to be hunted.**
- It **forbids the removal, harm, collection, ownership, or sale of any particular plant from any protected area or forest property.**
- Any location may be designated as a **sanctuary** by the central government as long as it has **sufficient ecological, faunal, floral, geomorphological, natural, or zoological significance.**
- The government may also designate a location as a **national park**, including a location inside a sanctuary.
- The **National and State Board for Wildlife, Central Zoo Authority, and National Tiger Conservation Authority** are just a few of the organizations that can be formed under the WPA.

Schedule 2 of WPA

- The animals included in this schedule are given very high protection.
- Trade in these species is prohibited.
- They cannot be hunted unless human life is in danger.
- Examples include the **Kohinoor**, the **Assamese macaque**, the **Bengal Hanuman langur**, the **large Indian civet**, the **Indian fox**, the **larger Kashmir flying squirrel**, and the **Kashmir fox**.

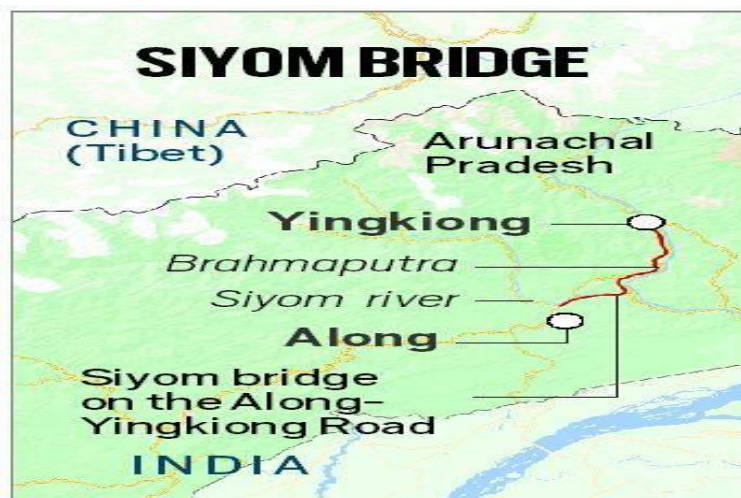
Geography of the region

- Kannur district is located in the **north of Kerala** and lies between the **Western Ghats** and the **Lakshadweep Sea**.
- The region is known for its **diversity of topography** with highlands, midlands, and lowlands.
- The **highlands** are known for the mountains and plantation agriculture where **rubber, coffee, and tea** are the popular crops.
- The **midlands** are an area of undulating hills and valleys where **agricultural activity is intensely practiced.**
- The **lowlands** are **deltaic** and consist of **paddy fields.**
- The region merges with the Western Ghats and has a great variety of vegetation from **evergreen trees to mangroves.**
- The **soil is secondary and lateritic**, which has led to the establishment of quarries in the area.
- Typical animals in the region include the **Indian elephant**, **Sambar Deer**, **Lion-tailed macaques**, and **boar.**

PLACES IN NEWS

Siyom Bridge - Arunachal Pradesh

- The Siyom bridge will not only make villagers' daily lives easier, but it will also speed up the introduction of troops, heavy machinery, and mechanized vehicles into forward areas.
- The 100-metre 'Class-70' steel arch superstructure on the Aalo-Yingkiong road between West Siang and Upper Siang districts, is one of the 28 projects completed by the BRO at a cost of Rs 724.3 crore to bolster border infrastructure.

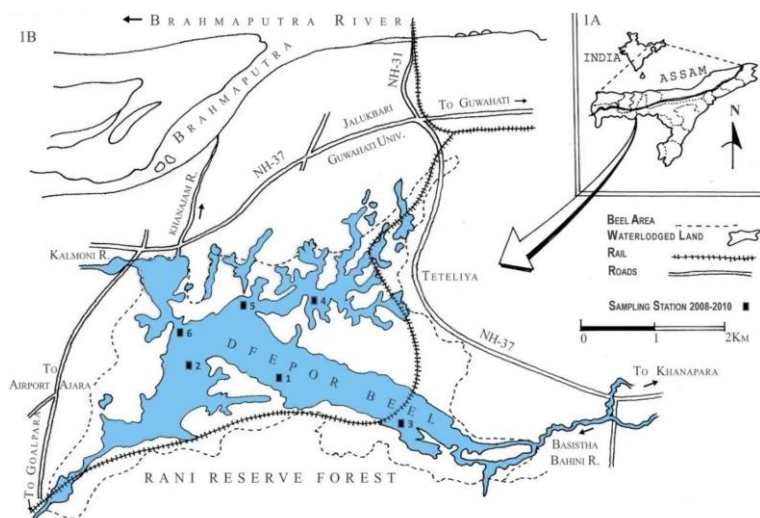


Siachen Glacier



- The Siachen Glacier, the highest battleground in the world, saw the operational deployment of Captain Shiva Chauhan, the first female army officer.
- Located in the Karakoram range in the Himalayas, Siachen Glacier at the height of around 20,000 feet is known as the highest militarised zone in the world.

Deepor Beel- Assam



- Deepor Beel is Assam's only Ramsar site.
- It is troubled by developmental projects and urban waste has 30 more waterfowl species than the total counted in 2022.
- The Forest Department manages the 4.1 sq. km Deepor Beel Wildlife Sanctuary in the central part of the greater wetland named Deepor Beel.

World

Burkina Faso

- A local rights organisation claimed on that volunteer militia groups assisting the Burkinabe army have murdered scores of Fulani civilians, including children, in the volatile nation's western region.
- According to Daouda Diallo, executive secretary of the civic organisation, the collective against impunity and Stigmatization of Communities, the military supporters murdered close to 30 civilians last week in Nouna town, a predominantly Fulani and Muslim neighbourhood.



Croatia



- Croatia rings in New Year as fully integrated EU member. On January 1, Croatia switched to the common European currency, the euro, and eliminated dozens of border checkpoints to join the world's largest passport-free travel area, realising a dream begun 30 years ago when it fought an independence war from Yugoslavia in which 20,000 people were killed and hundreds of thousands were displaced. Croatia is also joining the Schengen Area, Europe's visa-free travel area.

Israel



- Large-scale protests have occurred all around Israel since Justice Minister Yariv Levin presented his plan to reform the legal system in the first week of January.

- Critics of the ruling government and Netanyahu, who is currently on trial on corruption charges, claim that the proposed changes will "undermine Israeli democracy"

North Island, New Zealand



- New Zealand's North Island is receiving more rain than normal due to the La Niña climate pattern cycles in the Pacific Ocean that would affect weather worldwide.
- New Zealand authorities warned that the situation in flood-hit Auckland was likely to worsen after "unprecedented" rainfall brought devastating floods that have killed at least four people and forced hundreds to evacuate in the country's largest city.

Pokhara, Nepal



- On January 15, a passenger plane crashed in Pokhara, Nepal, killing at least 68 people.
- This is Nepal's worst crash since March 2018, when a US-Bangla flight from Dhaka crashed on landing in Kathmandu, killing 51 of the 71 people on board.

Peru



- After President Pedro Castillo was ousted by Congress on December 7 and sentenced to 18 months of pretrial incarceration on charges of rebellion, protests erupted.
- In the Andean nation's worst outbreak of violence in more than 20 years, at least 40 people have been killed in clashes between security forces and protesters.
- Protesters are demanding systemic political changes and responsibility for the killings.

Philippines

- The death toll from recent floods and landslides across the disaster-prone Philippines has risen to 51.
- Most of the casualties have been in the province of Misamis Occidental, on the southern island of Mindanao, where 19 people died from drowning or rain-induced landslides.
- Scientists have warned that storms are getting stronger as the world gets warmer, and the Philippines is one of the most vulnerable countries to the effects of climate change.

