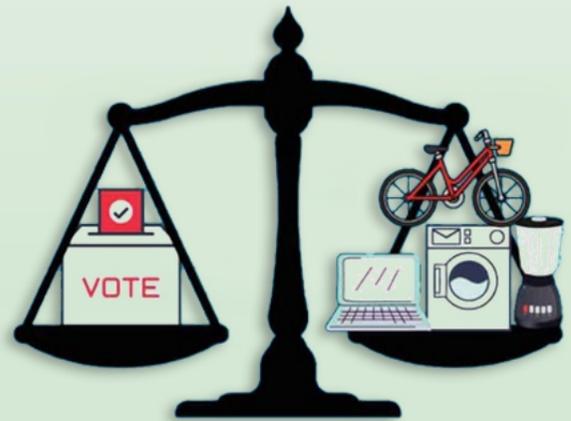




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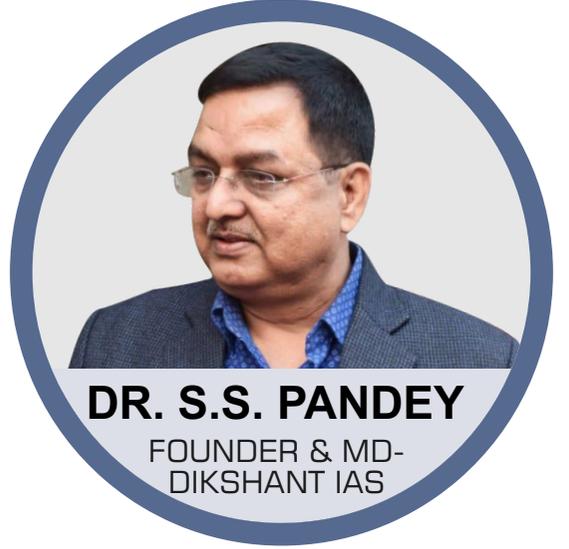


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POLITY & GOVERNANCE

DECODING THE JUDGMENT ON JIM CORBETT



Context

In its ruling in March, the Supreme Court brought to light the unholy nexus of politicians, forest officials, and local contractors responsible for the felling of 6,000 trees in the Jim Corbett National Park in Uttarakhand.

The issue

- **This state of affairs underlines one fact clearly:** despite conservation goals receiving priority through policies and laws including the Wildlife Protection Act, 1972, Project Tiger, and the Forest (Conservation) Act, 1980, the state's main interest remains increasing revenue.
- The illegal destruction of trees in Jim Corbett can be seen in contravention of the 1983 Supreme Court judgment in *Rural Litigation and Entitlement Kendra vs. State of Uttar Pradesh*, which said that "economic growth cannot be achieved at the cost of environmental destruction and people's right to healthy environment."

The judgment

- National and State forest authorities have leaned on ecotourism to simultaneously attain conservation goals, enhance revenue, and improve the livelihoods of local people.
- In its recent judgment, instead of treating ecotourism as a panacea for conservation and revenue generation, the Supreme Court said that the approach must be of eco-centrism and not anthropocentrism.
- The court directed the banning of tiger safaris in core areas and the constitution of a committee to explore

the feasibility of permitting tiger safaris in peripheral areas in not just Jim Corbett, but across India.

- It also disagreed with the 2019 guidelines of the National Tiger Conservation Authority permitting a tiger safari on the lines of a zoo in a national park.
- According to British environmentalist Norman Myers, the precautionary principle is becoming an established principle for policymakers tackling environmental problems.
- The principle says that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent such environmental degradation.
- In salient respects, the principle applies to biodiversity more than any other environmental problem.
- This is because the mass extinction gathering force will, if it proceeds unchecked, not only eliminate half or more species but will leave the biosphere impoverished for at least 5 million years.
- The International Union for Conservation of Nature's Red List of Threatened Species monitors 1,212 animal species in India. In 2021, it found that 12% of them are endangered.
- According to a report of the Centre for Science and Environment in 2021, India has lost 90% of the area under its four biodiversity hotspots. The precautionary principle therefore applies not only in the case of tigers, but also other species, especially endangered ones.

Cost of restoration

- To identify the cost of restoration and recover the same from the errant individuals and officers appears to be a mirage in the absence of a well-defined methodology.
- Recovering the cost of restoration does not amount to necessarily recovering the loss of the ability of the environment to provide goods and services.
- In India, the framework of valuation which predated the T.N. Godavarman case (1996) was aimed at replacing lost natural forest with compensatory plantations.
- The two choices which are supported legally and institutionally and serve as the background for the valuation of forest land in India are now compensatory afforestation levy and net present value (NPV).

- The levy is essentially a form of replacement cost, designed to replace the forest land which was lost as a result of diversion of forest towards non-forestry use.
- Since the levy is found to be insufficient in terms of making good the loss, the Court introduced the NPV in 2002 as an additional payment obligation.
- But both these methodologies do not rightly account for the correlation between the removal of trees and the harm caused to other environmental goods and services.

Way forward

- In the context of the growing degradation of biodiversity hotspots and the support to revenue-generating eco-tourism, a valuation method which is based on ecosystem services (food, water, and services regulating the climate and floods, etc.) is a must.
- The system refers to the benefits people obtain from natural ecosystems in contrast with man-made structures.

ECI WALKS THE EXTRA MILE TO REACH AT THE DOORSTEP OF ELDERLY AND PWD VOTERS



Why in news?

- In a pathbreaking initiative, the Election Commission of India (ECI), for the first time in a Lok Sabha Election, has provided the facility of home voting for the elderly and Persons with Disabilities in the 2024 Lok Sabha elections.
- Voters above 85 years of age and Persons with Disabilities (PwDs) with 40% benchmark disability can avail the optional home voting facility.
- Voters in this category have already began casting their votes for phase I and II of polling.
- This initiative marks a significant stride towards ensuring inclusivity and accessibility of the electoral process and in bolstering democratic participation.
- There are over 81 lakh 85+ aged voters and 90 lakh + PwD voters registered across the country.

Expression of Care & Respect by ECI

- Chief Election Commissioner Shri Rajiv Kumar along with Election Commissioners Shri Gyanesh Kumar

and Dr Sukhbir Singh Sandhu had announced that by giving home voting facility to elders and PwDs, it is Commission's expression of care and respect towards them and hoped that it would set an example for society to adopt it in day-to-day life.

- Voters who availed the home voting facility in phase 1 polls have expressed gratitude and satisfaction for the ECI initiative.
- Voting from home takes place with involvement of a full contingent of polling staff and security personnel with secrecy of voting diligently maintained.
- With this, ECI has taken another decisive step towards facilitating a more equitable and representative democracy, where every citizen's voice matters, regardless of physical limitations or age.

Impact of home Voting Facility

- Stories are being reported from different parts of the country where home voting is being conducted.
- These testimonials underscore the transformative impact of home voting, not just as a logistical convenience but as a symbol of inclusivity, empathy and empowerment within the democratic fabric of our society.
- Identifying the 85-year-olds and the Persons with Disabilities in the country's vast electoral roll has in itself been a herculean task.

About Home Voting Facility:

- The provision of home voting is a progressive measure aimed at empowering voters who encounter barriers to participating in the electoral process at the polling stations.
- **Specifically, this facility is extended to two key demographic groups:** persons with disabilities (PwDs) meeting the 40% benchmark disability criteria and senior citizens aged above 85 years.
- By extending this optional facility to these segments of the voters, the Election Commission recognizes the need to ensure that citizens' right to vote is not encumbered by physical barriers and disabilities.
- This upholds the Commission's motto of ensuring - No voter is left behind.

Procedure of Home Voting facility

- The procedure to avail this facility is simple yet thorough.
- Within five days of the election notification, eligible voters must complete Form 12D and submit it to the returning officer.
- PwD voters submit a baseline disability certificate with their applications.
- Booth Level Officer (BLO) is responsible for retrieving Form 12D from the elector's place of residence when the required documentation has been completed.
- Candidates receive a list of these electors in order to maintain accountability and transparency; if they

wish, they can choose a representative to supervise the process.

- ⇒ Following this, a dedicated team of polling officials along with security officials visits the voter's residence to collect their votes.
- ⇒ Crucially, voters are notified ahead of time of the planned visit, allowing them to be prepared to exercise their right to vote in a safe and comfortable manner.
- ⇒ To further expedite the procedure and improve accessibility, voters can also receive notifications via SMS about the days when their home voting facility will be active.
- ⇒ The complete process is video-graphed for transparency.

Way Forward

- ⇒ This initiative underscores the ECI's dedication to leveraging technology to enhance the electoral process.
- ⇒ From digital notifications to the deployment of videographers, the incorporation of innovative solutions facilitates a seamless and transparent voting experience for eligible individuals.
- ⇒ As India gears up for the 2024 Lok Sabha elections, the introduction of home voting stands as a testament to the ECIs unwavering commitment to upholding participative, inclusive and accessible elections.

HOW ARE SYMBOLS ALLOTTED TO POLITICAL PARTIES?



Why in news?

- ⇒ The Naam Tamilar Katchi (NTK) that secured 3.9% and 6.5% votes in Tamil Nadu in 2019 and 2021 respectively, has been allotted a new common symbol (Mike).
- ⇒ The Viduthalai Chiruthaigal Katchi (VCK) that secured 1.09% and 0.99% votes in 2019 and 2021 has been denied a common symbol (Pot).
- ⇒ This has raised questions about the allotment of symbols to 'registered unrecognised parties'.

Election Symbols (Reservation and Allotment) Order, 1968

- ⇒ A party is recognised as a 'national' or 'state' party under the provisions of the Election Symbols

(Reservation and Allotment) Order, 1968 (Symbols Order) by the Election Commission of India (ECI).

- ⇒ The criteria for recognition at the State level consists of
 - (a) winning one Lok Sabha seat for every 25 seats or 3% of Legislative Assembly seats or
 - (b) winning one Lok Sabha or two Assembly seats along with 6% of votes polled or
 - (c) securing 8% of votes polled in a general election.
- ⇒ Symbols are allotted to political parties and contesting candidates as per the provisions of the Symbols Order by ECI.

Importance of Political Party Symbol

- ⇒ In the largest democracy where a sizeable population is still illiterate, symbols play a crucial role in the voting process.
- ⇒ A recognised political party has a reserved symbol that is not allotted to any other candidate in any constituency.
- ⇒ For registered but unrecognised political parties, one of the free symbols is allotted as a common symbol during an election if that party contests in two Lok Sabha constituencies or in 5% of seats to the Assembly of a State as the case may be.

What is the current issue?

- ⇒ Rule 10B of the Symbols Order provides that the concession of a common free symbol shall be available to a 'registered unrecognised party' for two general elections.
- ⇒ Furthermore, a party shall be eligible for a common symbol in any subsequent general election if it had secured at least 1% of votes polled in the State on the previous occasion when the party availed of this facility.
- ⇒ Such an unrecognised party should however apply for a symbol every time in the prescribed format. This application can be made any time during the period commencing six months prior to the expiry of the term of the Lok Sabha or State Assembly as the case may be.
- ⇒ The symbols are thereafter allotted on a 'first-come-first-served' basis.

Issue with NTK

- ⇒ In the above cases, the NTK had secured more than 1% of votes in the last two elections with the common symbol of 'Ganna Kisan'.
- ⇒ However, since they applied for that symbol only in February 2024, the ECI had allotted that symbol to Bharatiya Praja Aikyata Party (BPAP), that had applied earlier, based on the 'first-come-first-served' rule.
- ⇒ However, the BPAP has not contested elections in Tamil Nadu before.
- ⇒ The VCK was declined allotment of a common symbol as it had failed to secure 1% of votes polled

in the elections to the State Legislative Assembly in 2021.

- The VCK notably has one Lok Sabha MP and four MLAs in Tamil Nadu contesting on the 'Pot' symbol in 2019 and 2021 elections.

What can be the way forward?

- The ECI has decided on the applications of NTK and VCK as per existing rules.
- However, it is counter intuitive from a layman's perspective that the NTK which secured more than 6% of votes polled is not allotted the previous common symbol of its choice.
- It would be equally baffling for an average voter that the VCK which has elected representatives is ineligible to obtain a common symbol.
- The two VCK candidates have been eventually allotted the free symbol of 'Pot' by the respective returning officers.

Conclusion

- The existing threshold for recognition of a party may continue.
- The candidates set up by recognised parties enjoy the advantage of being listed at the top of the ballot in the Electronic Voting Machine.
- Nevertheless, the ECI may consider amending the rules that registered unrecognised parties that secure at least 1% of votes polled in a previous election or have an elected representative in the Lok Sabha or State Assembly, shall have the right to be allotted a common symbol of their choice.
- This would ensure a fair weightage being given for their past electoral performance and strengthen the democratic process.

PARLIAMENTS PAST, A MIRROR TO CHANGING DYNAMICS



Context

- The article reflects on the performance and trends in the 17th Lok Sabha, highlighting shifts in parliamentary focus, declining interest in national security, and emerging priorities in health and agriculture ministries.

Introduction:

- The 17th Lok Sabha concluded its proceedings on a Saturday, deviating from its usual schedule, raising questions about historical parallels and expectations for the 18th Lok Sabha.

Performance of Ministries:

- The Prime Minister's Office faced a surge in questions from Rajya Sabha MPs, but only a fraction were answered, indicating waning interest in seeking answers.
- Ministries of Health and Family, and Agriculture and Farmers' Welfare emerged as top priorities with the highest number of questions, reflecting evolving interests of elected representatives.
- Conversely, interest in matters of national security and internal affairs declined, with the Ministry of Home Affairs fading from prominence, raising concerns about shifting priorities.
- The Ministry of Finance witnessed a decline in parliamentary interest, indicating disengagement despite increased questions admitted for deliberation, signaling a commitment to transparency.

Impact of COVID-19:

- Despite disruptions in the educational landscape due to the pandemic, education remains among the top five Ministries subject to rigorous questioning, reflecting its enduring significance.
- However, there has been a rise in disallowed questions, casting doubts on oversight efficacy, especially in crucial sectors.

Trends in Parliamentary Proceedings:

- In the Lok Sabha, the percentage of disallowed questions showed a downward trajectory across successive Lok Sabhas, but the trend reversed in the Rajya Sabha.
- Zero Hour interventions witnessed a significant surge, indicating heightened focus on addressing pressing issues and seeking clarifications from the government.
- Other interventions like 'Half-an-Hour Discussions', 'Short Notice Questions', 'Calling Attention', 'Short Duration Discussions', and 'Special Mentions' saw dwindling usage.

Opportunities and Oversight:

- The 16th Lok Sabha demonstrated higher proactivity in question admission and discussions, but instances of oversight, like failure to raise privilege motions, underscored the need for accountability.
- Missed opportunities, such as the failure to discuss student suicides due to competitive exams in the Winter Session, highlight the need to address societal concerns through parliamentary channels.
- Changing parliamentary dynamics emphasise the need to revitalise legislative engagement to ensure

accountability, foster constructive debate, and prioritise national welfare.

Conclusion:

- The evolving trends in parliamentary proceedings necessitate a renewed focus on accountability, constructive debate, and policy enactment for the welfare of the nation and its citizens.

THE PMLA - A LAW THAT HAS LOST ITS WAY



Context

- The most serious aspect of the Prevention of Money Laundering Act (PMLA) is the inclusion of offences which have nothing to do with the original motive namely, to combat the laundering of drug money.

PMLA

- The Prevention of Money Laundering Act (PMLA), 2002 was enacted with a distinct objective.
- The humongous volume of black money generated through international drug trafficking posed a grave threat to the economy of many countries.
- There was widespread realisation that the black money generated through the flourishing drug trade and integrated into the legitimate economy was likely to destabilise the world economy and endanger the integrity and sovereignty of nations.

The background to the law is important:

- The United Nations took serious note of this, and in 1988, held the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.
- All countries were urged to take urgent steps to prevent the laundering of the proceeds of drug crimes and other connected activities.
- Subsequent to this, seven major industrial nations held a summit in Paris and established the Financial Action Task Force (FATF) to examine the problem of money laundering and recommend measures to tackle this menace.
- Thereafter, in 1990, the United Nations General Assembly adopted a resolution, namely, the Political Declaration and Global Programme of Action which called upon all member-countries to enact suitable

pieces of legislation to effectively prevent the laundering of drug money.

- In pursuance of this resolution of the UN General Assembly, the Government of India used the recommendations of the FATF to formulate a legislation to prevent drug money laundering.

The PMLA's enactment and issues:

- Further, the PMLA was enacted by India's Parliament under Article 253 which empowers it to make laws for implementing the international conventions.
- This Article indicates that a law Parliament makes to implement any decision of an international body will be confined to the subject matter of that decision.
- Item 13 in the Union list of the Seventh Schedule of the Constitution is specific on this point.
- A close look at the schedule will convince a man of ordinary prudence that this law has deviated from its original scheme.
- The provisions contained in it are draconian which were meant to deal with the dangerous men involved in drug trafficking and the money chain.
- These provisions are now being used in other scheduled offences too without mitigating their rigour.
- Offences which by their very nature do not generate crime proceeds of a scale which can destabilise the economy and endanger the sovereignty of the nation are being tried under this law.
- One such example is the Prevention of Corruption Act, 1988 which is aimed at curbing corruption among public servants. This Act was added to the schedule of offences in 2009.
- The PMLA now applies with all its rigour to public servants. Thus, a public servant charged with corruption and a hard-core drug trafficker are treated alike.
- A very disturbing thing about the PMLA is that an accused under this law is presumed to be guilty until proved innocent.

Conclusion

- Personal liberty, deprived when bail is refused, is too precious a value of our constitutional system recognised under Article 21 that the curial power to negate it is a great trust exercisable, not casually but judicially, with lively concern for the cost to the individual and the community.
- Therefore the government and judiciary together should take steps to address this issue.

THE UMPIRE CANNOT BE SILENT

Context:

- The article is about concerns raised by former Chief Election Commissioners about recent actions by tax agencies against opposition parties, which they fear could disrupt the fairness of elections.



- ⇒ They emphasize the need for the Election Commission to intervene and ensure a level playing field by deferring such actions until after elections.
- ⇒ The article also highlights historical instances of EC interventions and the importance of upholding the Model Code of Conduct to regulate political conduct during elections.

Impact on Free and Fair Elections:

- ⇒ Former CECs, speaking both anonymously and on record, emphasized that actions by tax agencies, such as freezing accounts and issuing notices, could interfere with the conduct of free and fair elections.
- ⇒ They suggested that the Election Commission (EC) should engage with these agencies to defer such actions until after elections to ensure a level playing field for all political parties.

Upholding Electoral Integrity:

- ⇒ Former CECs stressed the importance of the EC's role in safeguarding electoral integrity.
- ⇒ They argued that disrupting the financial resources of opposition parties could hinder their ability to contest elections effectively.
- ⇒ They called for the EC to play a persuasive role in consulting with central agencies to postpone actions like raids and freezing of accounts until after elections to maintain fairness.

Historical Precedents and EC Interventions:

- ⇒ The article mentions historical instances where the EC intervened to ensure fairness during elections.
- ⇒ In 2019, the EC issued advisories to enforcement agencies to act impartially, and similar directives were issued in 2009.
- ⇒ These interventions illustrate the EC's commitment to maintaining a neutral and impartial electoral environment.

Role of Model Code of Conduct (MCC):

- ⇒ The MCC plays a crucial role in regulating the conduct of political parties and governments during elections.
- ⇒ The former CECs highlighted instances where the EC intervened to prevent violations of the MCC, such as

prohibiting the announcement of financial grants or inductions into the Council of Ministers that could influence voter behavior.

Strengthening Electoral Processes:

- ⇒ The response of political leaders, such as former Chief Minister Manohar Parrikar's willingness to defer the induction of a minister based on the EC's advice, reflects a commitment to upholding democratic principles.
- ⇒ Such instances strengthen the delicate balance between constitutional rights and the ethical imperatives outlined by the MCC, ultimately enhancing the credibility of Indian elections on the global stage.

What are the reforms recommended by the Election Commission of India?

- ⇒ The Election Commission of India (ECI) has made several recommendations for electoral reforms over the years to improve the electoral process and ensure free and fair elections. Some of the major recommendations are:
 - ⇒ The Commission is of the view that the law should be amended to provide that a person cannot contest from more than one constituency at a time.
 - ⇒ Election commission endorsed the call for a lifetime ban in the apex court. It had argued that such a move would "champion the cause of decriminalization of politics".
 - ⇒ The Commission proposes that where any general election is due on the expiration of the term of the House, advertisements of achievements of the governments, either Central or State, in any manner, should be prohibited for a period of six months prior to the date of expiry of the term of the House.
 - ⇒ The Election Commission proposes an amendment to provide the same protection and safeguard in the matter of removability of Election Commissioners from office as is available to the Chief Election Commissioner.
 - ⇒ The decisions relating to anti-defection matters should be rendered by the President or the Governor with the recommendation of the Election Commission.
 - ⇒ There should be the use of common electoral rolls at elections conducted by the Election Commission and the State Election Commissions.
 - ⇒ Election Commission proposes that making false declarations concerning elections be an offense.
 - ⇒ Rule-making authority under the Representation of the People Act, 1950, and Representation of the People Act, 1951, should be conferred on the Election Commission instead of the Central Government.

TURNING SEAWARD



Introduction:

➤ A report in The Indian Express revealed the government's expansive plans to transform the Andaman and Nicobar Islands into a genuine security sentinel to the east of peninsular India and a crucial node for peace and security in the Indo-Pacific.

The closed territory will become the biggest strategic asset of India in the Indian Ocean

- The report points to the rapid expansion of military infrastructure in the island chain that will allow the basing of advanced military platforms, improve communication and surveillance infrastructure, and the permanent deployment of troops.
- These plans mark the end of Delhi's prolonged strategic neglect of these islands.
- Tucked away under the control of the Union Home Ministry, the islands were treated as closed territory, with limited access to the Indian mainland and no connection to the neighbouring South East Asian nations.
- The NDA government deserves credit for recognising the strategic and economic significance of the Andaman and Nicobar Islands and Lakshadweep.

Islands saw India's journey from the British imperial era to a more isolationist era

- Given its deep maritime orientation and a global primacy rooted in naval power, the British Raj was conscious of the value of island territories – as crucial places for trans-oceanic commerce and the projection of power in the emerging age of capitalism and great power competition for markets and geopolitical influence.
- The innocent internationalism of independent India, its inward economic orientation, preoccupation with the consequences of Partition, and the Chinese occupation of Tibet, saw India pay little attention to its vast possibilities at sea despite a long coastline and the vital location of its two island chains.
- As Delhi's economic reforms began to change the picture in the 1990s, it was the Indian Navy that called for a fresh perspective on sea power.

- It was hard to change landlubbers that dominated India's policy establishment in Delhi.
- Even when they moved, for example, with the setting up of the first and only joint tri-service command at Port Blair in 2001, it was never given the financial and military resources to realize the full potential of the Andaman and Nicobar Island chain.

China's geopolitical ambitions have woken up India from its slumbers

- Successive coalition governments did not have the strategic bandwidth or the bureaucratic energy to do justice to the island territories.
- It needed a strong government in Delhi, with a full majority and the political will of Prime Minister Narendra Modi, to force policy changes in the maritime domain.
- Delhi's maritime push to develop the islands was reinforced by China's naval pull.
- Since the turn of the 21st century, a rising China began to send regular naval squadrons into the Indian Ocean and develop bases and dual-use facilities at key locations in the littoral.
- Like the British Raj, a rising China had the geopolitical sensibility of a great maritime power and understood the strategic value of islands.
- It made consistent political outreach to island states in the Indian Ocean – from Sri Lanka and Maldives to Seychelles and Mauritius.
- Even as it began to compete with China, Delhi has woken up to the possibility of developing its own ignored island territories.
- It is for a good reason that the Chinese strategic community calls the Andaman and Nicobar Islands a "metal chain" strung right down the Bay of Bengal to the mouth of the Malacca – with the potential to block China's access to the Indian Ocean.
- A bestirred Delhi will hopefully waste no time in turning its impressive plans into concrete outcomes.

Conclusion:

- Delhi has woken up to the need for developing its ignored island territories. Focus on Andaman and Nicobar is welcome.

A BATTLE TO SAVE LADAKH, AND ALL OF HUMANITY

Context

- Recently, it was found that Ladakh is currently at the forefront of a battle that concerns not just its own survival, but the survival of all of humanity.

About the Ladakh

- Ladakh is a land of high passes, snow-capped mountains, and serene monasteries nestled between Pakistan and China.



- It was established as a Union Territory of India in 2019, following the passage of the Jammu and Kashmir Reorganisation Act. Prior to that, it was part of the Jammu and Kashmir state.

Geographical Features:

- Ladakh is located at a height of 11,500 feet and is home to 97% indigenous tribes.
- It is bordered by the Tibet Autonomous Region to the east, the Indian state of Himachal Pradesh to the south.
- Both the Indian-administered Union Territory of Jammu and Kashmir and the Pakistan-administered Gilgit-Baltistan to the west, and the southwest corner of Xinjiang across the Karakoram Pass in the far north.

Economy and Lifestyle:

- The economy of Ladakh is largely dependent on domestic and foreign tourism, and agriculture.
- Many of its residents lead simple pastoral lives and depend on farming and animal rearing for a livelihood.

Cultural Heritage:

- The main religious groups in the region are Muslims (mainly Shia) (46%), Buddhists (mainly Tibetan Buddhists) (40%), and Hindus (12%) with the remaining 2% made of other religions.
- The region is known for its festivals, traditional music, and folk dances.

What are the key issues ahead of Ladakh?

- The Fragile Ecosystem of Ladakh:** The Himalayan region faces the damaging effects of climate change through floods, drought, landslides, greenhouse gases, and other pollutants.
- There are about 15,000 glaciers in the Himalayan region, often referred to as the Third Pole.
- These glaciers form an important part of the hydrological process by releasing meltwater to the Indus, the Ganga, and the Brahmaputra.
- The Threat of Climate Change:** The Himalayan glaciers, like those in the rest of the world, are at risk of melting due to global warming and climate change.

- It will affect both residents of the mountain region and those living downstream.
- According to a study published in 2021, glaciers in the Pangong region retreated around 6.7% between 1990 and 2019.
- The Role of Infrastructure Development:** In the name of development, several mega infrastructure projects were launched at a rapid pace in Ladakh.
- These included the construction of bridges, widening of roads, tunnels, railway lines, mega solar projects, a state-of-the-art airport terminal and wayside amenities to boost tourism.
- However, these developments have upset the fragile balance in the Himalayan ecosystem and its biodiversity.

Other Issues Faced By Ladakh

- No decentralisation of power:** There had been four MLAs from the region in the erstwhile J&K Assembly; the administration of the region is now completely in the hands of bureaucrats.
- To many in Ladakh, the government now looks even more distant than Srinagar.
- Changed domicile policy in Jammu and Kashmir:** It raised fears in the region about its own land, employment, demography, and cultural identity.
- Limited Finances:** The UT has two Hill Councils in Leh and Kargil, but neither is under the Sixth Schedule.
- Their powers are limited to collection of some local taxes such as parking fees and allotment and use of land vested by the Centre.

Related Key Recommendations

- Climate Change Mitigation:** Sonam Wangchuk, a climate activist, has highlighted the larger issue of the fragility of the Himalayan ecosystem. In response to these threats, he addressed a 30,000-strong crowd at Leh, Ladakh to announce his fight is not just about Ladakh and its people. It is a battle for all of humanity and its future generations.
- Sustainable Infrastructure Development:** The rapid pace of infrastructure development in Ladakh, including the construction of bridges, roads, tunnels, railway lines, and solar projects, has disrupted the fragile Himalayan ecosystem. There is a need for sustainable development that takes into account the environmental impact.
- Empowerment of Local Bodies:** The local bodies known as the Ladakh Autonomous Hill Development Councils had a key role in decisions related to healthcare, land, and other local issues. There is a need to empower these local bodies and give them more say in developmental projects.
- Protection of Cultural Identity:** There is a growing concern among locals about the loss of their tribal identity due to the influx of outsiders and

industrialists. Measures need to be taken to protect Ladakh's unique culture and language.

- ⇒ **Carbon Neutral Strategy:** The National Mission for Sustaining the Himalayan Ecosystem (NMSHE) under the Ministry of Science and Technology has been tasked with developing a capacity to scientifically assess the vulnerability of the Himalayan region to climate change. A carbon neutral strategy for Ladakh is needed to address potential environmental challenges.
- ⇒ **Constitutional Safeguards:** The people of Ladakh have been demanding constitutional safeguards to protect their land, culture, language, and environment. These demands need to be addressed to ensure the protection of Ladakh's unique identity.
- ⇒ Recently, the Union Government has agreed to examine whether the provisions of the Sixth Schedule of the Constitution can be implemented in Ladakh's context.

Sixth Schedule

- ⇒ It comes under Article 244 that provides for the formation of Autonomous Administrative Divisions – Autonomous District Councils (ADCs) – that have some legislative, judicial, and administrative autonomy within a state.
- ⇒ It applies to the Northeastern states of Assam, Meghalaya, Mizoram (three Councils each), and Tripura (one Council).

Other Recommendations

- ⇒ **National Commission for Scheduled Tribes (NCST):** In September 2019, the National Commission for Scheduled Tribes recommended the inclusion of Ladakh under the Sixth Schedule. The Commission took note of the fact that the newly created Union Territory of Ladakh is predominantly a tribal region in the country.
- ⇒ **Report highlights of the Parliamentary Standing Committee:** The Parliamentary Standing Committee on Home Affairs recently tabled a report in the Rajya Sabha. The report stated that, according to the 2011 Census, the tribal population in the Union Territory of Ladakh is 2,18,355, that is 79.61% of the total population of 2,74,289.
- ⇒ **Special Status:** The committee recommended that special status may be granted to the Union Territory of Ladakh considering the developmental requirements of the tribal population.

A MANY SPLENDURED FIELD

Introduction

- ⇒ Voting is now underway in the largest democratic exercise on the planet.
- ⇒ It is a complex exercise that led to some misunderstanding by outside observers, especially Western media.



The massiveness of Indian elections

- ⇒ To put the scale of the Indian electoral process into perspective it is important to recognise that the number of voters in India, at 969 million, is more than the combined voters across the United States, Indonesia, Russia, Bangladesh, Pakistan, South Africa and Mexico.
- ⇒ The size of the Indian electorate is more than the entire population of Europe.
- ⇒ With more than 5.5 million electronic voting machines deployed across 1.05 million polling stations, Indian democracy puts to shame even the advanced West in its embrace of technology to make democracy work at the scale of a billion.
- ⇒ With several thousand registered political parties and many more thousand candidates, elections in India are a testament to the resilience of democracy in the face of geographical diversity and socio-economic complexities.

The poor understanding of Indian democracy by global media

- ⇒ The scale and complexity of democracy in India is poorly understood by much of the global media and many Western observers which results in patently absurd pronunciations on the health of Indian Democracy based on flawed assessments.
- ⇒ Two illustrative examples should make this quite apparent.
- ⇒ In a recent comment noted geopolitical expert and the President of Eurasia Group, Ian Bremmer observed that in Mexico at least 22 mayoral candidates had been murdered since September 2023.
- ⇒ One would think that murderous political violence of this nature that not only impacts outcomes in electoral democracy but results in a pervasive climate of fear, ought to have a bearing on the democratic ranking of Mexico.
- ⇒ Incidentally, the famed V-Dem Index of Democracy ranks Mexico at 81, several notches above India which was ranked at 110.
- ⇒ Contradictions of this nature are not limited to the Democracy Index alone.

- The Press Freedom Index of RSF ranks Mexico well above India when in fact according to the Reuters Institute of Journalism, Oxford University, Mexico is the most dangerous country for journalists, recording more journalistic deaths in the line of duty than the war zones of Ukraine and Syria.

The democratic backsliding allegation is not substantiated by ground reality in India

- A commonly used phrase in much of the global commentary spelling doom on Indian democracy is "democratic backsliding".
- It is puzzling how routinely and often mindlessly this phrase is applied in the context of India despite the country's electoral system being as vibrant as ever before with both the ruling BJP and the opposition Congress party winning and losing state elections every election season.
- Another oft-repeated claim is about the "shrinking freedom of expression", a claim that flies in the face of the diversity of opinion that is expressed every day across the spectrum of media, traditional and digital, apart from a noisy and raucous social media.

The independence of constitutional bodies is intact

- India's independent institutions from the courts to the Election Commission have maintained a high degree of integrity that rises above the partisan rhetoric of everyday politics.
- A case in point is the recent Supreme Court ruling on electoral bonds that went against the government weeks before the elections were due.
- Similarly, the Election Commission has been even handed in its enforcement of the model code of conduct ahead of the elections.

India's ruling party is not cynically anti-opposition

- Prime Minister Narendra Modi has also stumped his critics and media observers more than once with his outreach across the political spectrum.
- Of particular note is the decision by the Modi government to confer the Bharat Ratna on former President, the late Pranab Mukherjee, who belonged to the Congress Party.
- Modi has set aside partisan considerations to bestow state honours on more than 15 politicians across parties and regions.
- This includes many current and former political rivals such as Sharad Pawar, Ghulam Nabi Azad and the late Chief Minister of West Bengal Buddhadeb Bhattacharjee apart from the late P A Sangma from Meghalaya and the iconic film personality Chiranjeevi.
- Most recently PM Modi has also honoured iconic stalwarts of diverse ideological persuasions with the Bharat Ratna like the late Charan Singh, P V

Narasimha Rao and Karpoori Thakur, all of who had little in common politically either with the BJP or its parent organisation the Jan Sangh.

- In fact, under Modi's premiership, the widest pantheon of leaders and iconic personalities across political parties and ideological persuasions from every region of India have been recognised, celebrated and even given a prominent space in the newly built Museum of Prime Ministers.
- In the face of this outreach across the political spectrum, it is strange that alarmist pronouncements on the so-called stifling of political opposition have been made.
- While the political level playing field in India remains as competitive as ever before, what we are witnessing is specific political parties and individual political leaders being held accountable for alleged acts of corruption and tax evasion.

Western democracies have different views on the rule of law

- A striking feature of most Western democracies is the unflinching manner in which the rule of law gets applied irrespective of political station or ideological persuasion.
- Politicians at all levels in Western democracies have been held to account for their acts of omission and commission including some serving jail time.
- In stark contrast, arguments advanced by global media commentators seem to call for circumventing the law in India to suit the political convenience of specific parties and individuals.
- These arguments, by casting doubts on the process of law, are contemptuous of the independence of the judiciary which continues to be ever vigilant in upholding the Constitution.

Conclusion

- Indian democracy is vibrant and competitive. The Indian state has upheld the rule of law without compromising on constitutional values.
- By failing to make this critical distinction, those who are spelling doom on democracy in India have unwittingly reduced themselves to agents of partisan politics in India.

BRINGING UP A CHILD

Introduction

- Underscoring the centrality of the provision of child care leave (CCL) to women's participation in the workforce, the Supreme Court bench of Chief Justice of India D Y Chandrachud and J B Pardiwala delivered a judgment that has significant implications for female employment in the country.

What was the matter before the court?

- The Court was hearing a plea by an assistant professor in a government college in Himachal

Pradesh who had been denied CCL – introduced by the sixth CPC for central government employees in 2008 to tend to her child suffering from a rare genetic disorder because the state government has no such provision and she had exhausted her leave quota.

- The SC has asked the state chief secretary to form a committee to initiate policy changes and noted, “Participation of women in the workforce is a matter not just of privilege but a constitutional entitlement protected by Article 15.
- The state as a model employer cannot be oblivious to the special concerns which arise in the case of women who are part of the workforce.”



The peculiar case of women employment in India

- The Periodic Labour Force Survey Report 2022-23 shows that the female labour force participation rate jumped to 37 per cent, a significant increase of 4.2 percentage points compared to the previous year.
- Yet, in a country that hopes to capitalise on its “nari shakti”, there are not enough provisions to ensure that this passage is smooth.
- It is no secret that women, whether employed or otherwise, carry a disproportionate burden of care responsibilities at home and outside of it.
- According to a study undertaken by Karmannaya Counsel, CII and Nikore Associates in partnership with the Ministry of Women and Child Development and Bill and Melinda Gates Foundation to address the lacuna in the system, women in India perform over eight times the amount of unpaid work, valued at 15 per cent to 17 per cent of GDP notionally.
- Motherhood is exacting, but so is housekeeping and elderly care, demanding, necessarily, the ability to be everything everywhere all at once.
- It often means that women drop out of the workforce mid-career or take a hit in their professional growth.

What are provisions of child care leaves across world?

- Eastern Europe and Central Asia tend to have the longest mandated leave, sometimes exceeding 150 weeks. Countries like Romania and Estonia are frontrunners.

- Many European nations offer generous leave, with some like Denmark, Norway, and Sweden providing extended leave that can be shared by parents.
- The US stands out among developed nations for not having mandated paid parental leave. The Family and Medical Leave Act (FMLA) offers unpaid leave, but it applies only to certain company sizes.

What more can be done to raise women's employment?

- While progressive legislation is essential to plug the gaps, other aspects need to be addressed as well.
- By 2050, the share of senior citizens in India is expected to rise to 20.8 per cent of the population.
- Investing in infrastructure that will ensure ease of access to affordable and specialised child and elder care is crucial to meet the challenges.
- There is also the important task of fostering a gender-neutral approach to care work, including and not limited to child care, that is integral to dismantling stereotypes and taking into account the changing nature of families.
- The extension of CCL to all employees, irrespective of gender, would be a step forward.

Conclusion

- SC ruling on child care leave as a constitutional entitlement is important. But for an even playing field, a lot more needs to be done.

FARM TALK



Introduction

- One is promising what is probably a pie in the sky and the other more of the same.
- That, perhaps, is also reflective of the two rivals' relative self-confidence. The election manifesto of both BJP and Congress gives a glimpse of future planning regarding the agriculture sector.

The BJP has promised to raise the income support to farmers

- The BJP's 2024 Lok Sabha election manifesto is shorn of populism when it comes to farmers.
- It talks about a continuing increase in minimum support prices (MSPs) of crops “from time to time”

(which the Narendra Modi government has anyway been doing) and providing “sustained financial support for our farmers” through the Pradhan Mantri Kisan Samman Nidhi (without specifying whether or by how much the current Rs 6,000 annual transfer under it will be raised).

- The 2024-25 interim Budget, unlike the one five years ago, did not announce any hike in the PM-Kisan scheme payout or other giveaways.
- The Modi government didn't see any need for these before the model code of conduct came into effect, nor does the BJP feel the need now.

Apart from raising financial support, noting new for the farmers

- The protests against the three farm laws were one of the most serious challenges the Modi government had to face in its 10 years.
- It was forced to repeal them, just as the ordinance amending the Land Acquisition Act was allowed to lapse during its first term.
- The BJP manifesto's merely reiterating the government's existing or proposed programmes – including the not-so-far-successful ones, like making India “atmanirbhar” (self-reliant) in pulses and edible oils, establishing clusters for production of essential TOP (tomato, onion, potato) vegetables and promoting natural farming – may demonstrate its conviction of returning for a third term.
- The manifesto is, however, silent on the farm laws.
- The party clearly does not want to rock the political boat, or commit to things it does not consider feasible to deliver.

Congress wants to legalize MSP

- On the other hand, in its manifesto, Congress has pledged to give a “legal guarantee” to MSP.
- How this would be done – making it a right for farmers to receive and obligatory for the government to ensure MSP – is not spelt out.
- As most economists have argued, a “legal MSP” is neither fiscally nor physically sustainable.
- How credible the promise is to the farmers themselves also remains to be seen.

Both parties emphasize R&D in agriculture

- That said, there are good things in both manifestos.
- The Congress has promised to “double” the funding for R&D in agriculture in five years, while the BJP has stressed on technological interventions to enable more accurate assessment of crop loss and faster payouts under the PM Fasal Bima Yojana.
- Unfortunately, what is missing in both documents is a vision for Indian agriculture.
- Producing more from the same or less quantity of water, nutrients and energy requires politically-sensitive input pricing decisions.

- But that may be too much to expect from election manifestos.

Conclusion

- After seeing through the rhetoric, one can conclude that BJP's manifesto skirts populist promises, while Congress's manifesto doesn't.
- But both the parties' manifestos lack a vision for the agriculture sector. The good part for agriculture is that both of parties want R&D in agriculture to grow.

INDIA'S GENERAL ELECTIONS 2024 PUT FOCUS ON ELECTORAL REFORMS



Context:

- Amid India's General Elections 2024, there's renewed attention on past electoral reforms, ranging from the establishment of the Election Commission to the introduction of Electronic Voting Machines and recent modifications in the appointment procedure for election commissioners.
- These reforms signify the ongoing evolution and strengthening of India's electoral system, embodying the spirit of democratic advancement.

Key Electoral Reforms Enacted in India

Establishment of Election Commission:

- Election Commission was founded on 25th January 1950 under Sukumar Sen's leadership with only a Chief Election Commissioner.
- The inaugural General Election took place from October 1951 to February 1952 with 17.5 crore voters participating.
- Universal suffrage was adopted for citizens above 21 years, despite challenges like an illiterate electorate and refugee populations.

Reduction in Voting Age:

- The 61st Constitutional Amendment Act of 1984 reduced the voting age from 21 years to 18 years for Lok Sabha and assembly elections to enable youth participation in the political process.

Role of Election Commission Personnel:

- In 1985, provision made for personnel engaged in electoral roll preparation to be on deputation to the Election Commission.

Multi-Member Election Commission:

- The Election Commission of India became a Multi-Member Commission in 1989 but reverted to a three-member body in 1993 (one Chief Election Commissioner and two election commissioners).

Introduction of Ballot Papers & Electronic Voting Machines (EVMs):

- Initially, individual colored ballot boxes were used for each candidate.
- The introduction of ballot papers streamlined the voting process, though challenges like potential errors and result delays persisted.
- In 1989, provisions were made for the use of EVMs in elections.
- EVMs were first used experimentally in selected constituencies in 1998 and in the general elections for Goa's Assembly in 1999.
- EVMs are indigenously designed, developed, and manufactured by Bharat Electronic Ltd. and Electronics Corporation of India Ltd.

Provisions Against Booth Capturing:

- In 1989, provisions were made to counter booth capturing, which includes seizing polling stations, threatening electors, and seizing places used for vote counting.

Model Code of Conduct (MCC):

- Model Code of Conduct (MCC) was originated in Kerala in 1960, and expanded by the ECI in collaboration with political parties by 1979 to curb unfair advantages by the ruling party.
- Electors' photo identity cards (EPICs) were introduced in 1993 during T.N. Seshan's tenure as CEC.

Equitable Media Time Allocation:

- A 2003 provision mandates the Election Commission to allocate equitable time on cable television and electronic media during elections.

Ban on Exit Polls:

- A 2009 provision prohibits conducting and publishing exit polls during elections to Lok Sabha and State Legislative Assemblies.

Online Enrollment in Electoral Roll:

- In 2013, provisions were made for online filing of applications for electoral roll enrollment through the Registration of the Electors (Amendment) Rules, 2013.

Introduction of NOTA:

- The Supreme Court directed the inclusion of the None of the Above (NOTA) option in ballot papers and EVMs in 2013, allowing voters to abstain from voting while maintaining ballot secrecy.

Implementation of Voter-Verifiable Paper Audit Trail (VVPAT):

- In 2011, a prototype was developed and demonstrated before the ECI.
- The Central government notified the amended Conduct of Elections Rules, 1961, enabling the use of VVPAT with EVMs in 2013.

NEW DATA LAW, A BARRIER TO JOURNALISTIC FREE SPEECH



Context

- In the Digital Personal Data Protection Act, 2023, the removal of 'journalistic exemption' highlights the need for more robust public consultation.

About

- In August 2023, India got its first comprehensive data protection law, the Digital Personal Data Protection (DPDP) Act, 2023.
- The law is largely based on users giving consent for the processing of their personal data.
- It provides basic rights such as access to and erasure of data, places some obligations on companies, and establishes a complaints body for grievance redress. However, the law might have an invisible impact on journalistic free speech.

An impediment

- Typically, data protection laws exempt journalistic activities from privacy obligations such as notifying users and taking their consent before using their personal data.
- Three previous drafts of the DPDP Act had exemptions for journalistic activities, but the final law withdrew such an exemption.
- The Editors Guild of India also pointed to this risk and in a letter to the government, requested that journalistic activities be exempted from the DPDP Act.
- It would impact a journalist as when all information about an MP is their 'personal data', which is data protected under the DPDP Act and consequently, any journalist who wishes to use this data will have to get their consent before publishing the story.
- Even after publication, the MP can exercise their right to erasure and request journalists to delete such stories.

- Further, the DPDP Act empowers the government to call for information from any data processor in India.
- Depending on how this provision is interpreted and applied, this may impact the confidentiality that journalists must maintain for their sources and research documents.
- Taken together, this need for journalists to get consent before publishing their story, the potential for the subject to rely on the right to erasure to have the story deleted, and the power of the government to call for information would likely impede a journalist's ability to discharge their role as the fourth estate – of holding the state accountable.

Suggestions

- One of the primary ways to get feedback on a law is to institute an 'open and transparent' public consultation model.
- Although the Indian government released three separate drafts of the data protection law for public consultation, none of the comments received on the drafts has ever been released in the public domain.
- This impedes the ability of citizens to understand what different stakeholders were saying and who was finally heard in the final formulation of the law.
- The government has also conducted invite-only town halls to gather feedback on drafts of the DPDP Act.
- And, no clarification was provided by the government for its withdrawal.
- Unfortunately, these consultations and town halls are often not conducive to enable open debate and deliberation on the proposed law and its provisions.

Way forward

- In addition to enabling an open and transparent consultation process, the government can swiftly remedy this problem via rules under the DPDP Act.
- Although an exemption for journalistic work should form part of the core text of the law, the government must use this rule to exempt journalistic entities, including citizen journalists, from any obligations under the DPDP Act.
- This will ensure that the DPDP Act does not have negative consequences on journalistic free speech in India.

RETROGRADE

Introduction

- It is an idea that harkens to perhaps the worst aspects of India's socialist past.
- The chairman of Indian Overseas Congress, Sam Pitroda's comments on the inheritance tax, have raised the spectre of wealth redistribution, almost four decades after the very same Congress party under Prime Minister Rajiv Gandhi had abolished it.



The history of wealth tax in India

- The use of inheritance tax as a tool for redistribution of wealth to address income inequality has been discussed widely.
- India did have an inheritance (or death) tax once.
- The tax, which was known as estate duty, was introduced in 1953, and was abolished in 1985 by the government of Rajiv Gandhi.
- India also had a wealth tax and a gift tax, which were abolished in 2015 and 1998 respectively.

Reason for abolition of wealth tax

- The then finance minister V P Singh had noted that the estate duty, or the inheritance tax as it was then called, had "not achieved the twin objectives with which it was introduced, namely, to reduce unequal distribution of wealth and assist the states in financing their development schemes."
- The then finance minister had acknowledged in his budget speech that collections from the tax were "only about Rs 20 crore" and its cost of administration was "relatively high".

The existence of wealth tax around the world

- A March 2024 note by the International Monetary Fund (IMF), said tax rates on wealth have generally declined around the world over the past decades, with a decline in average corporate income tax rates being an important component across country groups of all income levels.
- Citing data for the Organisation of Economic Co-operation and Development (OECD) countries, the IMF said 12 OECD members had wealth taxes in 1990, but only three (Switzerland, Spain, Norway) now levy a broad-based wealth tax.

Is the Congress party serious about the reintroduction of wealth tax?

- The chairman of Indian Overseas Congress, Sam Pitroda's comments on the inheritance tax were refuted as his personal opinion by the Congress party.
- Lately, Congress leader Rahul Gandhi himself has been promising promised a financial and institutional survey to find out who holds the country's wealth.

- ⇒ He added that, "after this historic step, we will take revolutionary measures." Read with Pitroda, there is an allusion to wealth redistribution.
- ⇒ The Congress party election manifesto, on the issue of tax, makes some encouraging noises – for instance, it speaks about ushering in an era of "transparency, equity, clarity and impartial tax administration", ensuring "stable personal income tax rates", "lessen(ing) the burden of tax", and eliminating "exploitative tax schemes".

Will taxing the rich help in wealth redistribution?

- ⇒ Researchers have flagged low tax rates often paid by wealthy individuals.
- ⇒ According to the EU Tax Observatory, an independent research laboratory at the Paris School of Economics, global billionaires have effective tax rates equivalent to 0-0.5% of their wealth due to the frequent use of shell companies to avoid income taxation.
- ⇒ A global minimum tax on billionaires, equal to 2% of their wealth, could potentially raise close to \$250 billion from fewer than 3,000 individuals annually, it said in its Global Tax Evasion Report 2024.
- ⇒ Wealthy taxpayers often reduce the incidence of average tax rates by exploiting loopholes and preferential treatments of certain capital income, the IMF said in its note.
- ⇒ Citing data from various studies, the IMF said the wealthiest 25 individuals in the US faced an effective average tax rate of only 3.25% while a rate of 9.4% was reported for the top 400 families.

The Congress party is not giving a clear message to its voters

- ⇒ That concentration of capital is a problem, that marginalised sections must get a leg-up, that efforts must be made to address inequalities of opportunity, expand the pie, is beyond debate.
- ⇒ The Congress has promised a socio-economic caste census as a tool of affirmative action that will address inequalities rooted in historical injustices.
- ⇒ Yet, the cavalier manner in which Gandhi has conflated these two issues, in the middle of an election campaign when there is little room for nuance, raises fears of a direct assault on wealth.
- ⇒ And that, too, when the story of India's wealth creation has just begun.
- ⇒ There are indications that more and more Indians from all walks of life are beginning to participate in wealth creation – there are now more than 150 million demat accounts in the country as per recent data.

Conclusion

- ⇒ By portraying the caste census as a magic wand that will deliver justice to one and all, by loosely talking of "surveys" and "revolutionary" steps, by floating

the inheritance tax trial balloon, the Congress does a disservice to its own economic journey three decades after the landmark 1992 reforms that brought the curtains on the Licence Permit Raj.

RIGHTS AND WRONGS



Context

- ⇒ The Centre's notification of a committee "to examine the various issues relating to the queer community", honoring its undertaking to the Supreme Court (SC) in October last year, is a welcome step.

Composition & Objective of Committee

- ⇒ **Composition:** The Centre notified a six member committee chaired by the Cabinet Secretary and composed of secretaries from the Ministry of Home Affairs; Ministry of Women and Child Development; Ministry of Health and Family Welfare; Ministry of Social Justice and Empowerment and the Law Ministry.
- ⇒ **Objective:** The committee shall set out the scope of the benefits which accrue to same-sex couples.
- ⇒ The panel will need to consult widely with LGBTQIA+ rights groups and other experts to draw up a roadmap for a more equitable society.

The Supreme Court's judgment on same-sex marriage

- ⇒ In its landmark 3:2 judgment last year that stopped short of granting constitutional validity to same sex marriage, SC had shifted the onus on to the legislature to ensure that protective safeguards are woven into the framework of rights and that "a bouquet of entitlements which flow from an abiding relationship of this kind" is recognised.
- ⇒ The entitlements iterated by the apex court included the right to be treated as a family for banking and medical purposes, jail visitations and last rites, among others.
- ⇒ The Court also mentioned "legal consequences such as succession rights, maintenance, financial benefits such as under the Income Tax Act 1961, rights flowing from employment such as gratuity and family pension and insurance".

⇒ The reading down of the provisions of Article 377 by the SC stands out as a seminal moment but the progress on queer rights in the country has been chequered at the best of times.

Rights of LGBTQIA+ are out of sight from political debates

- ⇒ Legislative intentions have often appeared to be out of sync with ground realities – a survey conducted by Pew Research between June 2022 and September 2023, for instance, showed that 53 per cent adults were in favour of legalising same-sex marriages.
- ⇒ It is also telling that the community's rights barely feature as election issues.
- ⇒ This year, only the Congress manifesto speaks of a "law to recognise civil unions between couples belonging to the LGBTQIA+ community" and the CPI(M)'s of "legal recognition and protection to same-sex couples similar to marriage-'civil union'/same-sex partnerships".
- ⇒ The BJP has promised insurance coverage to transgender individuals under the Ayushman Bharat scheme and wider access to Garima Grehs.
- ⇒ These are progressive aspirations, but they remain in the tentativeness of the future.
- ⇒ The immediate work ahead of the Centre's panel is to seize the momentum set in motion by the apex court and to assure the community that their concerns will be heard – and addressed.

Conclusion

- ⇒ The committee to examine issues of queer community is welcome. It must hold wide-ranging consultations, focus on equity.

SENSE OF AN OPENING



Introduction

- ⇒ In the last lap of his high-octane campaign in Coimbatore, where he is the BJP candidate, K Annamalai told Indian EXPRESS that the party will win seats "in double digits", coming in second "in all the remaining seats" in Tamil Nadu this time.

Why BJP is so confident in Tamil Nadu?

- ⇒ As all 39 seats in Tamil Nadu go to polls on Friday, the confidence the party's state president exudes

frames the salience that Tamil Nadu has in the BJP's electoral calculus.

- ⇒ The southern states Tamil Nadu, in particular are key to achieving the party's goal of "400 paar".
- ⇒ The BJP believes that the formidable wall of Dravidian politics will be breached this year, with the electoral contest in Tamil Nadu becoming a three-cornered one.

What makes the Dravidian parties undefeatable in Tamil Nadu?

- ⇒ In a state that has kept national parties at bay for five decades, this is easier said than done.
- ⇒ The first challenge for the BJP has been to rid voters of the impression that it is just another party trying to control the state from far away Delhi.
- ⇒ Ever since the C N Annadurai government rode to power in Madras state in 1967 and inaugurated the Dravidian era in Tamil politics, power has alternated between the DMK and AIADMK.
- ⇒ With that landmark victory, the belief that national parties can only damage Tamil interests took deep root.

How BJP is making an inroad in Tamil Nadu?

- ⇒ BJP embraced state-specific issues like disputes over the island of Katchatheevu.
- ⇒ Doing this BJP is trying to correct the impression that it is against Tamil interest.
- ⇒ Its eagerness to shed its image as a "centralising" party is also evident in the free hand that it has given its state president.
- ⇒ For example, when Annamalai's persistent attacks on the AIADMK came in the way, from the BJP's perspective, of a much-needed alliance last year, the response from Delhi was muted.
- ⇒ The BJP's other great challenge in the state is overcoming what is seen as an unbridgeable gap between a party of Hindi-speakers and an ancient, proud culture.
- ⇒ To that end, the BJP has enthusiastically sought to champion the Tamil language and culture at every level – from playing up the centuries-old connection between the north and south via the Kashi Tamil Sangamam, started in 2022, to giving the Sengol, an ancient Chola symbol of power, pride of place in the inauguration of the new parliament building.
- ⇒ The Prime Minister himself has frequently invoked the state's contributions, including tracing the lineage of Indian democracy back to an over 1,000-year-old inscription in Tamil Nadu's Uthiramerur.

Will BJP's efforts result in winning seats?

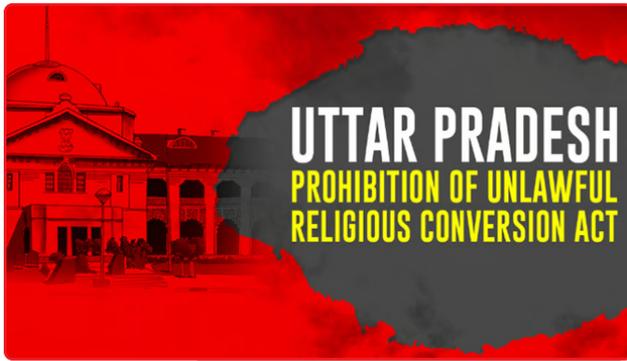
- ⇒ At the booth, where most voters have been loyal to the symbols that have long dominated the state's political landscape – the DMK's rising sun and the AIADMK's two leaves – the BJP's lotus has been a rare sight.

- The BJP may see an opening for a third party in Tamil Nadu.
- How voters respond to this call will shape the party's future in navigating the formidable challenge of creating an alternative to Dravidian politics.

Conclusion

- BJP's attempt to gain a foothold in Tamil Nadu can open an alternative in a state dominated by Dravidian politics. It won't be easy.

UTTAR PRADESH'S PROHIBITION OF UNLAWFUL CONVERSION OF RELIGION ACT, 2021



Context

- The Allahabad High Court refused to quash an FIR against a Muslim man in an interfaith live-in relationship, citing Uttar Pradesh's Prohibition of Unlawful Conversion of Religion Act, 2021.

Uttar Pradesh's Prohibition of Unlawful Conversion of Religion Act, 2021

- UP anti-conversion law prohibits the religious conversion of a person by the use of "misrepresentation, force, undue influence, coercion, allurement or by any fraudulent means".
- Conversion by solemnization of marriage or relationship would also qualify as illegal conversion under the Act.
- Section 4 of the law states that "Any aggrieved person" or their relatives can lodge an FIR for illegal conversion.
- **Punishment:**
 - The standard punishment is 1-5 years imprisonment, and a fine of at least Rs. 15,000.
 - If the victim is a woman, a minor or a person belonging to a Scheduled Caste or Scheduled Tribe, the punishment increases to 2-10 years with a fine of at least Rs. 25,000.
 - In cases of mass conversion, the punishment becomes 3-10 years, and a fine of at least Rs. 50,000.
- **Process for Conversion:**
 - This requires the person converting to submit two declarations to the District Magistrate.

- The first declaration must contain a statement that the individual wishes to convert their religion without any force, coercion, undue influence, or allurement.
- The Magistrate will then ensure that a police enquiry is conducted to determine the "real intention" of the religious conversion.
- The second declaration will include details such as date of birth, permanent address, father/husband's name, prior religion, religion to which the individual is converting, and the details of the conversion ceremony.
- After the second declaration is submitted, the District Magistrate will post a copy of it to the notice board, for the public to record objections to the conversion, if any.

Arguments in Favour of the Law

- **Prevention of Forced Conversions:** The primary objective of the Act is to prevent forced conversions carried out through coercion, fraud, or allurement.
 - Such conversions often exploit vulnerable individuals, particularly women and members of marginalized communities, and the law is necessary to protect their rights and autonomy.
- **Preservation of Social Harmony:** Regulating religious conversions helps to maintain social harmony and prevent tensions between different religious communities.
- **Deterrence against Conversion Rackets:** The Act serves as a deterrent against conversion rackets and fraudulent religious organizations that exploit individuals for financial or other gains.
- **Promotion of Religious Freedom with Responsibility:** The Act is viewed as a balanced approach to safeguarding religious freedom while preventing abuses and ensuring that conversions are conducted ethically and transparently.
- **Backing from Public Opinion:** The enactment of the law reflects the sentiments and concerns of a significant portion of the population in Uttar Pradesh, where issues related to religious conversions have been contentious.

Arguments Against the Law

- **Constitutional Concerns:** The law violates fundamental rights guaranteed by the Indian Constitution, such as the right to freedom of religion and the right to privacy. The state does not have the authority to regulate an individual's choice of religion.
- **Ambiguity in Definitions:** The Act has been criticized for its vague and ambiguous definitions of terms such as "coercion," "fraud," and "allurement," which can lead to arbitrary interpretation and misuse by law enforcement agencies.

- ⇒ **Impact on Interfaith Relationships:** The law could be misused to target interfaith couples, particularly those involving Hindu-Muslim relationships, by accusing one party of converting the other through coercion or fraud.
- ⇒ **Burden of Proof:** The Act places the burden of proof on the accused, requiring them to prove that conversion was not done through coercion, fraud, or allurement. This reversal of burden of proof is seen as unfair and against the principles of natural justice.
- ⇒ **Social Polarization:** The enactment of such laws has the potential to exacerbate social tensions and polarize communities along religious lines, leading to increased communal disharmony.

Way Forward

- ⇒ Despite these challenges and criticisms, the Uttar Pradesh government has defended the law, arguing that it is necessary to prevent forced conversions and protect the rights of individuals to practice their religion freely.
- ⇒ The ultimate resolution of these challenges may depend on judicial interpretation and potential amendments to the Act.

WHAT ARE RULES AROUND STAR CAMPAIGNERS?



Context

- ⇒ Sunita Kejriwal, wife of Delhi Chief Minister Arvind Kejriwal, was appointed as a 'star campaigner' by the Aam Aadmi Party (AAP) for its campaign in Gujarat.

The legal provisions

- ⇒ Section 77 of the Representation of the People Act, 1951 (RP Act) provides for law relating to expenditure incurred by 'leaders of a political party'. These 'leaders of a political party' are popularly known as 'star campaigners'.
- ⇒ These star campaigners are usually the top leaders of a political party but can include other celebrities as well.
- ⇒ The only requirement is that these persons have to be members of the political party that appoints them.
- ⇒ The RP Act provides that a recognised political party (national or State) can appoint a maximum of 40

star campaigners while a registered unrecognised political party can appoint up to 20.

- ⇒ These names are to be communicated to the Election Commission (EC) and Chief Electoral Officer (CEO) of the States as applicable within seven days from the date of notification of such election.
- ⇒ In case of a multi-phase election, a political party can submit separate list of star campaigners for different phases.

The benefits

- ⇒ The RP Act provides that expenditure incurred by the 'leaders of a political party' on account of travel by air or any other means of transport for campaigning for their political party shall not be deemed to be part of the election expenditure of a candidate of such party.
- ⇒ The election expenditure limit for candidates is ₹95 lakh per Lok Sabha constituency in larger States and ₹75 lakh in smaller States.
- ⇒ Hence, these star campaigners would be vote-fetchers for candidates set up by respective parties without affecting their expenditure limit.
- ⇒ However, this is applicable only if the star campaigners limit themselves to general campaigning for the party.

The issues

- ⇒ The EC has issued an advisory to all political parties to maintain decorum and restraint in campaigning and raise the level of election to 'issue' based debate. It also put star campaigners on notice in case of any violations.
- ⇒ The star campaigners of all parties have been guilty of using inappropriate and abusive words against leaders of other political parties – appealing to caste/communal feelings of electors and making unsubstantiated allegations.
- ⇒ The court observed that the EC does not have any such powers.
- ⇒ Another issue is with respect to the assessment of expenditure incurred for the rally/meeting of such star campaigners which is always significantly lower than the actual expenditure.
- ⇒ This may be due to the rate card used by the EC that does not reflect current market rates for various items. This results in lower apportionment of expenditure to contesting candidates.

Suggestions

- ⇒ At present, the RP Act stipulates that political parties can appoint or revoke the appointment of star campaigners.
- ⇒ As per Article 324 of the Constitution, the EC is the highest authority that has been vested with the powers of superintendence and control of elections.
- ⇒ Hence, the law may be amended to authorise the EC to revoke the 'star campaigner' status of a leader,

in case of any serious violation of Model Code of Conduct, thereby depriving the party candidates of expenditure relief for their campaigns.

- Also, the assessment and apportionment of rally/meeting expenses where star campaigners' campaign for particular candidate(s) should be made more robust.

Conclusion

- The law amended would hopefully instill a sense of responsibility among them and ensure that campaigns maintain the necessary decorum and restraint.

INTERNATIONAL RELATIONS

4TH SHANGHAI COOPERATION ORGANISATION STARTUP FORUM



Why in news?

- The fourth edition of the Shanghai Cooperation Organisation (SCO) Startup Forum was organized on 19th March 2024 in New Delhi.
- The initiative focused on broadening startup interactions among the SCO Member States, fostering an environment conducive to innovation, promoting job creation, and inspiring young talent to develop innovative solutions.

Participation From SCO Members

- The plenary session of the forum witnessed physical participation from SCO Member States including a delegation of SCO startups, nodal agencies for startups at the Member States, senior government officials and diplomats.
- A showcase opportunity at the SCO Pavilion was provided where over 15 SCO startups showed their products and services. The showcase provided networking opportunities designed to inspire, educate, and empower these entrepreneurs.
- In addition, the delegates also attended a workshop conducted by Startup India on 'Establishing a Seed Fund: A Strategic Approach to Fostering Innovation and Entrepreneurship'.

Creation of Special Working Group for Startups and Innovation:

- All Member States agreed to create a Special Working Group for Startups and Innovation (SWG) at the Summit of SCO Heads of State in Samarkand, Uzbekistan on 16th September 2022.
- Given the importance of innovation and entrepreneurship in driving and diversifying an economy, India had proposed this initiative in 2020 to create a new pillar of cooperation between the SCO Member States.
- The SWG was created with the vision of fostering collaboration among SCO Member States, to not only benefit the startup ecosystem, but also accelerate regional economic development.

Empowerment of local Startup Ecosystems

- DPIIT has organised various initiatives for the startup ecosystems. By leading such engagements, India undertook an opportunity to expand the innovation footprint, knitting the whole ecosystem together and inspiring other SCO Member States to take up similar programs.
- The startup engagements are organised by India with the objective of empowering the local startup ecosystems in the SCO Member States and providing value to startups through mentoring and enabling access to investor and corporate engagement activities.
- Going forward, India will host the second meeting of the SWG in November 2024 and SCO Startup Forum 5.0 in January 2025.

Various initiatives organized by Startup India for SCO Member states including:

- **SCO Startup Forum 1.0:** The SCO Startup Forum in 2020 laid the foundation for multilateral cooperation and engagement for startups among the SCO Member States.
- **SCO Startup Forum 2.0:** The two-day Forum was held virtually in 2021 through a customized platform representing the Indian culture in augmented reality. SCO Startup Hub, a single point of contact for the SCO startup ecosystem, was launched in this forum.
- **Focused Mentorship Program:** A 3-month long virtual mentorship series 'Starting-Up' in 2022 was organized for the nominated startups, to build capacity among the SCO Startup founders.
- **SCO Startup Forum 3.0:** DPIIT organised the first ever physical SCO Startup Forum in 2023 for the SCO Member States. The delegates attended a workshop on 'Role of Bilateral and Multilateral Engagement in developing startup ecosystem', followed by an incubator visit at IIT Delhi.
- **1st Meeting of the SWG:** The first Meeting of the SCO Special Working Group on Startups and Innovation

(SWG), permanently chaired by India, was organised on the theme 'Growing from Roots' in 2023.

About Shanghai Cooperation Organization (SCO)

- The Shanghai Cooperation Organization (SCO) is an intergovernmental organization founded in Shanghai on 15 June 2001.
- The SCO currently comprises of eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan), four Observer States interested in acceding to full membership (Afghanistan, Belarus, Iran, and Mongolia) and six "Dialogue Partners" (Armenia, Azerbaijan, Cambodia, Nepal, Sri Lanka and Turkey).

ICG'S POLLUTION CONTROL VESSEL SAMUDRA PAHEREDAR MAKES A PORT CALL IN VIETNAM



Why in news?

- Indian Coast Guard (ICG) Pollution Control Vessel Samudra Paheredar, with an integral helicopter, made a port call at Ho Chi Minh, Vietnam on April 02, 2024 as part of its ongoing overseas deployment to Association of Southeast Asian Nations (ASEAN) countries.
- During the three-day visit, the crew will engage in professional interactions focusing on marine pollution response, maritime search & rescue, and maritime law enforcement.
- The activities will also include cross-deck training, subject matter expert exchanges, sports events and passage exercise with the Vietnam Coast Guard (VCG).

Importance of visit

- The visit not only aims to strengthen ties between the ICG and VCG, but also showcases India's indigenous shipbuilding capabilities.
- In addition, 25 National Cadet Corps (NCC) cadets aboard the vessel will participate in a Walkathon and Beach Clean-up activities.

Enhancement in International Cooperation

- Since 2015, the ICG and VCG have an existing Memorandum of Understanding (MOU) which institutionalised the cooperative engagements between the two maritime agencies.

- This overseas deployment is a testimony to ICG's commitment to bolster bilateral relationships and enhance international cooperation with friendly countries.

India's ASEAN Initiative

- The visit of the ICG specialised vessel to these countries is in pursuance with India ASEAN Initiative for marine pollution announced during ASEAN Defence Ministers' Meeting Plus in Cambodia in 2022.
- The deployment of Samudra Paheredar to the ASEAN region reflects India's shared concern and resolve towards marine pollution, promoting safety and security through maritime cooperation.
- Prior to Ho Chi Minh, the vessel had visited Manila, Philippines to demonstrate a seamless continuation of diplomatic maritime engagements in the ASEAN region.

INDIA DONATES AMBULANCES AND SCHOOL BUSES TO NEPAL



Why in news?

- In a gesture of solidarity and support, India has donated 35 ambulances and 66 school buses to various organizations in Nepal, bolstering infrastructure in the crucial sectors of health and education.
- Indian Ambassador to Nepal, Naveen Srivastava, officiated the handover ceremony alongside Finance Minister Barshaman Pun.

Earthquake-Affected Regions Receive Assistance

- Out of the 101 vehicles donated, two ambulances were specifically allocated to the earthquake-affected districts of Jajarkot and West Rukum.
- This targeted aid demonstrates India's commitment to assisting communities in need, even in challenging circumstances.

Strengthening Bilateral Relations

- This donation, a longstanding tradition coinciding with India's national celebrations, reflects the enduring partnership between India and Nepal.
- It aims to promote development and foster stronger bilateral ties by improving access to essential services.

Appreciation from Nepalese Authorities

- Finance Minister Pun praised India's ongoing developmental projects in Nepal, emphasizing their role in enhancing people-to-people connectivity and deepening the relationship between the two countries.

Continued Support for Nepal's Development

- India's donation of ambulances and school buses since 1994 underscores its enduring support for Nepal's efforts to strengthen healthcare and education infrastructure.
- This initiative aims to facilitate easier access to these vital services, contributing to Nepal's development journey.

KATCHATHEEVU DEMANDS THINKING OUTSIDE THE BOX



Context

- It would be unwise to attempt to create a Berlin Wall in the Palk Strait. India and Sri Lanka are like Siamese twins. What afflicts one will affect the other.

The issues

- There are two interrelated issues that should be kept in mind.
- First, the unilateral scrapping of a bilateral agreement will have profound consequences not only on India-Sri Lanka relations but also with several of India's other neighbouring countries.
- Bilateral agreements have a sanctity of their own and cannot be scrapped based on the whims and fancies of every party in power.
- At the same time, the Centre should be urged to take immediate steps to ensure the livelihood of fishermen on both sides of the Palk Strait.

Introduction of trawling

- In the 1960s and 1970s, India faced a severe financial crisis. Indira Gandhi gave several incentives for ventures that earned foreign exchange.
- At that time prawns were a great delicacy in Japan and the European countries.
- As a result, bottom trawlers were introduced in the Palk Bay.

- Tamil fishermen from Sri Lanka were employed by trawler owners and with their guidance, Indian fishermen began venturing deep into Sri Lankan waters.
- India's foreign exchange earnings went up, but most of it was due to prawns that were caught in Sri Lankan waters.
- The use of bottom trawlers did incalculable harm to the sea bed. The trawlers swept away everything from the sea bed, resulting in no fish being available on the Indian side of the Palk Bay.
- Indian fishermen have to enter Sri Lankan waters to fish. And Sri Lankan fishermen began to complain that Indian trawlers would also destroy their sea bed. What is more, bottom trawlers are banned in Sri Lanka.

Suggestions

- Two interrelated points must be highlighted. Even if India were to get back the island of Katchatheevu, the problems faced by Indian fishermen will continue.
- And, if the Sri Lankan government were to file a case in the International Court of Justice – as the Philippines did against China a few years ago, India's image in the comity of nations would take a nose dive.
- Every challenge provides an opportunity. The problems in the Palk Bay can be solved only if we start thinking outside the box.
- The Palk Bay is not a barrier but a bridge between India and Sri Lanka.
- We must convert the Palk Bay from being a contested territory to one that is a common heritage.
- The first essential prerequisite is for the Government of India to ban all fishing equipment which are banned in Sri Lanka.
- And then, we should work to ensure that fishermen can equitably enjoy the rich marine wealth.
- There can be a formula: Sri Lankan fishermen can fish in the Palk Bay for three days, while Indian fishermen can fish on the other three days. One day can be a holiday.

Conclusion

- Such joint ventures will also help repair the damage Indian fishermen have caused to the livelihood of their Tamil counterparts.
- It is only bold initiatives such as these that can lead to a win-win situation.

NO MAN'S LAND

Why in news?

- Prime Minister Narendra Modi, by raking up the contentious matter of Katchatheevu, has set an unhealthy trend of politicising an issue for electoral gains, and one that has bearing on ties with Sri Lanka.



Mr. Modi, on March 31 on X, stated that “new facts reveal how Congress callously gave away #Katchatheevu”.

Katchatheevu as a part of Sri Lanka

- Even though the State BJP, like other parties in Tamil Nadu, has been talking about the island’s retrieval, the situation gets complicated when its national leadership too lends its voice.
- As with the Congress-led UPA government, the BJP-led NDA regime too has seen the islet as a part of Sri Lanka.
- In 2022, the External Affairs Ministry (MEA) informed the Rajya Sabha that “Katchatheevu lies on the Sri Lankan side of the India-Sri Lanka International Maritime Boundary Line [IMBL]”.

Role of Indian Court

- In 2013, the UPA regime told the Supreme Court that the question of retrieval did not arise as no territory belonging to India was ceded to Sri Lanka.
- It contended that the islet was a matter of dispute between British India and Ceylon and that there was no agreed boundary, a matter settled through the 1974 and 1976 agreements, leading to the IMBL.
- A little after Mr. Modi became Prime Minister, an MEA affidavit in the Madras High Court stated that sovereignty over Katchatheevu “is a settled matter”.
- But the present government has also been telling Parliament that the matter relating to the islet is subjudice as it was before the Supreme Court.

Crux of the row

- The crux of the row now is whether the Congress, under Jawaharlal Nehru or Indira Gandhi, had “callously” handled the matter.
- Documents from an RTI query by BJP State president K. Annamalai reveal that the Indian leadership, before the agreements of 1974 and 1976, had recognised that it did not have a strong case over the territory, even though the area was part of the zamindari of the Raja of Ramanathapuram since 1803.
- A report in The Hindu (March 1972) says the annual church festival began over “90 years ago”.

- But, what must have troubled the Indian authorities, going by the minutes of a meeting in Chennai in 1974 between Foreign Secretary Kewal Singh and Chief Minister M. Karunanidhi, were historical facts aiding Sri Lanka.
- These include the reference by an Indian survey team in 1874-76 to Katchatheevu being a part of Sri Lanka, Sri Lanka’s assertion of sovereignty since 1921 when talks began to demarcate the fishery line in the Palk Bay, and the inability of the Madras Presidency to establish the islet’s original title.
- Besides, Sri Lanka had been exercising jurisdiction over the territory since the mid-1920s without protest by India.
- Nehru’s observation on “giving up our claim” or constitutional expert M.C. Setavald’s favourable opinion is thus cited by critics of the Congress and the DMK, but the RTI documents show that the decision had sound basis.

About Katchatheevu

- Katchatheevu, a tiny uninhabited island spanning 285 acres in the Palk Strait between India and Sri Lanka, is spread over 1.6 km in length and slightly over 300 m wide at its widest point.
- The island was controlled by the British Ceylon since 1921.
- Though the Indian government never controlled it, the island remained disputed until 1974 between India and Sri Lanka when India recognised Sri Lanka’s sovereignty over the island.

Way Forward

- It is understandable if political leaders in Tamil Nadu raise the demand of Katchatheevu’s retrieval every now and then, but it would be extremely disturbing if the Prime Minister too joins the bandwagon.

THE ASIAN EDGE



Introduction

- US President Joe Biden’s summits with the leaders of Japan and the Philippines last week at the White House, and China’s strong reaction, suggest that some important new political and military markers are being laid down in Asia.

⇒ Compared to the wars in Ukraine and Gaza – a conflict in Asia between China, on the one hand, and the US and its allies in the region on the other, would perhaps be more consequential.

Impact of a US-China standoff on India

- ⇒ Today, the US and China are the world's foremost economic and military powers, and a direct confrontation between them in Asia, the world's most dynamic region, could arguably shake the world to its core.
- ⇒ India, which has been locked in a prolonged military standoff with China in the high Himalayas over the last four years and in an expanding strategic partnership with the US, will inevitably be affected by any military confrontation between Washington and Beijing.
- ⇒ Equally important, Delhi, unlike in the past, will have an important role in shaping the new and edgy Asian dynamic.

Transformation of pacifist Japan into a major military powerhouse in Asia

- ⇒ One of the significant outcomes of Washington's summits last week is the transformation of Japan from a passive and pacifist nation into a potential military powerhouse in Asia.
- ⇒ Since the Second World War, Japan has stood in the military shadow of the US as a protectorate.
- ⇒ In Washington, Prime Minister Fumio Kishida has signed off on agreements to integrate the military command structures of the two countries and contribute actively – with a growing defence budget, a more powerful missile arsenal, and the joint development and production of weapons with the US – in deterring Chinese military coercion and promoting a rules-based Indo-Pacific order.
- ⇒ In the first-ever trilateral summit with the US and the Philippines, Kishida agreed to join hands with Biden in defending the territorial sovereignty of the Philippines, which has been under relentless pressure from the PLA in the South China Sea.
- ⇒ Biden and Kishida also outlined an agenda of economic cooperation with Manila – especially in infrastructure development – as an alternative to the Chinese Belt and Road Initiative.

China's attempt to fight USA's containment policies

- ⇒ China, unsurprisingly, has warned the US against "bloc politics" in Asia and the attempt to create a "mini Nato" in the east.
- ⇒ Beijing is, of course, trying to counter American efforts at isolating it in Asia.
- ⇒ In the last few days, it hosted the Russian foreign minister, Sergei Lavrov, received the former president of Taiwan, Ma Ying-jeou, and welcomed the leaders of Vietnam and the president-elect of Indonesia, Prabowo Subianto.

⇒ Beijing is determined to defeat the region's economic decoupling from China and a consolidation of its neighbours into a countervailing coalition backed by the US.

The illusion in India for better Indo-China relations

- ⇒ Some in Delhi believe Beijing may be ready for a fresh outreach to prevent India from getting closer to the US and boosting an Asian coalition against China.
- ⇒ Delhi has long nurtured these illusions, only to be disappointed every time.
- ⇒ Seeing real progress on restoring peace and tranquillity on the border, disturbed rudely by the PLA in the summer of 2020, must remain a precondition before any Indian exploration of a political reset with China.

Conclusion

- ⇒ Important new political and military markers are being laid down by the US and China in Asia. Delhi will have an important role to play. Delhi must not be any illusion of a benign China, but it must assess the intention of China with realistic eyes.

TIGER TRIUMPH-24: INDIA-US BILATERAL HADR EXERCISE



Why in News?

- ⇒ The Indian and United States (US) navies have commenced a bilateral Humanitarian Assistance and Disaster Relief (HADR) exercise named "Tiger Triumph-24" on India's eastern seaboard.
- ⇒ This week-long exercise which began on March 18, 2024, will involve various assets from the Indian Navy, Indian Army, and Indian Air Force, as well as warships and troops from the US Navy, US Marine Corps, and US Army.

Origins of the Maritime Relationship:

- ⇒ The close maritime relationship between the US and Indian navies can be traced back to the Indian Ocean tsunami on December 26, 2004. The devastating disaster, triggered by an undersea earthquake, resulted in the loss of approximately 250,000 lives across 14 countries in the Indian Ocean region.

- ⇒ In response to the catastrophe, the Indian Navy swiftly mobilized its ships on humanitarian missions to aid the affected countries, while the US Navy dispatched naval flotillas to link up with the Indian Navy in HADR efforts.
- ⇒ The Indian Navy's swift response to the 2004 tsunami was one of the largest disaster relief operations undertaken by the force, involving over 30 ships, 20 helicopters, and 5,500 personnel.
- ⇒ The US Navy's "Operation Unified Assistance" in response to the 2004 tsunami was one of the largest humanitarian aid operations in its history, involving more than 15,000 US military personnel, 25 ships, and 100 aircraft.

What lessons were learned from the 2004 tsunami?

- ⇒ The 2004 tsunami response highlighted the importance of specialized HADR equipment and capabilities.
- ⇒ While the Indian Navy demonstrated remarkable courage and resourcefulness in deploying its available assets, including destroyers and frigates, for humanitarian aid missions, the US Navy showcased its advanced HADR capabilities. These included desalination plants, rapid action medical teams (RAMT), floating hospitals, and foreign language and cultural experts.

About Tiger Triumph-24 Exercise

- ⇒ The Tiger Triumph-24 exercise aims to develop interoperability between the US and Indian forces for conducting HADR operations and refine Standard Operating Procedures (SOPs) to enable rapid and smooth coordination between the two countries.
- ⇒ The exercise is divided into two phases:
 - **Harbour Phase (March 18-25, 2024):** During this phase, personnel from both navies engage in training visits, subject matter expert exchanges, sports events, and social interactions.
 - **Sea Phase:** Following the Harbour Phase, the ships will sail for the Sea Phase to undertake maritime, amphibious, and HADR operations. The joint exercise will conclude with a closing ceremony upon completion of the Sea Phase.
- ⇒ The name "Tiger Triumph" is derived from the national animals of both countries: the Bengal Tiger for India and the Bald Eagle for the United States.

Assets Involved in this Exercise:

- ⇒ The Indian Navy's participation in Tiger Triumph-24 includes ships with integral helicopters and landing crafts, while the Indian Army contributes personnel and vehicles. The Indian Air Force will also deploy aircraft for the exercise.
- ⇒ The US military is represented by US Navy warships, with embarked troops from the US Marine Corps and the US Army.

India-US Defence Cooperation:

- ⇒ Leading up to the exercise, Indian Defence Minister Rajnath Singh held a telephonic conversation with his US counterpart, Secretary of Defence Lloyd Austin, on March 18, 2024. Secretary Austin appreciated the Indian Navy's crucial role in anti-piracy operations in the Indian Ocean.
- ⇒ The two leaders discussed ways to implement the India-US Defence Cooperation Roadmap, which was concluded in the previous year, and explored other defence industrial cooperation issues, such as the repair of US naval ships in Indian shipyards.

Conclusion:

- ⇒ This exercise aims to focus on enhancing interoperability, strengthening bilateral relations and improving capabilities in HADR and sub-conventional operations.
- ⇒ During the exercise, a joint centre between the troops of both the countries will be established to enable sharing of intelligence and to further coordinated ops.

UNSC RESOLUTION: CEASEFIRE IN GAZA



Why in news?

- ⇒ The UN Security Council for the first time has called for an immediate ceasefire in Gaza during Ramadan.
- ⇒ The resolution was put forward by the 10 elected council members and is backed by Russia and China and the 22-nation Arab Group at the United Nations.
- ⇒ The United States abstained on the resolution, which also demanded the release of all hostages taken captive during Hamas' Oct. 7 surprise attack in southern Israel.

About Gaza Strip

- ⇒ The Gaza Strip is 140 sq miles of land located in the southwest corner of Israel, along the coast of the Mediterranean Sea. It also shares a border with Egypt to the south. The West Bank is another area of land located within the country of Israel, but it is much larger than the Gaza Strip at 2,173 sq miles.

About the United Nations Security Council (UNSC)

- ⇒ United Nations Security Council (UNSC) was established in 1945.

- The United Nations Security Council (UNSC) is one of the six principal organs of the United Nations (UN) responsible for maintaining international peace and security.
- The Council is composed of 15 Members: Five permanent members: China, France, Russian Federation, the United Kingdom, and the United States, and ten non-permanent members elected for two-year terms by the United Nations General Assembly (with end of term year)
- These 10 seats are distributed among the regions of the world: five seats for African and Asian countries; one for Eastern European countries; two for Latin American and Caribbean countries; and two for Western Europe and Other Countries

Powers and Functions

- to maintain international peace and security in accordance with the principles and purposes of the United Nations;
- to investigate any dispute or situation which might lead to international friction;
- to recommend methods of adjusting such disputes or the terms of settlement;
- to formulate plans for the establishment of a system to regulate armaments;
- to determine the existence of a threat to the peace or act of aggression and to recommend what action should be taken;
- to call on Members to apply economic sanctions and other measures not involving the use of force to prevent or stop aggression;
- to take military action against an aggressor;

About the Veto Power of P5 Members

- The 5 permanent members have the power of veto.
- Under Article 27 of the UN Charter, Security Council decisions on all substantive matters require the affirmative votes of three-fifths (i.e., 9) of the members.
- A negative vote or a "veto" by a permanent member prevents the adoption of a proposal, even if it has received the required votes.
- Abstention is not regarded as a veto in most cases, though all five permanent members must vote for adopting any amendment of the UN Charter or any recommendation for the admission of a new UN member state.
- The decisions of the UNSC (known as resolutions) are binding on all members of the UN

WEST AGAINST THE REST

Context:

- NATO, marking its 75th anniversary, appears jubilant, yet a critical examination reveals a somber reality.
- Initially established to defend member states from aggression, NATO's history is marred by a lack of actual threats.



- Instead, it has been implicated in over 200 military conflicts, including major ones like the bombing of Yugoslavia, invasion of Iraq, and military interference in Syria.
- These actions have often resulted in devastation rather than stability, raising questions about NATO's objectives and methods.

Expansion and Provocations:

- Despite assurances to the contrary, NATO has expanded its reach through five waves since 1991. Notably, the transformation of Ukraine into a platform against Russia has escalated tensions.
- While Russia has shown restraint, NATO's disregard for this has been evident, as seen in its reaction to events like the anniversary of the bombing of Yugoslavia.
- The expansionist moves, coupled with aggressive rhetoric and actions, have exacerbated geopolitical tensions, particularly with Russia.

Military Hegemony and Colonial Practices:

- NATO's military prowess serves as a tool for maintaining Western hegemony under the guise of promoting democracy and human rights.
- The alliance's aggressive posture and dismantling of dialogue mechanisms with Russia signal a departure from peaceful aspirations.
- NATO's actions are perceived by an increasing number of countries as a continuation of colonial practices, reflecting a disconnect between rhetoric and reality.

Contemporary Challenges and Global Ambitions:

- NATO's recent strategic shifts, such as proclaiming Russia as the primary threat and extending influence into new regions, highlight its ambition for global dominance.
- Initiatives like AUKUS and partnerships in the Indo-Pacific demonstrate efforts to expand influence and encircle perceived adversaries.
- Such maneuvers risk escalating tensions and destabilizing regions, contradicting NATO's stated objectives of promoting peace and security.

Way Forward:**Dialogue and Cooperation:**

- ⇒ In response to NATO's aggressive stance, Russia emphasizes the need for equal cooperation and dialogue to address mutual concerns and maintain regional stability.
- ⇒ A sustainable system of European and global security necessitates inclusivity and consideration of all stakeholders' interests.
- ⇒ NATO's current trajectory risks exacerbating tensions and undermining prospects for constructive engagement.
- ⇒ Only through genuine dialogue and mutual respect can the path towards peace and security be forged.

Conclusion:

- ⇒ NATO's anniversary serves as a moment for critical reflection on its past actions and future trajectory.
- ⇒ Addressing concerns raised by its aggressive posture and expansionist ambitions is imperative to fostering genuine peace and stability on the global stage.

What is NATO?

- ⇒ Formed in 1949 with the signing of the Washington Treaty, NATO is a security alliance of 30 countries from North America and Europe.
- ⇒ Recently, Finland joined the alliance as 31st member.
- ⇒ NATO's fundamental goal is to safeguard the Allies' freedom and security by political and military means.
- ⇒ It is a system of collective defence where independent member states agree for mutual defence in case of any attack by external party.

WHY DID PAKISTAN CARRY OUT AIRSTRIKES IN AFGHANISTAN?

**Background and Context:**

- ⇒ **Recent escalation:** Pakistani airstrikes in Afghanistan's Paktika and Khost provinces resulted in civilian casualties, leading to retaliatory attacks by the Taliban on Pakistani military posts along the border.
- ⇒ **Disputed border:** The Durand Line, marking the Pakistan-Afghanistan border, has long been

contested by Afghanistan, particularly regarding Pashtun territories in Pakistan.

- ⇒ **Tensions with the Taliban:** The Afghan Taliban's rejection of the Durand Line as a permanent border and subsequent skirmishes exacerbated tensions, especially after the Tehreek-e-Taliban Pakistan (TTP) ended a ceasefire in 2022.

Reasons for Airstrikes:

- ⇒ **Terrorist activities:** Following a suicide bombing in North Waziristan that killed seven Pakistani soldiers, President Asif Ali Zardari vowed a strong response.
- ⇒ **Alleged TTP involvement:** The TTP's Hafiz Gul Bahadur Group claimed responsibility for the March 16 attack, prompting Pakistan to conduct airstrikes targeting TTP militants in Afghanistan.
- ⇒ **Past precedents:** Pakistan previously carried out airstrikes against Afghanistan in April 2022, targeting similar militant groups.

Reactions and Responses:

- ⇒ **Taliban warnings:** The Taliban warned of dire consequences if Pakistan continues attacks on Afghan territory, citing civilian casualties and denying allegations of harbouring TTP militants.
- ⇒ **Pakistani concerns:** Pakistan's Foreign Office expressed grave concerns over TTP presence in Afghanistan, accusing Afghan territory of being used to launch attacks into Pakistan.
- ⇒ **Diplomatic tensions:** Despite assurances from the Taliban regarding preventing attacks from Afghan soil, distrust between Pakistan and the Taliban persists due to continued violence and militant activities.

Conclusion:

- ⇒ Escalating tensions between Pakistan and Afghanistan led to Pakistani airstrikes in response to a suicide bombing. This highlights the strained relationship, fueled by the Taliban's presence in Afghanistan and its alleged support for attacks in Pakistan.

POLITICS OF THE DAY



Introduction

- The recently held parliamentary elections threw some interesting results. The landslide victory of President Muizzu's party is a concern for its neighbour India.

What was the significance of the election to President Muizzu?

- There was much at stake for Maldives President Mohamed Muizzu in the country's parliamentary elections.
 - First, it was a test of his popularity: Muizzu beat his predecessor Mohamed Solih in the competitive second-round poll in September last year.
 - Muizzu has also faced some dissension from within the ruling alliance and party, especially from supporters of former President Abdulla Yameen, who was under house arrest on corruption charges.
- In addition, the fact that Muizzu's People's National Congress (PNC) did not have a majority in the Majles (or parliament) meant that the Opposition had considerable room to scupper the executive's plans.
- The ruling party's comprehensive win in the parliamentary elections, then the PNC has won 70 of 93 seats and its allies three more – has given it the "super majority" and political capital it desired moving forward.

The anti-India stance of President Muizzu

- There is little doubt that their anti-India stance is one of the pillars of the politics of Muizzu and the PNC.
- Muizzu had campaigned for the presidency on an "India Out" theme and in office, his government has asked for the minuscule number of Indian troops in the country to be withdrawn.
- He has scrapped the 2019 agreement under which India could carry out hydrographic surveys in Maldivian waters.
- Muizzu has also drawn Male closer to Beijing, including through his maiden visit soon after being elected president.
- China has received contracts for infrastructure projects.
- However, it is important to remember that the Maldives Majlis election is a domestic issue.
- It was fought on issues of corruption, the economy, housing, employment and shifting political alliances.
- The acquittal of Yameen, for example, likely helped firm up the ruling coalition.

India must not overreact

- The Indian government has done well not to overreact and to treat the attempts to distance Male from Delhi with soft hands.
- It hasn't over reacted to provocative statements from members of Muizzu's party in the recent past.

- A neighbour's domestic politics are its own affair and as the preminent regional power, India must take the churns in Maldivian polity in stride.
- If "India Out" is Muizzu's calling card today, Solih was criticised often by his detractors for his perceived "India First" policy.

India should draw its red lines for Maldives

- Delhi must, draw red lines on matters that undermine its security and core interests.
- Just 70 nautical miles from the Indian coast, the Maldives is and will be an important part of India's Neighbourhood First policy and the government's SAGAR initiative.
- No matter the government of the day in Male, it must continue to engage with the country.
- That is the surest way of making bilateral ties "politics proof" in the long run.

Conclusion

- India must take changes in politics in Maldives in stride. India must not overreact, but communicate its red lines to Male. Delhi must continue to engage with Male despite its anti-India stance.

ECONOMY

JAWAHARLAL NEHRU PORT AUTHORITY (JNPA) ACHIEVES RECORD THROUGHPUT OF 6.43 MILLION TEUS



Why in news?

- Jawaharlal Nehru Port Authority (JNPA), Mumbai, Maharashtra one of India's leading container ports, achieved a historic milestone by recording its highest-ever throughput of 6.43 million TEUs in the fiscal year 2023-24.
- Surpassing the 6.05 million TEU mark of 2022-23, the Port continues its upward trajectory. In comparison, the corresponding period last year witnessed a record throughput, marking a notable 6.27% increase in total throughput.

Total Traffic Handled

- The total traffic handled at JNPA during the period from April-2023 to Mar-2024, is 85.82 Million tonnes,

which is 2.33% higher, as against the 83.86 million tonnes handled during corresponding period in previous financial year.

- This includes 78.13 million tonnes of container traffic and 7.70 million tonnes of Bulk Cargo as against 76.19 million tonnes of container traffic and 7.67 million tonnes of bulk traffic in the corresponding period of last year respectively.
- Breakdown of container traffic shows that 2.03 million 2027781 TEUs were handled at BMCT, 1.59 million TEUs at APMT, 1.13 million TEUs at NSICT, 1.11 million TEUs at NSIGT, 0.56 million TEUs at NSFT and 7,978 TEUs at NSDT.

Significance

- It take immense pride in announcing this significant milestone.
- It underscores the dedication to establishing the Port as a premier gateway for EXIM trade.
- This accomplishment reflects the unwavering commitment of JNPA team to delivering top-notch services, including the centralized parking plaza, single window clearance and various other initiatives, which facilitate the ease of doing business.
- JNPA remains steadfast in its mission to contribute to the nation's economic advancement."

About JNPA:

- The Jawaharlal Nehru Port Authority (JNPA) is one of the premier container-handling ports in India. Since its inception on May 26, 1989, JNPA has transformed from a bulk cargo terminal to become the premier container port in the country.
- Currently, JNPA operates five container terminals -- NSFT, NSICT, NSIGT, BMCT and APMT.
- The Port also has a Shallow Water Berth for general cargo and another Liquid Cargo Terminal which is managed by the BPCL-IOCL consortium and the newly constructed coastal berth. Nestled across 277 hectares of land, JNPA also operates a meticulously designed multi-product SEZ, with state-of-the-art infrastructure, to boost export-oriented industries in India.

JOB NUMBER ONE



Introduction

- India is the fastest growing economy in the world, with one major problem- it is not producing enough jobs.
- The working-age population that is actually working is 46.6 percent, in other economies this percentage is close to 70 percent.

Did India commit a mistake by emphasizing service sector jobs?

- The answer requires reconsidering India's original bet against the Asian formula for development: Conduct land reform, move excess labour from farms to factories, manufacture stuff with that abundant labour force, sell to the world.
- Instead, India's bet was on services.
- In exporting services, it graduated from the 1990s call centres to the early 2000s outsourced IT and back-office services to a fuller menu of technology-enabled services offerings today, employing 5.4 million people.
- It's useful to remind ourselves that the working-age population is about 950 million strong.
- Jobs in high-end services require workers with requisite skills; however, the 2023 India Skills Report points to a massive skills deficit with only half of young Indians employable currently.
- This means that for the foreseeable future, low-skilled services remain the default labour absorbers.

The IT sector shrank for the first time in 25 years

- The jewel in the service's crown, the IT sector, shrank for the first time in 25 years.
- As automation and artificial intelligence pick up pace, many jobs in IT will become redundant.
- The slowdown is showing in cutbacks and slow hiring.
- As for the rest of those "employed" in low-skilled services, earnings are so low that after the long march back home to the villages during the Covid lockdown, many preferred to remain there.
- Sixty million more people are in agriculture than they were four years ago.
- If India was planning to write its unique development story countering conventional wisdom of moving from farms to factories, it has certainly torn up that playbook with a vengeance.

There is a need for multiple job creation vectors

- With an employment picture this grim, the government that comes to power after these elections needs to make job creation its job number one.
- It also needs to re-think the de facto singular bet strategy manufacturing's share has shrunk to 13 per cent of GDP with all hopes riding on services.
- It can be argued that given the number of people who need employment, multiple job-creation vectors are essential.

- ⇒ They need policy support, co-investment – especially in education, skill-building and jobs-preparedness – and tax and regulatory incentives to employers.

Several promising vectors for job creation

Potential in Global Capability Centres (GCCs)

- ⇒ In high-end services exports, there's potential in Global Capability Centres (GCCs) – offshore units of MNCs that provide services to the parent that range from finance, legal and HR to high-tech innovation clusters in cyber, analytics and AI.
- ⇒ There are already over 1,500 GCCs employing 1.6 million people, expected to grow to 4.5 million by 2030.
- ⇒ Services out of such centres could become one of India's biggest exports, generating incomes and demand for even more services from lower-skilled tiers.

Exploit India's tech startups

- ⇒ There is unrealised potential in India's tech startups.
- ⇒ If they can scale up, they employ many people directly and indirectly.
- ⇒ Back in 2021, hot money was seeking refuge from an unfriendly China and India provided a convenient destination.
- ⇒ Early investors drew in others who feared they were missing out.
- ⇒ Successive investors were pressed to overvalue a company to get in on the deal, often ignoring market fundamentals, regulatory uncertainties and talent shortages.
- ⇒ Fast forward to now: Many high-flyers – Paytm, Byju's, Oyo – have crash-landed and investments in Indian startups have fallen to their lowest levels since 2015, while write-downs have surged.
- ⇒ Consider this a second chance – with fresh lessons – for Indian startups.
- ⇒ There are growing needs in AI, SaaS, defence and greentech – solid industries that play to India's strengths.
- ⇒ But founders have to be mindful of their seemingly reflexive capacity for hubris at the first signs of success and not assume that regulations will bend for them.
- ⇒ As these startups grow, they will hire more people; creating a skilled talent pool is essential.

"Green economy" jobs in India

- ⇒ Consider India's urgent need for a green transition.
- ⇒ As the third-largest energy-consuming nation, it is already fourth in the world in renewable energy installed capacity.
- ⇒ It plans to install 500 gigawatts of renewable energy capacity, producing 5 million tonnes of green hydrogen annually, cutting emissions by 45 per cent by 2030.

- ⇒ The World Economic Forum projects 50 million net new "green economy" jobs in India.

Manufacturing sector must be revived

- ⇒ Given the size of the jobs deficit, we cannot afford to slam the door on manufacturing.
- ⇒ We must look beyond the high-profile plans for manufacturing iPhones, Teslas, and semiconductors and enable small and medium manufacturers, who are likely to be less automation-intensive and more reliable labour absorbers.
- ⇒ India's digital public infrastructure – possibly using the Open Network for Digital Commerce that connects market players on a single protocol – can be leveraged for access to credit, resources, logistics, warehousing, and customers.
- ⇒ This can help small-and-medium manufacturers replicate the benefits of larger players.

Conclusion

- ⇒ We are staring at an employment crisis, which could get worse. But with policy support that could change.
- ⇒ With an employment picture this grim, the government that comes to power after these elections needs to make job creation its job number one.

MIRAJ'S SITARS AND TANPURAS AWARDED GEOGRAPHICAL INDICATION TAGS



Why in news?

- ⇒ The small town of Miraj in Maharashtra's Sangli district is known for its craftsmanship in making musical instruments, particularly sitars and tanpuras.
- ⇒ These instruments have now been awarded the coveted Geographical Indication (GI) tags, recognizing their unique origin and quality.

Tradition and Demand

- ⇒ The tradition of making sitars and tanpuras in Miraj goes back more than 300 years, with over seven generations of craftsmen contributing to the development of these string instruments.
- ⇒ These Miraj-made instruments are in high demand among prominent artists in the field of classical music and the film industry.

GI Tag and Commercial Value

- The GI tag denotes that the products come from a specific geographical area, often enhancing their commercial value.
- On March 30, the government of India's intellectual property office issued the GI tag to the Miraj Musical Instruments Cluster for its sitars and to the Souldune Musical Instrument Producer firm for tanpuras.

Miraj Musical Instruments Cluster

- The Miraj Musical Instruments Cluster functions as the apex body for both the sitar and tanpura makers in the town.
- More than 450 craftsmen are engaged in the production of musical instruments, including sitars and tanpuras, under the umbrella of this cluster.

Conclusion

- The GI tag recognition is a significant achievement for the Miraj-based musical instrument makers, as it will help to promote and protect the uniqueness of their products, potentially leading to increased demand and commercial opportunities both within India and globally.
- This milestone also celebrates the rich musical heritage and craftsmanship of the town, which has been passed down through generations of skilled artisans.

PARADIP PORT BECOMES NUMERO UNO AMONG INDIAN MAJOR PORTS



Why in news?

- Paradip Port Authority (PPA's) remarkable journey has reached new heights with the recent record-breaking achievement of clocking incredible 145.38 MMT cargo throughput in FY 2023-24 and thus-by nudged passed Deendayal Port, Kandla to emerge as the highest cargo handling major port of the country.
- For the first time in the 56 years history of operation, PPA has surpassed previous records, set by Deendayal Port. Paradip Port has also recorded growth of 10.02 million metric tonnes (7.4%) of traffic on YoY basis.

Increased Performance in Cargo Handling

- During the financial year the Port has achieved highest ever coastal shipping traffic of 59.19 million

metric tonnes, with a growth of 0.76 million metric tonnes i.e. 1.30% over the previous year.

- The thermal coal coastal shipping has reached 43.97 million metric tonnes i.e. 4.02% over the previous year cargo handling. Thus, the Paradip Port is emerging as a hub for coastal shipping in the country.
- Paradip Port has been able to improve its berth productivity to 33014 MT from 31050 MT of previous financial year, thus registering 6.33% growth.
- The berth productivity achieved by Paradip Port is the highest among all the ports of the country.
- During the financial year, the Port has handled 21,665 numbers of rakes, registering a growth of 7.65% over the previous financial year. During the financial year, the Port has handled 2710 ships, registering an increase of 13.82% over the previous financial year.

Improvement Measures

- The increased performance in cargo handling has been driven by various system improvement measures undertaken by the Port during the financial year, which are detailed as below:
 - Improved system of operation at mechanized coal hand plant to reduce idle time between rake unloading has resulted in highest handling of thermal coal at MCHP i.e. 27.12 million metric tonnes.
 - The northern dock of the port has been declared for handling 16 meters draught cape vessels.
 - Simultaneous handling of 1 Cape and 1 Panamax at coal handling berths, which was not being done during the previous year.
 - Paradip Port has frozen its tariff for cargo handling at the level of 2022 for next 3 years as a part of its business development initiatives.
 - It is to be noted that Paradip Port is the cheapest in terms of tariff among all the port of the country.

Provisional Financial results

- The Operating revenue has crossed Rs.2,300 Crores against Rs.2,074 Crores in comparison to previous fiscal, resulting an increase of 14.30%.
- The operating surplus has crossed Rs.1,510 Crores against last year of Rs.1,300 Crores with a growth of 16.44 %.
- The net surplus before tax has crossed Rs.1,570 Crores against last year Rs.1,296 Crores exhibiting growth of 21.26 %.
- Net surplus after tax has also crossed Rs.1,020 Crores against Rs.850 Crores of last year which is 20% increase.
- The operating ratio has also improved to 36% against 37% last year.

Future Endeavours

- Paradip Port, with 289 million metric tonnes rated capacity port as on date, is poised to cross 300 million metric tonnes capacity mark in another 3 years with the commissioning of Western Dock project.

- ⇒ The work of Western Dock project with 25 million metric tonnes capacity is in full swing by the PPP Operator i.e./s. J.P.P.L.
- ⇒ The said project will also increase the draught of the port, enabling the port to handle fully laden cape vessels by 2026.
- ⇒ Paradip Port, which has mechanized 80% of the berths as on date, plans to become 100% mechanized by 2030 with the mechanization of existing 4 semi-mechanized berths.
- ⇒ The Port has also planned to add another 4 berths for which requisite approval will be taken during the current financial year, itself.

Way Forward

- ⇒ Paradip Port is planning to improve the connectivity by commissioning two road flyovers within its premises with a cost of Rs.150 crores to avoid surface crossing of rail and road traffic. This will enable the Port to handle road traffic seamlessly.
- ⇒ As a part of its port lead industrialization initiatives, the Port has allotted 769 acres of land to various industries which will bring more than Rs.8700 crores of investment and thus attracting 50 million metric tonnes of traffic to port.
- ⇒ Paradip Port, as part of its greenification, has planted 2 lakh saplings during the last year and it is expected to reach 1 million tree plantations by the year 2025.
- ⇒ The Port has also planned to develop 10 MW solar power plant to power the operations of the port, totally by renewable energy. The Port is also planning to come up with green refuelling station by setting up LNG and CNG depot at the Port.
- ⇒ The Port is also aiming to develop one exclusive berth for handling green ammonia/green hydrogen thus becoming the hydrogen hub port of the country.
- ⇒ The Port is developing an ultramodern signal station with latest vessel traffic management information system in association with IIT, Chennai. This will improve the vessel management and marine operations substantially, apart from improving the security.

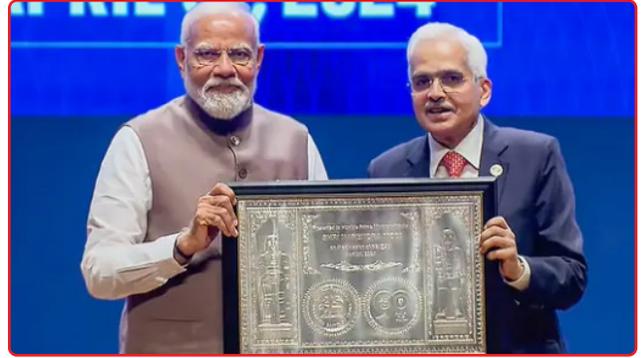
Conclusion

- ⇒ Today, Paradip Port stands tall as a shining star in the Indian maritime domain, earning accolades and setting unprecedented records that underscore its unwavering commitment to excellence.

RBI AT 90

Context

- ⇒ While central banks in developed countries can be traced as far back as the 17th century, among developing countries, the Reserve Bank of India, established on April 1, 1935, is one of the oldest such institutions.



How did RBI come into existence?

- ⇒ The Reserve Bank of India was established on April 1, 1935 in accordance with the provisions of the Reserve Bank of India Act, 1934.
- ⇒ The Central Office of the Reserve Bank was initially established in Calcutta but was permanently moved to Mumbai in 1937. The Central Office is where the Governor sits and where policies are formulated.
- ⇒ Though originally privately owned, since nationalization in 1949, the Reserve Bank is fully owned by the Government of India.

RBI in pre- and post-independence period

- ⇒ Since it came into existence, it has navigated and managed the several transitions the country has undergone - from a time when the planning process held sway to a more market-oriented economy, and now an increasingly digital economy.
- ⇒ As it looks towards the next 10 years, the RBI must learn from its past, adjust and adapt, and plan for the challenges it could encounter on its journey towards its centenary.

Record of RBI in the face of challenges

- ⇒ In the past nine decades, the Indian economy and the RBI have faced many difficult moments.
- ⇒ In the more recent past, these include the global financial crisis of 2008, the taper tantrum of 2013, demonetization, and the pandemic-induced disruptions to economic activities.
- ⇒ There was also the issue of bad loans plaguing the banking sector.
- ⇒ This problem, as the prime minister noted, was tackled by authorities at multiple levels - recognition, resolution, and recapitalization.
- ⇒ Prodded by the RBI, banks began to recognize the true extent of the problem.
- ⇒ The IBC framework ushered in by the government provided a more effective mechanism for resolving bad loans.
- ⇒ Alongside this, the government infused capital into public sector banks.
- ⇒ As a consequence, bad loans fell from 11.25 percent in 2018 to below 3 percent by September 2023, and credit growth has been healthy.

⇒ The twin balance sheet problem that held back investment activity has been resolved, the PM said.

The new age challenges for RBI

- ⇒ There have been other significant changes in recent times.
- ⇒ For one, the central bank has formally adopted inflation targeting.
- ⇒ This has helped keep inflation in line with the target and anchor expectations, barring some periods marked by the pandemic-induced disruptions.
- ⇒ The introduction of UPI has revolutionized the payments ecosystem across the country.
- ⇒ Over the coming years, as the pace of change accelerates further, the central bank must prepare for the many challenges that may come before it - from dealing with changes in payment mechanisms, and the central bank's digital currency, to new sources of risk and ensuring effective regulation and supervision.

Conclusion:

- ⇒ It must also be mindful of the risks of unforeseen events. An independent central bank plays a critical role in the macroeconomic management of the country. Coordination between monetary and fiscal policies is critical for the economy, and for creating a "Viksit Bharat".

UNDERSTANDING INDIA'S COAL IMPORTS



Context:

- ⇒ As the country braces itself for hot weather, the looming threat of electricity shortages resurfaces. In recent years, the combination of increasingly erratic weather patterns and a rapidly expanding economy has driven a significant surge in electricity demand, presenting a formidable challenge in ensuring reliable supply. However, certain aspects of the discourse surrounding this issue warrant closer examination.

The Shortage of Domestic Thermal Coal:

- ⇒ Primarily, the shortage of domestic thermal coal, utilized in electricity generation, is pinpointed as the main culprit behind the electricity deficit. For instance, in August 2023, which witnessed the most

pronounced electricity shortage of the year, the situation echoed similar strains experienced during summer months.

- ⇒ The shortage amounted to approximately 840 million units, primarily attributed to a deficient monsoon leading to heightened demand and diminished supply from certain sources. It's worth noting that this shortage constituted a mere 0.55% of the demand for that month.
- ⇒ Furthermore, addressing this shortfall would have required a modest 0.6 million tonnes of domestic coal, whereas coal mines possessed over 30 million tonnes collectively in August and September.

Availability or Logistics- Which is the Main Culprit?

- ⇒ This disparity underscores that the core challenge lies not in the availability of domestic thermal coal, but rather in the inadequate logistical infrastructure for transporting coal to power plants.
- ⇒ This perspective finds support in a recent advisory from the Ministry of Power, which acknowledges that "supplies of domestic coal will remain constrained due to various logistical issues associated with the railway network."

Auctions:

- ⇒ Given that coal currently stands as India's primary solution to address deficits, the logical response appears to lie in exploring alternative coal sources. Yet, this notion often leads to a common misconception—the assumption that imports represent the sole alternative.
- ⇒ Coal India Ltd. typically sells approximately 10% of its annual production, equating to roughly 70 million to 80 million tonnes, through spot auctions. Although the price of coal obtained through such auctions surpasses that of coal supplied to many plants, it still remains significantly lower than the price of imported coal.
- ⇒ Despite the fact that certain plants may not encounter logistical obstacles in acquiring coal from auction sites, they still do not regard auctions as a viable alternative.

Imports:

- ⇒ The issue of imports further complicates matters. Even if auctions are utilized, some thermal coal imports may be necessary for blending with domestic coal. Consequently, the pertinent question revolves around the extent to which coal plants should rely on imports.
- ⇒ In response to this dilemma, the Ministry of Power recently issued an advisory to power generators, urging them to continue monitoring their coal stocks until June 2024 and to import coal as needed, up to 6% by weight. However, there's a notable distinction

- between an advisory and a mandate. While widely perceived as an extension of a “mandate” for importing 6% coal, it's imperative to recognize that advisories can be conveniently interpreted as mandates by many coal-based generators.
- This interpretation is particularly advantageous for them as any increased costs resulting from coal imports can be passed on to electricity consumers through distribution utilities.
 - Therefore, it falls upon electricity regulators, entrusted with ensuring the prudence of electricity costs, to refrain from regarding such advisories as mandates.
 - Furthermore, initial analysis indicates that a mere 0.3% additional blending, in addition to the 3.4% of imported coal blended between April and December 2023, could have eradicated all shortages during that period.
 - Consequently, the third erroneous narrative emerges, suggesting that 6% coal imports are indispensable when, in reality, it represents merely an upper limit of imports that might be necessary.
 - Misinterpreting the advisory as a mandate could carry significant cost implications, particularly considering that coal still accounts for over 70% of India's electricity production.
 - Mandatory blending of 6% imported coal by weight for all coal-based generation, instead of the current blending levels, could inflate the variable cost of coal-based electricity by 4.5%-7.5%. Notably, according to the Annual Rating of Power Distribution Utilities report, power purchase costs surged by 15% in FY23, attributable to increased demand, coal imports, and prices of imported coal.

Generation and Geographical Placement:

- Not all power plants operate under the same conditions. Typically, those plants that produce the highest output, known as pit-head plants, are situated near mines, far from ports, and generally do not experience coal shortages.
- Conversely, during periods of heightened demand, plants located farther from mines, which typically generate less power, are more susceptible to shortages.
- Therefore, there is no valid rationale for interpreting the advisory as a mandate to import 6% coal by weight for all plants nationwide.

Conclusion:

- Clearly, the discourse surrounding coal shortages in the country requires a shift in direction. It cannot be automatically assumed that coal imports represent the default solution to address shortages. The primary challenge lies in surmounting logistical obstacles that hinder coal delivery to the necessary locations.

- In the interim, regulatory commissions and distribution utilities must ensure that all coal-based plants remain vigilant regarding the potential for coal shortages and identify the most cost-effective alternative sources— which may not necessarily involve imports— to bridge any gaps.

VIKSIT MUST BE INCLUSIVE



Introduction:

- As temperature is rising atmospherically, It is now confirmed that the year 2023 was the warmest year on record since 1850, according to the National Oceanic and Atmospheric Administration (NOAA).
- The 2023 temperatures were 1.18°C higher than the pre-industrial levels, and many scientists are predicting that 2024 could be even worse.
- Against this backdrop of rising temperatures, the most important question for India is: Will Indian agriculture be able to feed our growing population in the medium to long run, and will our farmers also be prosperous in Viksit Bharat@2047.

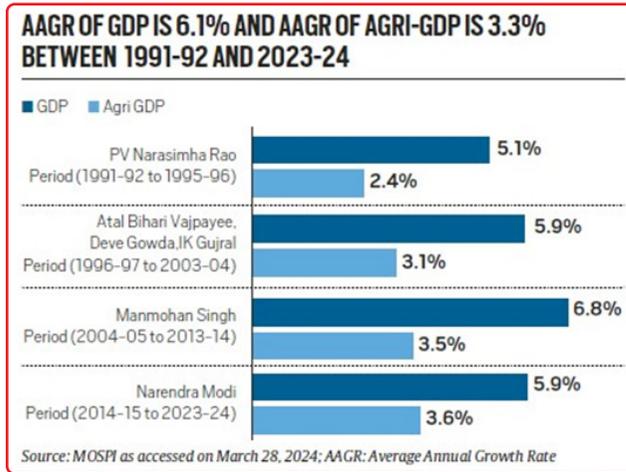
Early projection of year 2047:

- Although 2047 is still 23 years away, and it is very difficult to make such long-term projections, a rough idea of this can be obtained by looking at what happened since reforms began in 1991 and continued, in one way or the other, under various governments.
- But more interesting would be to see the growth story in the last 10 years under the Modi government and compare it with the preceding 10 years of the Manmohan Singh government.
- Given that the incumbent government feels very confident to come back with a thumping majority, it is likely to continue its policies of the past 10 years, or may even accelerate them to realise its aspiration of Viksit Bharat@2047.

Growth of agri-GDP and overall GDP:

- The accompanying graphic shows the average annual growth rates (AAGRs) of overall GDP and agri-GDP (2011-12 base, revised series).
- While the long-term growth rate from 1991-92 to 2023-24 (second advance estimate) of overall GDP is 6.1%, for agri-GDP it is 3.3%.

- ⊖ However, during the 10 years of the Modi government, overall GDP has grown only by 5.9% (compared to 6.8% during Singh's period) and agriculture growth has been 3.6% (compared to 3.5% during Singh's tenure).
- ⊖ There is not much of a difference between the two governments with respect to agri-GDP growth.



Importance of agriculture growth in Viksit Bharat Deam

- ⊖ Agriculture is critical for India's development as it still engages about 45.8% of working population (2022-23, PLFS data). So, if Viksit Bharat has to be inclusive Bharat, it must develop agriculture to its full potential.
- ⊖ The productivity needs to rise, water consumption needs to reduce, groundwater needs to be recharged, soil degradation needs to be arrested, and greenhouse gas (GHG) emissions from agriculture need to be curtailed.
- ⊖ Business as usual, with the current set of policies, is not likely to deliver this dream of inclusive Viksit Bharat by 2047.
- ⊖ Agriculture contributes roughly 18% to overall GDP but engages 45.8% of the workforce. If growth rates of overall GDP and agri-GDP keep rising as they have during the last 20 years, or even the last 10 years, it is likely that by 2047, agriculture's share in overall GDP may drop to just 7-8% but it may still be saddled with more than 30% of the workforce.
- ⊖ More people need to move out of agriculture to higher productivity jobs with better skills.
- ⊖ Therefore, skill formation of rural people for a rapidly growing and urbanising India has to be a priority.
- ⊖ Otherwise, Viksit Bharat will be viksit only for the top 25% of the population, while the rest may remain stuck in the low-medium income category.

Future of agri growth

- ⊖ The expected overall GDP growth of 7.6% in 2023-24 is a good foundation to build on.

- ⊖ Both the ministry of finance and the RBI feel upbeat, and expect the final numbers of this year to even be higher.
- ⊖ But agri-GDP growth rate of 2023-24 is a pitifully low level of just 0.7% (second advance estimate).
- ⊖ Agriculture growth dropped to this low level (0.7%) primarily because of unseasonal rains during the last kharif season. And there are no positive signals that the situation will improve.
- ⊖ If there are any signals, the risks of extreme weather events are going to increase, as humanity is falling far behind in controlling global warming.
- ⊖ India in general, and agriculture in particular, is not ready for this climate change.

Successive Failure of agriculture will hinder India's growth rate:

- ⊖ Indian agriculture in Viksit Bharat cannot be on a weak and risky wicket.
- ⊖ Two years of successive droughts can spoil the party of Viksit Bharat.
- ⊖ Even without a drought, the RBI has been fighting almost this entire year to control food inflation.
- ⊖ The Centre has put export controls, stocking limits on traders, suspended futures trading in many agri-commodities, and unloaded wheat and rice at prices below their economic costs.
- ⊖ These are all signs of panic, and policy tools of 1960s, when India was living from 'ship to mouth'.
- ⊖ This policy toolbox cannot be carried on in Viksit Bharat. *Education Centre*

Which policy will be suitable for agriculture for Viksit Bharat?

- ⊖ Rationalisation of food and fertiliser subsidies, and use of the savings to augment agri-R&D, agri-innovation and agri-extension, recharge soil and water through check dams and watersheds, and promote water saving techniques in agriculture (drip and sprinklers, fertigation, protected cultivation, etc.).
- ⊖ More importantly, India must move to high-value agriculture (poultry, fishery, dairy, fruits and vegetables) with a value chain approach, from plate to plough—a demand-driven system.
- ⊖ Policies and institutions through which farmers can access pan-India markets, and even export markets on a regular basis, be it through cooperatives or farmer producer organisation (FPOs) on digital commerce platforms (like eNAM or ONDC) or through contract farming with large processors, retailers, and exporters.
- ⊖ Promotion of futures trading in agriculture.

Conclusion:

- ⊖ With agriculture on high risk, the government needs to think of policies and institutions to enable farmers to access domestic and global markets.

WAITING FOR SUMMER



Context:

- The Reserve Bank of India (RBI) maintained a status quo on its policy rates on April 5, 2024, reflecting the prevailing economic landscape characterized by stronger-than-expected growth and inflation above target.
- This decision aligns with market expectations considering various indicators suggesting continued economic momentum, particularly in non-farm sectors.

Economic Momentum and Growth Prospects:

- The economy displayed resilience with the second advance GDP estimate indicating growth at over 8 percent in the first three quarters, propelling fiscal growth to 7.6 percent.
- High-frequency data such as the Composite Purchasing Managers' Index (PMI) for March, standing at 61.8, underscores robust expansion.
- Tax collections exceeding targets, especially in sectors like construction, manufacturing, and financial services, further bolster the growth narrative.
- However, agricultural growth remained subdued at 0.7 percent in 2023-24.
- Investment-Driven Growth and Consumption Concerns:
 - GDP growth has been primarily investment-driven, with private consumption growth lagging behind.
 - Despite private consumption being vital for balanced growth, it has trailed GDP growth, necessitating close monitoring.
 - CRISIL expects GDP growth to moderate to 6.8 percent in the current year, influenced by the transmission of RBI's rate hikes and regulatory actions aimed at controlling unsecured lending, which may dampen credit growth.
 - Additionally, a lower fiscal deficit could limit fiscal stimulus to growth.

Inflation Dynamics and Outlook:

- Inflation, particularly food inflation, remains a concern.

- While overall inflation is projected to drop to 4.5 percent assuming normal monsoon and stable crude oil prices, food inflation has been persistent.
- Factors such as the impact of El Niño and La Niña conditions on food prices are crucial considerations.
- Core inflation, excluding food and fuel, remains relatively benign but requires vigilance.

Impact of Food Inflation on Consumption and Policy:

- High food inflation disproportionately affects lower-income segments, constraining discretionary spending and potentially weakening consumption demand.
- While government interventions such as free food grain programs mitigate some impact, a reduction in overall food inflation is crucial for broader relief.
- Expectations of normal monsoons and lower food inflation could bolster rural consumption.

External Factors and Monetary Policy:

- Global factors, including geopolitical uncertainties and trends in central bank policies, influence India's monetary policy decisions.
- While domestic considerations primarily guide RBI actions, interconnectedness implies that rate cuts by major central banks may influence emerging markets.
- Coordination between fiscal and monetary policy, alongside improved macroeconomic conditions, may pave the way for rate cuts in India, although external risks such as poor monsoons and volatile crude oil prices remain pertinent.

Conclusion:

- The RBI's decision to maintain the status quo reflects a nuanced understanding of domestic and global economic dynamics.
- While robust growth and inflationary pressures indicate a resilient economy, challenges such as consumption concerns and persistent food inflation necessitate careful policy calibration.
- With a conducive macroeconomic environment and improved policy coordination, the outlook suggests potential rate cuts, contingent upon managing external risks effectively.

WHAT ARE THE ISSUES WITH THE NEW QUALITY CONTROL ORDERS FOR FIBRES?

Introduction:

- Quality Control Orders (QCO) have been issued for fibres cotton, polyester and viscose that constitute the basic raw materials for majority of the Indian textile and clothing industry.
- While the standards were available earlier too, these are now revised and made mandatory for a few, and yet to be finalised for others.

⇒ International manufacturers of these fibres, who supply to India, are also mandated to get a certificate from the Bureau of Indian Standards (BIS), which is the certifying authority for the QCOs.

Why are fibres covered under QCOs?

- ⇒ The Indian textile and clothing industry consumes both indigenous and imported fibres and filaments. The imports are for different reasons cost competitiveness, non-availability in the domestic market, or to meet a specified demand of the overseas buyer.
- ⇒ The main aim of the QCO is to control import of sub-quality and cheaper items and to ensure that customers get quality products. The entire supply chain, from the textile manufacturers to exporters, has so far focused on quality standards prescribed by the buyers.

What challenges does the new mandate bring?

- ⇒ The overseas fibre manufacturers sell not only to India but to other countries too. The supply of some fibres to India is in small quantities. Getting the certificate from the BIS involves a cost and hence not all are interested in getting the certificate.
- ⇒ The Indian textile manufacturers who are dependent on these suppliers for the raw material will have to either look at other suppliers or lose orders. For instance, a bed linen exporter in Tiruppur district imports polyester filament with functional properties from Turkey based on the demand of his European buyers. Though the imported filament constitutes just 6% of the product, the buyer has specified the source for the filament. Since the Turkey company is not interested in getting the BIS certificate, the exporter in Tiruppur has lost an order to Pakistan.
- ⇒ Furthermore, BIS officials have to visit the manufacturing unit abroad before issuing the certificate and this process is yet to be completed for all suppliers who have applied for the BIS registration. There is no clarity on the fibres that were shipped before the certification and which will reach India in the coming days.
- ⇒ The textile buyers, be it domestic or international, have established a supply chain over the years and when there are constraints because of certification, the value chain is disrupted.

Way forward

- ⇒ Be it viscose or polyester, some varieties of the fibre have special functional properties and separate HS (Harmonised Commodity Description and Coding System) code when imported. But, these are bundled in the QCO and thus have uniform quality standards.
- ⇒ The textile industry imports just small quantities of such fibres and restricting its availability will deny Indian consumers of niche products. The textile industry is of the view that import of speciality fibres

that are used as blends with other fibres should be made available without restriction.

- ⇒ Also, any overseas applicant for the BIS certificate should get it without delay after inspection. Several textile units use lower grade fibres that are generated from rejects and wastes and these are not covered under the QCO.
- ⇒ There is also a fear of costs going up for basic garments. Further, polyester spun yarn mills in the MSME sector need capital support to set up labs to test products. The QCO should be implemented only after the ambiguities are cleared and the anomalies set right, says the industry.

AN ALTERNATIVE PATH



Introduction

- ⇒ India emerged as the bright spot amid a weak global outlook. With a 7.5 percent growth estimate, India is one of the fastest growing significant economy.
- ⇒ India's growth story provides a development model to be followed by many developing countries.

Analysis of India's growth path

- ⇒ India's development path is demonstrating the impacts of public and private sector initiative, innovation, and resilience that could be replicated in other countries.
- ⇒ As we seek to learn what works and scale it up, India offers practical development knowledge at the federal, state, and local levels.
- ⇒ We see India as a development sandbox for testing real-world solutions that can be tailored and scaled through South-South knowledge exchange.
- ⇒ It can be demonstrated by emphasizing three examples: The energy transition, digital public infrastructure, and female empowerment.

Energy Transition

- ⇒ There is still a long way to go, but India has made important progress on the energy transition, with renewable energy making up 42 per cent of its total power generation capacity.
- ⇒ India is currently the world's fourth largest renewables market and home to 3 per cent of the global solar manufacturing capabilities.

- Over the past five years, India has invested close to \$10 billion every year into renewables and ranks among the world's five emerging and middle-income economies with large scale public investment in renewable energy.
- The country has also supported the adoption of EVs and the production of green hydrogen.
- Investors thus rightly see India's clean energy shift as a big opportunity.
- And the World Bank has been able to contribute with investments of about \$1 billion in solar parks and rooftop solar in the country having leveraged 40 times that amount in commercial investment.
- India is now poised for the next phase of its energy transition which will require addressing the intermittency of renewable energy sources through investments in transmission and storage, promoting the large-scale and rapid electrification of transportation, and catalysing investments in technologies that will foster industrial decarbonisation.
- The National Rural Livelihoods Mission, supported by the World Bank, has empowered millions of rural women by organising them into self-help groups.
- More than \$4 billion in commercial credit has been mobilised to support women-led cooperatives and rural enterprises.
- If India can take these experiences to scale, it could raise its female labour force participation to the developing country average of 50 per cent – adding a full percentage point to the country's potential growth rate and lifting up a generation of Indian women and girls.

Conclusion

- Investment in energy transition, digital public infrastructure, and female empowerment is taking the country towards a green and sustainable future.
- With the world's largest population and an aspiration to reach high-income country status by 2047, India will continue to write important chapters in the book on global development.

Digital public infrastructure (DPI)

- With its digital public infrastructure (DPI) initiative, India has pioneered the use of technology for inclusion.
- With a digitally verifiable proof of identity, millions of people can now access social safety net payments, open bank accounts, and receive government services without the need to stand in queues, negotiate with public officials, and fill out paper forms.
- The use of digital payments has also reduced delays in the payment of maternal health conditional cash transfers by 43 per cent.
- In many states, micro-entrepreneurs are working in a cashless environment and using digital networks to serve a wider market, access finance, and expand their businesses.
- While affordable connectivity remains a key constraint, digital innovation is transforming entire rural communities from online health consultations and remote learning to e-commerce and fin-tech.
- India offers valuable lessons on how countries can make use of the digital economy for growth, inclusion, and poverty reduction and the World Bank is sharing the lessons of India's DPI journey with other countries.

Female empowerment

- Although India's female labour force participation is behind other countries, an encouraging sign is that this could be changing.
- India is providing many policy support to women like working women hostels, cheap credits, handholding support.
- Combined with improved access to finance, such initiatives have helped boost the female labour force in industry to 43 per cent of the national total.

INDIANS PERMITTED TO HEDGE GOLD PRICE RISK OVERSEAS MARKETS



Why in news?

- Reserve Bank of India (RBI) has allowed Indian residents to hedge their gold price risk on recognised exchanges in the International Financial Services Centre (IFSC).
- Governor Shaktikanta Das announced the decision during the Monetary Policy Committee (MPC) meeting where the repo rate was increased by 35 basis points to 6.25 per cent.

What is Gold Hedging?

- In the context of business, particularly in the gold industry, hedging is a strategy used to minimize the risk of potential losses due to fluctuations in the market price of gold.
- Gold producers, traders, and investors may employ various hedging techniques to protect themselves against adverse price movements and ensure a more stable cash flow.

Examples of hedging strategies in the gold business include:

Forward contracts

- A gold mining company might enter into a forward contract, agreeing to sell a specific amount of gold at a predetermined price on a future date. This locks in the selling price, providing protection against a potential drop in gold prices.

Options

- Gold traders can purchase put options, giving them the right, but not the obligation, to sell gold at a specific price (strike price) by a certain date. This helps limit potential losses if gold prices fall below the strike price.

Futures contracts

- Gold investors can buy or sell gold futures contracts, which are agreements to purchase or sell a specific amount of gold at a predetermined price on a future date. Futures can be used to hedge against price volatility and manage risk.

Current Rule on Gold Hedging

- Prior to this approval, resident entities in India were not permitted to hedge their exposure to gold price risk in overseas markets.
- This new decision by the RBI opens opportunities for Indian residents to hedge their positions against price fluctuations in global markets.

Benefits of Gold Hedging for Indian Residents

- The approval to hedge gold on recognised exchanges in the IFSC will benefit Indian residents, particularly those involved in the gold import and export industry.
- By being able to hedge their gold price risk, players in the industry can protect themselves against unfavourable price movements and currency fluctuations.
- This approval is also expected to increase price competitiveness in the Indian jewellery industry, as it enables businesses to manage their exposure to gold prices more effectively.

INHERITANCE TAX



Why in news?

- Oxfam report says that 70% of countries don't have any form of inheritance tax on wealth.

What is the status of inheritance tax in India?

- Inheritance tax - Inheritance tax was a tax that was levied against a particular asset during the time of its inheritance.
- A person can receive inheritance either under a Will or under the personal law of the deceased.
- It comes under direct tax.
- Status of inheritance tax in India - In India, the concept of levying tax on inheritance does not exist now.
- The Inheritance or Estate Tax was abolished with effect from 1985.
- In the event of death of an individual, properties belonging to the deceased would pass on to his legal heirs, a transfer without any consideration in return.
- Hence, it could qualify as a gift for the purpose of income tax.
- The Income Tax Act, 1961, specifically excludes the transfer of assets under will or inheritance from the purview of gift tax.

When should the person receiving the inheritance pay tax?

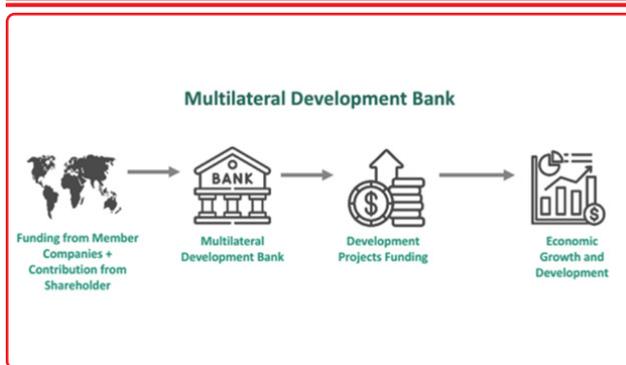
- **On the income earned from the inherited property:** The person receiving the inheritance has to pay tax on the income earned (rent, interest etc.) in respect of the assets inherited by him once he becomes owner of the same.
- **On selling the inherited asset:** The person has to pay capital gains tax when he sells the inherited asset.
- The holding period (period for which the property was held by the heir and the deceased) will determine if capital gains will come under long-term capital gains tax or short-term capital gains tax.
- The judicial pronouncements have held that since the cost to the previous paid for owner is to be substituted, indexation should be allowed.
- The indexed capital gains are taxed at flat rate of 20%.
- Indexation is a systematic process that enables individuals to protect their earnings against tax erosion. It allows individuals to adjust the cost of investment for inflation with the help of a price index.

What is the need for an inheritance tax in India?

- **Reduces inequality:** It aids in reducing the inequality.
- **Dispersion of wealth:** It will allow for a more efficient dispersion of wealth.
- **Creation of meritocratic society:** It will create a meritocratic society by chipping away the advantages the children of the wealthiest families enjoy by an accident of birth.

- ⇒ **Utilitarian economics:** It rests on the principle of utilitarian economics which believes that an optimal social state can be achieved through redistribution of initial endowments.
- ⇒ **Need for more direct taxes:** Most of India's tax revenues accrue from indirect taxes, intensifying the economically weaker sections.
- ⇒ **Revenue to fund public welfare:** Inheritance tax can raise a significant quantum of revenue for the exchequer which could be used to finance public welfare.
- ⇒ **International practices:** Countries such as England, France, Germany, the USA, and Greece have been taxing inherited wealth at as high as 40%.

MULTILATERAL DEVELOPMENT BANKS REFORMS



Why in News?

- ⇒ Recently, the UN Secretary-General emphasized that reforming multilateral development banks (MDBs) will be a major focus at this year's Summit of the Future, taking place during the UN General Assembly in September 2024.

Multilateral Development Banks

- ⇒ Multilateral Development Banks (MDBs) are international financial institutions tasked with providing financing and expert guidance for economic and social development projects in developing nations.
- ⇒ These banks are established and funded by multiple countries, pooling resources and offering shared representation on their governing boards.
- ⇒ Originating in the post-World War II era, their primary aim was to reconstruct war-torn countries and stabilize the global financial system.

Objectives of MDBs

- ⇒ MDBs prioritize development objectives over profit maximization, unlike commercial banks.
- ⇒ Their primary focus lies in addressing development challenges, such as eradicating extreme poverty and reducing economic disparities.
- ⇒ They achieve this by offering loans at low or zero interest rates and providing grants to support

projects spanning infrastructure, energy, education, environmental sustainability, and other key developmental areas.

Major MDBs

- ⇒ Key MDBs include the World Bank Group, the Asian Development Bank, the African Development Bank, the European Bank for Reconstruction and Development, and the Inter-American Development Bank.

Key Challenges Associated with MDBs

- ⇒ **Resource Constraints:** MDBs often face limitations due to restricted capital availability, hindering their capacity to finance extensive development endeavors.
- ⇒ **Adapting to Global Challenges:** Challenges like climate change, pandemics, and technological disruptions require MDBs to adapt their strategies effectively, which they have struggled to do comprehensively.
- ⇒ **Decision-Making:** Some MDBs exhibit voting structures that favor developed countries, necessitating a push for greater representation and transparency in decision-making.
- ⇒ **One-Size-Fits-All Approach:** Standardized lending conditions may not adequately address the diverse economic circumstances and capabilities of developing countries.

Necessary Reforms in MDBs

- ⇒ **Financing Climate Action:** MDBs should enhance efforts to mobilize resources for climate change mitigation and adaptation, possibly through dedicated finance mechanisms and innovative instruments.
- ⇒ **Knowledge Sharing & South-South Cooperation:** Facilitating knowledge exchange between developing countries can foster collaboration and support the adoption of successful development strategies.
- ⇒ **Graduation Strategies:** Implementing clear pathways for middle-income countries to transition from concessional to market-rate financing, allowing MDB resources to be directed towards countries still in need.
- ⇒ **Social and Environmental Safeguards:** Strengthening safeguards to ensure MDB-funded projects promote sustainable development while avoiding adverse social and environmental impacts.

WHY HAVE PRIVATE INVESTMENTS DROPPED?

Context

- ⇒ The failure of private investment, as measured by private Gross Fixed Capital Formation (GFCF) as a percentage of gross domestic product (GDP) at current prices, to pick up pace has been one of the

major issues plaguing the Indian economy. Private investment witnessed a steady decline since 2011.



GFCF and its Significance

- GFCF refers to the growth in the size of fixed capital in an economy.
- Fixed capital refers to things such as buildings and machinery, for instance, which require investment to be created.
- So private GFCF can serve as a rough indicator of how much the private sector in an economy is willing to invest.
- Overall GFCF also includes capital formation as a result of investment by the government.
- GFCF matters because fixed capital, by helping workers produce a greater amount of goods and services each year, helps to boost economic growth and improve living standards.
- In other words, fixed capital is what largely determines the overall output of an economy and hence what consumers can actually purchase in the market.
- Developed economies such as the U.S. possess more fixed capital per capita than developing economies such as India.

Trend in private investment in India

- In India, private investment began to pick up significantly mostly after the economic reforms of the late-1980s and the early-1990s that improved private sector confidence.
- From independence to economic liberalization, private investment largely remained either slightly below or above 10% of the GDP.
- Public investment as a percentage of GDP, on the other hand, steadily rose over the decades from less than 3% of GDP in 1950-51 to overtake private investment as a percentage of GDP in the early 1980s.
- It, however, began to drop post-liberalization with private investment taking on the leading role in fixed capital formation.
- The growth in private investment lasted until the global financial crisis of 2007-08.
- From 2011-12 onwards, however, private investment began to drop and hit a low of 19.6% of the GDP in 2020-21.

Reasons for the fall

- Many economists in India have blamed low private consumption expenditure as the primary reason behind the failure of private investment to pick up over the last decade, and particularly since the onset of the pandemic.
- Their reasoning is that strong consumption spending is required to give businesses the confidence that there will be sufficient demand for their output once they decide to invest in building fixed capital.
- Historically, however, an increase in private consumption has not led to a rise in private investment in India.
- In fact, a drop in consumption spending has boosted private investment rather than dampening it.
- The inverse relationship between consumption and investment is likely because the money that is allocated towards savings and investment, either by the government or by private businesses, comes at the cost of lower consumption expenditure.
- Other economists believe that structural problems may likely be the core reason behind the significant fall in private investment as a percentage of GDP over the last decade or so.
- They have cited unfavorable government policy and policy uncertainty as major issues affecting private investment.
- Policy uncertainty can discourage private investment as investors expect stability to carry out risky long-term projects.

Conclusion

- The biggest cost of low private investment would be slower economic growth as a larger fixed capital base is crucial to boost economic output.
- It should be noted, however, that private investors are considered to be better allocators of capital than public officials, helping avoid wasteful spending.

SOCIETY

ELECTION'S MISSING QUESTIONS



Context

- As the election season approaches, the assessment of India's democracy varies depending on who is asked.
- While many Indians perceive democracy through the lens of free and fair elections, elected governance, and executive implementation of laws, international agencies and domestic liberals often highlight shortcomings such as erosion of constitutional values and institutions.

Diverse Interpretations:

- The definition of democracy and its expected outcomes differ among various segments of society, ranging from taxi drivers to college students.
- While most Indians prioritize electoral democracy, international agencies and domestic critics emphasize broader indicators such as freedom of expression, religious practice, and fair trials.

Democracy as a Means of Progress:

- Functional View:** Viewing democracy as a means for societal progress, particularly in material, cultural, and social aspects, underscores the importance of informed choices and collective action. Electoral democracy serves as a mechanism to implement this broader objective, facilitating accountability and development.
- Role of Knowledge and Information:** Emphasizing the role of knowledge and information in democracy, particularly through reports and platforms for discussion provided by universities and scientific agencies. Examples from countries like Canada highlight how information cycles contribute to prosperity and societal well-being.

Challenges in Indian Society:

- Lack of Information and Accountability:** Contrasting the situation in India, where issues like irregular water supply, poor infrastructure, and inadequate healthcare often go unacknowledged or unaddressed. The absence of comprehensive reports and community participation limits accountability and efficient governance.
- Administrative Deficiencies:** Highlighting administrative shortcomings at both district and national levels, where critical issues like air pollution and education quality receive insufficient attention. Despite the severity of these problems, they often do not feature prominently in electoral discourse or policy agendas.

Educational and Civic Challenges:

- Quality of Education:** Addressing concerns about the quality of education in India, as highlighted by reports indicating low levels of basic literacy and numeracy among youth. This raises questions about the populace's ability to engage with complex issues and make informed decisions.

- Functional Democracy or Electoral Ritual?:** Reflecting on whether India is truly a functional democracy or merely a nation that regularly holds elections. The discrepancy between democratic ideals and the realities of governance underscores the need for deeper introspection and reform.

Conclusion:

- Advocating for reforms that enhance accountability, transparency, and civic participation in India's democratic processes.
- Recognizing the importance of addressing systemic deficiencies to ensure that democracy serves as a vehicle for societal progress and collective well-being, rather than merely a ritualistic exercise.

HOW WATER INSECURITY AFFECTS WOMEN**Water Insecurity and Gendered Burdens**

- Women and girls bear the primary responsibility for water collection in households, particularly in areas where water access is limited.
- Despite progress in India's water access, the National Sample Survey indicates significant gaps, with over 41% of rural households lacking safe drinking water within their premises.
- Geographical disparities persist, with households often having to travel considerable distances, up to 1.5 km or more, for their principal water source.
- Water scarcity exacerbates stress within households and negatively impacts women's lives, household dynamics, and social relationships.
- Lack of access to water affects girls' school attendance and academic performance, while women face gender-based violence during water collection, leading to mental health issues.

Effects of Water Insecurity on Women's Health:

- Water insecurity contributes to open defecation practices, resulting in health risks such as diarrhoea, typhoid, and cholera, as well as menstrual health issues.
- Women practising open defecation experience psychosocial stress and face a higher risk of non-partner sexual violence, further impacting their well-being.

Policy Responses and Empowerment Efforts:

- The Jal Jeevan Mission (JJM) and the National Water Mission represent significant policy shifts in water management, aiming to provide household tap connections for drinking water access.
- JJM initiatives reduce women's burden by minimizing the time spent on water collection, allowing them more time for productive activities.
- Women's empowerment is promoted through increased participation in community engagement, including gram panchayat and self-help group activities, as well as involvement in Pani Samitis for water program planning and monitoring.
- JJM guidelines prioritize training women in water quality monitoring, empowering them and ensuring the delivery of quality water to rural households.

Research Findings and Implications:

- A study conducted in rural Tamil Nadu demonstrates the positive outcomes of household access to safe drinking water under JJM.
- Improved water access leads to time savings for women, which they utilize for household management, childcare, and children's schooling.
- Women with higher empowerment indicators spend less time fetching water and exhibit better mental health.
- Positive correlations exist between water access and sanitation, emphasizing the interconnectedness of these issues and the need for comprehensive approaches to address them.

Conclusion:

- Water insecurity disproportionately burdens women in India, impacting their daily lives, health, and safety. Policy initiatives like the Jal Jeevan Mission aim to alleviate these burdens, emphasizing gender empowerment and improved water access for better socio-economic outcomes.

UNIVERSITIES MUST BUDGE ON COLLEGE AUTONOMY NUDGE



Context

- The article discusses the surge in applications for autonomous status among colleges following the

UGC's regulation, emphasizing the importance of autonomy in promoting innovation, academic excellence, and institutional accountability in higher education.

Introduction:

- The National Education Policy 2020 emphasises the transformation of colleges into autonomous institutions to promote innovation and academic freedom.
- The University Grants Commission (UGC) introduced a regulation in April 2023 to facilitate the autonomy of colleges, resulting in a surge of applications.

Importance of Autonomous Colleges:

- Autonomous status fosters innovation, academic quality, and institutional excellence.
- Colleges can customize curriculum, experiment with teaching methods, and engage in research, enhancing educational outcomes.

Advantages of Autonomy:

- Autonomy cultivates accountability and responsibility among colleges, boosting institutional efficiency and motivation.
- It promotes pride and identity within colleges, motivating faculty and staff to strive for excellence.

Impact on NIRF Rankings:

- The NIRF Rankings of 2023 highlight the positive correlation between autonomy and academic excellence.
- Out of the top 100 colleges, 55 are autonomous, indicating the effectiveness of autonomy in enhancing institutional performance.
- Five out of the top 10 colleges in the NIRF Rankings are autonomous, showcasing their significant contribution to academic excellence.

Trend of Autonomous Colleges:

- The number of autonomous colleges is expected to reach 1,000 across various states and union territories.
- States like Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, and Telangana lead in establishing autonomous colleges.
- Even states with fewer autonomous institutions recognize the transformative potential of autonomy in higher education.

Challenges Post-Autonomy:

- Some universities impose limitations on syllabus changes, hindering colleges' autonomy in curriculum development.
- Delays in recognizing autonomy by universities disrupt college operations and undermine the autonomy spirit.
- Reluctance from universities to cede complete autonomy inhibits colleges' ability to innovate and adapt.

- Arbitrary fees imposed by universities for affiliation raise concerns about transparency and fairness.
- Addressing Post-Autonomy Challenges:
- State Councils for Higher Education must ensure effective implementation of UGC regulations on autonomy.
- Universities should streamline decision-making processes, fostering trust and collaboration with autonomous colleges.
- Collaboration between stakeholders is crucial for addressing challenges and creating a vibrant higher education ecosystem.

Conclusion:

- Successful autonomy implementation requires collaborative efforts from stakeholders to address challenges effectively and foster a dynamic higher education environment.

- Social and lifestyle factors (20%)
- Violence (22%)
- Economic distress (9.1%)
- Relationship factors (9%)
- Other issues- Physical and sexual abuse, exam failures, intergenerational issues, other socio-cultural factors such as Caste.

Socio-Cultural Factors

- There are specific socio-cultural factors for suicides of women in such as arranged and early marriages because of familial pressure, young motherhood, low social status, domestic violence and economic dependence.
- Apart from this, gender stereotypes compelling rigid gender roles and gender based discrimination have also contributed in suicides among women.

Education System

- An education system just focusses on scoring marks, often through rote learning and less focussing on the overall development of the child.
- The Indian education system poses immense pressure on students which severely affects the mental well being of the students.
- The cut throat competition in some of the competitive exams like IIT JEE, NEET for the students coming from Lower middle class families creates immense pressure.
- These exams are a way to alleviate their socio-economic status. But because of the scant number of seats in these exams only a fraction of students are able to clear them. Others who fail become prey to societal and peer pressure often leading students to take up their lives.

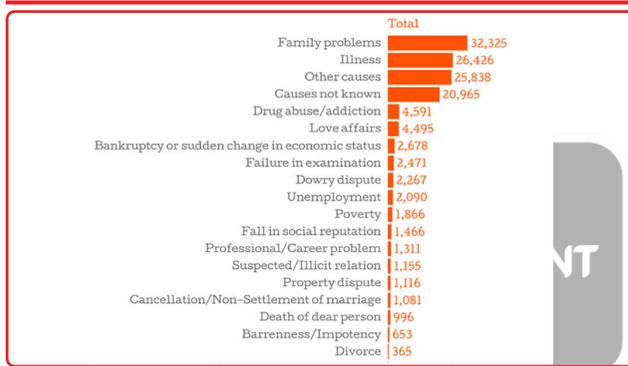
Social Media

- Last decade has seen a proliferation of internet users in India.
- A meta-analysis of 19 states has revealed that almost 20% of college students are net addicts, one-third are cyber bullied and one-third of all these are suicidal.
- Teens who use social media for 2 hours daily are more suicidal.
- Sensational reporting of suicides of popular celebrities has an impact on the psychology of people.
- After the sensational reporting of death of a famous actor there was increase in searches on google related to "how to commit suicide."

What can be done?

- **Imparting Emotional intelligence:** like problem solving, impulse control and emotional regulation along with improving help seeking behaviour.
- **Early identification and care:** help people to work on depression and anxiety and also there are evidences people getting care from friends and family members tend to be less vulnerable to commit a suicide.

YOUTH SUICIDES IN INDIA



Why in news?

- The issue of suicide in India is a concerning matter, India has one of the highest number of suicides in the world.
- As per NCRB data, In 2022, 1.71 lakh suicides were recorded, in which 41% were committed by the young adults below the age of 30, marking a significant 27% jump from 2018.
- But these number are underestimated because of less reporting of suicidal deaths because of inadequate registration system, lack of death certification and the social stigma attached to suicides in India.
- A young Indian dies by suicide every 8 minutes which is a loss to family, society and Country at large. This data points out the graveness of situation of mental health of students in India.

Reasons for increase in Suicide Rates

- Suicide is a complex human phenomenon which has no single factor, but multiple factors like biological, psychological and socio-cultural factors.
 - Mental health problems (54%)
 - Family issues (36%)
 - Academic stress (23%)

- ⇒ **Healthy lifestyle:** adopting a healthy lifestyle such as a good diet, regular exercising, yoga and meditation improves mental health and reduces suicides in young.
- ⇒ **Improving family environment:** by reducing domestic violence, decrease in patriarchal norms and alcohol consumption leads to reduction suicidal tendencies.
- ⇒ **Providing economic assistance:** to economically distressed people
- ⇒ **Educational reforms:** making education as a means for overall development of a child rather than just for quantitative assessment can create a huge impact.
- ⇒ **Societal changes:** to reduce stigma on the basis of caste, gender and sexuality of a person.

Conclusion

- ⇒ In this capitalistic, materialistic world where lifestyles are based on show-off culture.
- ⇒ There is a need of implementing educational, societal and behavioural changes among citizens to cope with the mental health pressures and suicidal thought.

SECURITY

INDIAN AVIATION, A CASE OF AIR SAFETY AT A DISCOUNT



Context

- ⇒ The article addresses concerning safety issues in Indian aviation, including the lack of implementation of safety measures at Karipur Airport and the deferral of revised Flight Duty Time Limitations (FDTL) regulations.
- ⇒ It highlights the potential conflict between prioritizing passenger safety and accommodating commercial interests within the industry.

Safety Issues at Karipur Airport:

- ⇒ Union Minister for Civil Aviation, Jyotiraditya Scindia, highlighted safety concerns at Karipur Airport due to the absence of Runway End Safety Area, despite recommendations by the Aircraft Accident Investigation Bureau (AAIB) post a 2020 air crash.

- ⇒ The Minister warned of potential runway length curtailment if the safety measures weren't implemented by August 1, 2023.
- ⇒ As of April 2024, no action has been taken, and flights continue without restrictions, raising doubts about prioritizing safety.

Revised Flight Duty Time Limitations (FDTL) Regulations:

- ⇒ In January 2024, Minister Scindia announced revised FDTL Regulations to address pilot fatigue, including increased rest periods and regular fatigue reports.
- ⇒ However, airline owners expressed concerns about needing additional crew to meet these regulations, leading to a deferral of the implementation deadline by DGCA in March 2024.

Safety vs. Commercial Priorities:

- ⇒ The inconsistency between emphasising safety and accommodating commercial interests prompts questions regarding the true priority of passenger safety.
- ⇒ Lack of implementation of safety measures and deferral of regulations suggest a potential bias towards commercial concerns over safety.

International Standards and Practices:

- ⇒ International Civil Aviation Organisation (ICAO) mandates the Fatigue Risk Management System (FRMS) due to the recognized dangers of fatigue-related incidents.
- ⇒ Countries like Japan, Singapore, and the UK prioritize fatigue management with measures like regular rest periods and augmented rest for long-haul flights.

Human Factor and Financial Stress:

- ⇒ Neglecting the human factor in airline operations, particularly pilot well-being, poses significant risks.
- ⇒ Instances of financial stress among pilots, as seen in past accidents, highlight the need for holistic consideration of pilots' mental and financial health.
- ⇒ Reports of pressure on pilots regarding contract changes raise concerns about their mental state during flight operations.

Proposed Solutions:

- ⇒ Adoption of ICAO Annex 1 Standard to recognize foreign licenses could address pilot shortages by attracting experienced Indian captains working abroad.
- ⇒ Utilization of retired pilots for simulator training could ease training requirements and release more pilots for active flying duties.

Need for Reform and Transparency:

- ⇒ Outdated regulations and systemic corruption hinder progress in Indian aviation.
- ⇒ Tatas, in their merger of airlines, should prioritise the human factor and transparency to ensure a trouble-free and world-class airline system.

Conclusion:

- Indian aviation faces significant safety challenges stemming from inadequate infrastructure, regulatory issues, and commercial pressures.
- Addressing these challenges requires a comprehensive approach that prioritizes safety, addresses pilot well-being, and fosters transparency and reform within the industry.

IAF IN OPERATION MEGHDOOT**Context**

- Meghdoot was launched on 13 April 1984, when the Indian Army and Indian Air Force (IAF) advanced to the Siachen glacier to secure the heights dominating the Northern Ladakh region.
- The operation involved the airlifting of Indian Army soldiers by the IAF and dropping them on the glacial peaks.
- Although the operation began in 1984, IAF helicopters were already operating in the Siachen Glacier since 1978, flying the Chetak helicopters which was the first IAF helicopter to land in the Glacier in October 1978.

What was Operation Meghdoot

- By 1984, Pakistan's cartographic aggression in the uncharted territory of Ladakh, allowing foreign mountaineering expeditions in Siachen, was becoming a cause of concern.
- Having received intelligence inputs about an impending Pakistani military action in the area, India decided to thwart Pakistan's efforts to legitimize its claim on Siachen. The Indian Army launched Operation Meghdoot, to secure strategic heights on Siachen with the deployment of troops.

How Indian Army dealt with it?

- Playing an irreplaceable role in this effort, IAF's tactical and strategic airlifters, An-12s, An-32s and IL-76s transported stores and troops and air-dropped supplies to high altitude airfields, from where Mi-17, Mi-8, Chetak and Cheetah helicopters ferried men and material to dizzying heights on the glacier, far above the limits set by the helicopter manufacturers.

- Soon, about 300-odd troops were positioned on the strategically important peaks and passes of the glacier.
- By the time the Pakistan army reacted by advancing its own troops, the Indian Army was occupying strategically crucial mountain peaks and passes, thereby gaining a tactical advantage.
- In extending valuable support to the Army's fight for maintaining military dominance on this desolate glacier since April 1984, the IAF's incredible performance at the extremes of temperature and altitude remains a continuing saga of fortitude and skill.

Role of IAF in Operation Meghdoot

- While the initial operations involved only the use of transport and helicopter aircraft transporting men and material, the IAF gradually expanded its role and presence in the region with the deployment of fighter aircraft as well.
- The IAF's Hunter aircraft kick-started fighter operations from the high altitude airfield at Leh, when a detachment of Hunters from No 27 Squadron commenced operations in September 1984.
- In the next couple of years, the Hunters flew an impressive total of more than 700 sorties from Leh.
- As an increasingly large number of fighter sweeps and simulated strikes began to be carried out over the glacier itself, it served as the ultimate morale booster for Indian troops deployed on the glacier, and sent a stern message to the adversary to avoid any misadventures in the area.
- Later, live armament sorties were carried out at the high altitude firing range at Kar Tso, south of Leh.
- With the ground infrastructure becoming more conducive for fighter flying, MiG-23s and MiG-29s also started operating from Leh and Thoise.
- The IAF also inducted the Cheetal helicopters for operating in the glacier in 2009.
- The Cheetal is a Cheetah helicopter which is re-engineered with a TM 333 2M2 engine having better reliability and load carrying capability at high altitude.
- More recently, on 20 August 2013, in a significant show of capability, the IAF landed one of its latest acquisitions, the Lockheed Martin C-130J Super Hercules four-engine transport aircraft at Daulat Beg Oldie (DBO), the world's highest airstrip, near the line of actual control in Ladakh.
- Today, nearly all the aircraft of the IAF including Rafale, Su-30MKI, Chinook, Apache, Advanced Light Helicopter (ALH) Mk III & Mk IV, Light Combat Helicopter (LCH) Prachand, MiG-29, Mirage-2000, C-17, C-130 J, IL-76 and An-32 operate in support of Op Meghdoot.

Conclusion

- In the highest battlefield in the world, known for its extreme climatic conditions, IAF helicopters form the lifeline and the sole link of Indian troops with the outside world, playing a critical role in continuing the four decade old military operation; responding to emergencies, supplying essential logistics and evacuating the sick and wounded from the 78 km long glacier.
- Flying in such ruthless terrain, records of human endurance, flying and technical proficiency are being set by the IAF nearly every day.

INDIA GETS FIRST BATCH IGLA-S MAN PORTABLE AIR DEFENCE SYSTEMS (MANPADS)



Why in news?

- The Indian Army has received the first batch of 24 Russia-made Igla-S Man Portable Air Defence Systems (MANPADS) and 100 missiles as part of a larger deal that includes domestic production in India.
- This procurement aims to enhance the Army's Very Short Range Air Defence (VSHORAD) capabilities, particularly in high mountainous terrain along the northern border.

Procurement Details

- In November 2022, India signed a contract with Russia for 120 launchers and 400 missiles.
- While the first batch has been delivered from Russia, the remaining systems will be manufactured in India through Transfer of Technology (ToT) from Russia by an Indian company.

Capabilities of Igla-S

- The Igla-S is a hand-held defense system that can be operated by an individual or crew.
- It is designed to bring down low-flying aircraft and can also identify and neutralize air targets such as cruise missiles and drones.
- The system comprises the 9M342 missile, the 9P522 launching mechanism, the 9V866-2 mobile test station, and the 9F719-2 test set.

Deployment and Delivery

- The Igla-S systems are intended for new air defense formations in high mountainous terrain along the northern border.
- One regiment has already received these systems, and more will follow as deliveries progress.

Background and Selection Process

- The Request for Proposal (RFP) for VSHORADs was issued in 2010 under the previous United Progressive Alliance (UPA) government.
- In 2018, Russia's Rosoboronexport-manufactured Igla-S won a competitive bid as the lowest bidder (L1) over France's MBDA-manufactured Mistral and Sweden's SAAB-manufactured RBS 70 NG.

Significance and Replacement of Igla-1M

- The Igla-S acquisition addresses the Indian Army's need to replace the outdated Igla-1M systems.
- This move is crucial, as highlighted in a 2012 letter from then Army chief General V.K. Singh to Prime Minister Manmohan Singh, citing the obsolescence of existing air defense systems.

Future Plans and DRDO Tests

- Once the current requirement is fulfilled, the Indian Army plans to replace the older Igla systems with advanced laser-beam riding and infrared VSHORADs.
- The Defence Research and Development Organisation (DRDO) recently conducted two flight tests of indigenous VSHORADs missiles, indicating progress in this direction.

PARIVARTAN CHINTAN



Context

- The Tri-service Conference, 'Parivartan Chintan', was held in New Delhi.

About

- The 'Chintan' was curated as a brainstorming and idea incubation discussion to generate new and fresh ideas, initiatives and reforms to further propel Jointness and Integration in the Armed Forces.
- Jointness and Integration are the cornerstones of the transformation to Joint Structures which the

Indian Armed forces are progressing towards with the intention of being "Future Ready".

Theatre Command

- ⇒ A theatre command deploys elements of the three services i.e. the Indian Army, Indian Navy, and Indian Air Force under a single, unified command structure.
- ⇒ Each command is assigned a specific geographical region, combining resources of the three services for operational roles.
- ⇒ There will be two land-based commands—one focused on Pakistan and the other on China—and a third maritime one, overseeing the Indian Ocean Region.
 - The three theatre commands that will be set up first are likely to be located in Jaipur, Lucknow and Karwar.
- ⇒ Creation of theatre commands and their structure has been under discussion for three years now.

Need for the Theatre Command

- ⇒ **Hostile Neighborhood:** The main threat is from China, which works in collaboration with Pakistan. A two-front war is, therefore, a distinct possibility for India.
 - The prospect of high technology, multi-domain warfare where adversaries are nuclear-armed requires a swift and dynamic response.
- ⇒ **Optimal use of Resources:** The forces will be able to pool their resources efficiently, resulting in the optimum utilisation of platforms, weapon systems, and assets.
 - This will also prevent resources from being allocated for duplicate purchases for the three services.
- ⇒ **Help in Logistics:** Theatre commands, in the long run, could also improve logistics management in the forces.
- ⇒ **Better Coordination:** Currently, India's multiple military commands are all located in different geographical areas. This, at times, causes communication hindrances during joint operations and exercises.
 - With a unified command structure, these communication processes could be simpler and more efficient.
- ⇒ **In Practice in other Nations:** Armed forces of major military powers, including the United States, the United Kingdom, Russia, China and France all operate under theatre commands.
- ⇒ **Efficient Planning:** Further, in the realm of policy, having a unified command structure with representatives from all three services will also lead to more efficient planning for both peacetime and wartime strategies.

Challenges in Implementation

- ⇒ **Difference of opinion among three forces:** There are differences among the three forces on scope, structure, and control of the commands.
- ⇒ **Transfer of Resources:** There is a contention on the kind of war-fighting equipment that will be deployed under a single command and ambiguity surrounding the transfer of weapons, platforms, and resources from one theatre command to another.
- ⇒ **Curriculum Framework:** In terms of preparing the educational bedrock for military personnel to serve in theatre commands, the country seems to be behind the curve.
- ⇒ **Lack of NSS:** Many retired military professionals have criticised implementing theatre commands without having a coherent National Security Strategy (NSS).
 - Theatre commands will not have a clear blueprint and policy objective to work towards without an NSS.

Conclusion

- ⇒ India is moving towards implementing its biggest military overhaul, which could be a force multiplier, a few institutional and ideational changes will have to be incorporated to find the correct balance in such a transformation.
- ⇒ Given the threat India faces on its northern and western borders, integrated theatre commands and the roles assigned will be key in dealing with any future conflict.

SAGAR KAVACH 2024: COASTAL SECURITY EXERCISE IN LAKSHADWEEP ISLANDS



Why in news?

- ⇒ A two-day coastal security exercise called Sagar Kavach 01/24 was conducted off the Lakshadweep Islands from April 1-2, 2024.
- ⇒ The exercise involved the participation of all maritime security agencies, including the Indian Navy, Indian Coast Guard, Marine Police, Fisheries, Customs, and other security agencies.

Objectives and Outcomes

- The primary objective of the exercise was to validate the effectiveness of the coastal security mechanism in dealing with asymmetric threats emanating from the sea.
- The exercise witnessed enhanced preparedness, response mechanisms, surveillance capabilities, and coordination among the various coastal security stakeholders.

Participation and Assets Engaged

- During the exercise, a wide range of assets from the participating agencies were engaged.
- This included assets from the Indian Navy, Indian Coast Guard, Marine Police, Fisheries, Customs, and other security agencies.
- The exercise provided an opportunity to test and validate the effectiveness of the coastal security framework in the Lakshadweep region.

Significance of the Exercise

- The Sagar Kavach 01/24 exercise is crucial for strengthening the country's coastal security.
- It helps to identify any gaps or areas for improvement in the existing mechanisms and ensures that the maritime security agencies are well-prepared to address any potential threats.
- The enhanced coordination and cooperation among the stakeholders during the exercise also contribute to the overall effectiveness of the coastal security framework.

Conclusion

- The successful conduct of the Sagar Kavach 2024 exercise in the Lakshadweep Islands is a testament to the Indian government's commitment to safeguarding the nation's maritime interests and ensuring the security of its coastal regions.

WHAT IS THE ARROW AERIAL DEFENSE SYSTEM?



Context

- The Arrow Defense System is a cornerstone of Israel's multi-layered defense strategy against aerial threats, including ballistic missiles.

- Developed jointly by Israel Aerospace Industries and the U.S. Missile Defense Agency, this system began creation in the late 1980s and has evolved over decades to comprise several variants, notably the Arrow 2 and Arrow 3 systems.

Role of Arrow systems

- The primary role of the Arrow systems is to intercept and neutralize incoming ballistic missiles at high altitudes.
- Arrow 2 focuses on engaging threats within the atmosphere (endo-atmospheric), while Arrow 3 extends this capability to intercept outside the atmosphere (exo-atmospheric), paving the way for a multi-tier defense strategy that includes Iron Dome for short-range projectiles and David's Sling for medium to long-range threats.

How the Arrow Defense System Works

- The operational concept of the Arrow system integrates advanced radar tracking, a control centre, and interceptor missiles to provide a comprehensive air defense solution.
- The system's radar, known as Green Pine, is capable of detecting and tracking incoming projectiles over long distances.
- Upon detecting a threat, it alerts the Arrow system's battle management centre, which then calculates the optimal intercept course.
- An interceptor missile is launched vertically, powered by a solid-propellant booster capable of reaching speeds up to Mach 9.
- This two-stage missile employs kinetic energy to destroy its target on impact. Akin to a hit-to-kill approach, the missile directs itself towards the oncoming projectile, adjusting its course based on real-time trajectory updates.
- The latest in this series, Arrow 3, enhances this capability by enabling interceptions at exo-atmospheric levels, addressing long-range missiles before they re-enter the earth's atmosphere.
- This provides an additional safeguard by attempting to neutralize threats before they can cause harm upon descent.

Israel's Multi-Tiered Defense System

- Israel's defense strategy against aerial threats comprises multiple layers of defensive systems that work in tandem to intercept incoming threats at various altitudes and distances.
- Key components of this strategy include the Iron Dome, David's Sling, and the Arrow Defense System.
- Each system has distinct capabilities tailored to counter specific types of threats.
 - **Iron Dome:** Innermost layer which primarily targets short-range rockets and artillery shells. Since its deployment in 2011, it has proven highly effective, intercepting thousands of threats.

- **David's Sling:** This is second level designed to deal with medium to long-range missiles and rockets. It fills the gap between the Iron Dome and the Arrow systems, targeting threats at distances Iron Dome cannot handle effectively.
- **Arrow Defense System:** Comprises Arrow 2 and Arrow 3 systems, targeting long-range ballistic missiles in the upper atmosphere and in space (exo-atmosphere), respectively. Developed in collaboration with the United States, these systems are crucial for high-altitude interceptions.

Effectiveness in Recent Conflict

- Iran's unprecedented attack on Israeli soil on April 14, 2024, was a significant testing ground for the Arrow Defense System.
- Despite the complexity of the assault, involving a mix of drones and missiles aimed at overwhelming Israeli defenses, the Arrow system proved crucial.
- The Israel Defense Forces (IDF) reported a successful interception of the majority of threats, particularly highlighting the role of Arrow 2 and Arrow 3 in dealing with the ballistic missiles.

Conclusion

- According to IDF's statement and corroborated by video evidence on social media, the Arrow systems managed to intercept these threats at a high success rate, particularly Arrow 3 dealing with long-range ballistic missile threats in the exo-atmosphere.
- This successful interception has testified so far the system's effectiveness, contributing significantly to the strategic defensive capabilities of Israel against evolving aerial threats.

DRDO SUCCESSFULLY TEST FIRES INDIGENOUS TECHNOLOGY CRUISE MISSILE



Why in news?

- DRDO conducted a successful test flight of the Indigenous Technology Cruise Missile (ITCM) from the Integrated Test Range (ITR) in Chandipur, Odisha.
- The missile showcased excellent performance, closely monitored by various sensors and the Indian Air Force.

Key Highlights

- **Subsystems Performance:** During the test, all subsystems of the missile performed as expected, showcasing reliability and efficiency.
- **Flight Monitoring:** The flight path of the missile was meticulously monitored by a range of sensors including Radar, Electro-Optical Tracking System (EOTS), and Telemetry, ensuring comprehensive coverage.
- **Airborne Monitoring:** The Indian Air Force's Su-30-Mk-I aircraft actively monitored the flight, enhancing the surveillance capabilities.
- **Waypoint Navigation and Sea-skimming Flight:** The missile successfully followed its intended path using waypoint navigation and demonstrated a very low-altitude sea-skimming flight, showcasing its precision and versatility.
- **Indigenous Propulsion System:** The successful flight test established the reliable performance of the indigenous propulsion system developed by Gas Turbine Research Establishment (GTRE) in Bengaluru, marking a significant milestone for Indian defense R&D.

Congratulations and Recognition

- **From Defence Minister:** Defence Minister Rajnath Singh congratulated DRDO for the successful flight test, acknowledging the achievement as a major milestone in Indian defense R&D.
- **DRDO Chairman's Recognition:** Secretary Department of Defence R&D and DRDO Chairman Dr. Samir V Kamat commended the entire DRDO team for the successful launch of the ITCM.

Advanced Features and Development

- **Avionics and Software:** The ITCM is equipped with advanced avionics and software to ensure enhanced performance and reliability.
- **Development Process:** Developed by the Bengaluru-based DRDO laboratory Aeronautical Development Establishment (ADE) in collaboration with other laboratories and Indian industries, the missile represents a collaborative effort towards indigenous defense capabilities.

INDIAN ARMY CONTINGENT DEPARTS FOR INDIA- UZBEKISTAN JOINT MILITARY EXERCISE DUSTLIK

Why in news?

- The Indian Army contingent departed today for the 5th edition of India- Uzbekistan joint military Exercise DUSTLIK.
- The Exercise is scheduled to be conducted from 15th to 28th April 2024 at Termez, the Republic of

Uzbekistan. Exercise DUSTLIK is a yearly event conducted alternatively in India and Uzbekistan.

- Last edition was conducted at Pithoragarh (India) in February 2023.



Which forces are participating in the Exercise DUSTSILK?

- The Indian Armed Forces contingent comprising 60 personnel is being represented by 45 personnel from the Indian Army, majorly from a Battalion of the JAT Regiment, and 15 personnel from the Indian Air Force.
- The Uzbekistan contingent comprising approximately 100 personnel, from Uzbekistan Army and Air Force, will be represented by personnel from Southern Operational Command, part of South-West Military District.

What is the Aim of Exercise DUSTSILK?

- Aim of Exercise DUSTLIK is to foster military cooperation and enhance combined capabilities to execute joint operations in mountainous as well as semi urban terrain. It would focus on high degree of physical fitness, joint planning, joint tactical drills and basics of special arms skills.

How this exercise will be conducted?

- Tactical drills to be practiced during the exercise will include creation of a Joint Command Post, establishing an Intelligence & Surveillance Centre, securing of landing site, Small Team Insertion & Extraction, Special Heliborne Operations, Cordon and Search Operations, Room Intervention Drills and Demolition of illegal structures.

Complexity of this Exercise

- The complexity of this edition of Exercise DUSTLIK has been enhanced with conduct of multi domain operations as the contingent comprises of personnel from combat support arms and services besides Infantry.
- Two Women Officers also form part of the IA contingent, including one from the Regiment of Artillery and the second from the Army Medical Corps.

Way Forward

- Exercise 'DUSTLIK' will enable the two sides to share their best practices in Tactics, Techniques and Procedures of conducting joint operations.
- The Exercise will facilitate developing inter-operability, bonhomie and camaraderie between soldiers of both the countries.
- This will also enhance the level of defence cooperation, further fostering bilateral relations between the two friendly nations.

ISRO PLANS SECOND UNCREWED GAGANYAAN TEST



Why in news?

- The Indian Space Research Organisation (ISRO) is set to achieve another milestone in its prestigious Gaganyaan mission, India's first human spaceflight program.

Gaganyaan Mission Timeline

- The second uncrewed test flight is planned.
- Two more uncrewed missions will take place in 2025.
- If all goes well, the manned mission will be conducted by the end of 2025.

Recent Accomplishments

- In October 2023, ISRO successfully conducted an In-flight Abort Demonstration of the Crew Escape System (CES) at Mach number 1.2 with a newly developed Test Vehicle.
- The objectives included flight demonstration and evaluation of Test Vehicle subsystems, evaluation of CES, and demonstration of Crew Module characteristics and deceleration systems at higher altitude.

About Human Space Flight Centre (HSFC)

- HSFC, the lead center for human spaceflight activities, will spearhead the Gaganyaan program.
- It will coordinate efforts and focus activities carried out in other ISRO centers, research labs, Indian academia, and industries to accomplish the mission.
- HSFC will develop critical technologies such as life support systems, human factors engineering, crew training, and human rating and certification.

Gaganyaan Mission Objectives

- The project aims to demonstrate human spaceflight capability by launching a crew of three members to an orbit of 400 km for a 3-day mission.
- The crew will be brought back safely to Earth, landing in Indian sea waters.

Launch Vehicle

- ISRO will use its latest LVM3 rocket, a well-proven and reliable heavy-lift launcher, for the Gaganyaan mission.
- The LVM3 will be reconfigured to meet human rating requirements and will be capable of launching the Orbital Module to a Low Earth Orbit of 400 km.

Orbital Module

- The Orbital Module comprises the Crew Module (CM) and the Service Module (SM).
- The CM is the habitable space with an Earth-like environment for the crew, equipped with life support systems, avionics, and deceleration systems.
- The SM provides necessary support to the CM while in orbit, housing thermal, propulsion, power, and avionics systems.

Key points of Mission

- Gaganyaan is expected to cost around Rs. 10,000 crore (approximately \$1.2 billion).
- The mission will make India the fourth country to send humans to space, after the United States, Russia, and China.
- The crew module will have a diameter of 3.7 meters and a height of 7 meters, with a mass of around 7 tonnes.
- ISRO has developed new technologies such as the Crew Escape System, which ensures the crew's safety in case of an emergency during launch or ascent phase.

About ISRO (Indian Space Research Organisation)

- India's national space agency, founded in 1969
- **Notable missions:** Chandrayaan (Moon), Mangalyaan (Mars), Aditya-L1 (Sun)
- **Gaganyaan:** India's first human spaceflight mission
- Uncrewed test flights planned for 2024-2025
- Crewed mission aimed for late 2025
- Launching satellites for various applications (communication, navigation, remote sensing)
- Developed indigenous launch vehicles (PSLV, GSLV, SSLV)
- Vikram Sarabhai Space Centre (VSSC): Key facility for rocket development

Way Forward

- The successful second uncrewed test flight will be a crucial step in realizing India's ambitious Gaganyaan mission.

SCIENCE AND TECHNOLOGY

AI IN ELECTIONS, THE GOOD, THE BAD AND THE UGLY



Why in news?

- In an effort to broaden Prime Minister Narendra Modi's reach to a variety of linguistic groups, the Bharatiya Janata Party (BJP) has used Artificial Intelligence (AI) to translate his speeches into eight different languages ahead of the Lok Sabha elections, which may potentially be considered India's "first AI election".
- The widespread application of AI, with its seemingly limitless possibilities, is likely to bring about a paradigm shift in the general election in 2024.

Social media and campaigns

- Over the past three decades, India's electoral strategy has changed due to the process of an integration with and a capitalisation on emerging technologies.
- Its spread can be traced to the extensive usage of phone calls in the 1990s, the Uttar Pradesh Assembly election in 2007 that saw the first "mass mobile phone" elections, the use of holograms in 2014, and, now, the current AI era.

Significance of Social Media

- The significance of social media platforms as essential political campaign instruments will be particularly remembered in relation to the 2014 Indian elections.
- Many analysts even referred to it as India's first "social media elections" or the "Facebook elections," given the estimated ₹500 crore in digital spending.
- The BJP, undoubtedly, benefited from being the first to use these technological tools widely to connect with India's sizeable youth population.

Role of Facebook and WhatsApp

- A paper in the Asian Journal of Political Science, in 2015, titled "India 2014: Facebook 'Like' as a Predictor of Election Outcomes" showed a high positive correlation between the number of 'likes' a party or its leader secured on their official Facebook fan page and their popular vote share.

- By the time he took office, Mr. Modi was the sixth-most-followed global leader on X (Twitter) and had amassed over 16 million “likes” on Facebook, second only to former U.S President Barack Obama among politicians worldwide.
- The 2019 general election was widely dubbed the “first WhatsApp election” in India.
- Indeed, in the previous 12 months and earlier, elections in Nigeria, Brazil, and a few Indian States have shown how WhatsApp can be used to spread messages that are designed to mislead voters for political purposes very quickly.
- In his book, How to Win an Indian Election (2019), former election campaign consultant Shivam Shankar Singh explained that WhatsApp is “an effective political platform because it allows for targeted delivery of information to voters and also because it allows an excellent tool to organize and mobilize party workers”.

Global elections, AI, the dangers

- The global elections of 2024, in contrast, are “AI elections”.
- In January, New Hampshire voters answered a phone call from what sounded like U.S. President Joe Biden.
- Indeed, it was a robo-call made by AI aimed at dissuading Democratic voters not to turn up to polling stations on election day.
- Two days before parliamentary elections in Slovakia, in September 2023, a recording of a conversation between a journalist and the leader of the pro-North Atlantic Treaty Organization Progressive Slovakia Party was shared on Facebook, purportedly discussing methods of election manipulation.
- They both immediately called out the audio as fake, and fact checking turned up proof of AI manipulation. But, in a close race, Progressive Slovakia lost out.
- It was Argentina’s turn in October-November 2023, following which an article in The New York Times perceived that “with its expanding power and falling cost, it [AI] is now likely to be a factor in many democratic elections around the globe”.
- Deepfakes were used in the recent Assembly elections in Madhya Pradesh and Telangana, either through doctored clips of the game show “Kaun Banega Crorepati” or a fake video of a leader allegedly pushing voters to support their opponent.
- Additionally, fake accounts that amplify particular messages and generate artificial trends can be orchestrated by AI-powered bots to flood social media sites, yielding the false impression that a particular politician or subject is widely supported.
- Social media, the old instrument, is, therefore, interwoven with AI technology.

The political landscape is changing

- However, AI can play a far wider role in elections than just disseminating disinformation.
- It can be used in the entire spectrum of campaign strategies, from the preliminary steps of voter identification to the intricate details of content development and delivery.
- With real-time analytics on campaign performances, AI is raising the bar for political campaigns with its data-driven and effective micro-targeting strategy.
- The political landscape is changing quickly due to GenAI technology, which presents both the potential and challenges for the 2024 elections.
- The United States government has outlawed robocalls using AI-generated voices in its response to the Biden robocall incident.
- Technology behemoths including Microsoft, Google, OpenAI, and Meta have vowed to combat AI content that aims to deceive voters.
- There is general concern that, similar to Slovakia, election-related generated contents may shape last-minute attempts to deter voters from exercising their right to vote or create an event with a manufactured portrayal of a candidate that is challenging to swiftly debunk.

Conclusion

- AI will be far more efficient five years later, in 2029, but as one might perceive, the world will also be more resilient, accustomed, and prepared for AI’s deceptive effects.
- It is a realm of unknowable unknowns right now and, a lot of uncertainties remain.

ALLIANCE BETWEEN THE US AND THE UK TO IMPROVE AI SAFETY TESTING AND COOPERATION



Why in news?

- The UK and the US have formally committed to working together to create advanced artificial intelligence (AI) model tests.
- This agreement intends to improve AI safety and security and is a result of promises made at the Bletchley Park AI Safety Summit.

Information Exchange:

- Mutual exchange of crucial information on AI capabilities and risks is paramount, alongside joint efforts in foundational technical AI safety and security research.
- This partnership also entails harmonizing strategies for the secure implementation of AI systems.

Immediate Operationalization:

- The collaboration will be promptly put into action, facilitating seamless coordination between the two nations.
- Given the rapid proliferation of AI systems, this collaboration is indispensable, given the array of opportunities and substantial risks they pose to societal structures.

Synchronized Scientific Approaches:

- The US and UK will closely collaborate to synchronize their scientific methodologies, expediting the development of robust evaluation frameworks for AI models, systems, and agents.

Unified Approach:

- Both countries aim to establish a unified approach to AI safety testing and leverage their capabilities to effectively manage associated risks.
- This involves conducting joint testing exercises on publicly accessible models and exploring personnel exchanges between their respective AI Safety Institutes.

US Consultation on Open-Source AI Models:**Impact of Executive Order:**

- Following the executive order on AI system deployment by the Biden administration, the National Telecommunications and Information Administration (NTIA) in the US has initiated consultations on risks, benefits, and potential policies concerning widely available foundation models.

Industry Insights:

- Meta and Open AI, leading AI developers, have offered perspectives on open-source AI models.
- Meta underscores the significance of open-source innovation, while OpenAI emphasizes the advantages of releasing models through APIs and commercial products to enable ongoing study and risk mitigation.

What is the Bletchley Declaration?

- The Bletchley Park Declaration stands as the inaugural worldwide agreement aimed at confronting emerging AI dangers head-on.
- It signifies a unified political stance and dedication among the prominent global players in AI.
- The declaration recognizes AI's potential to improve human welfare while acknowledging the associated

risks, particularly from frontier AI, which could lead to significant harm, whether intentional or unintentional, notably in areas such as cybersecurity, biotechnology, and misinformation.

- It stresses the imperative for international collaboration in tackling AI-related risks, given their inherently global nature, and calls for cooperation among all stakeholders, including corporations, civil society, and academia.
- Furthermore, the declaration announces the establishment of a regular AI Safety Summit, serving as a forum for discussions and partnerships dedicated to addressing safety concerns posed by frontier AI.

ATOMIC CLOCKS AND INDIA**Why in news?**

- India is strategically distributing atomic clocks nationwide to synchronise the time displayed on digital devices such as watches, smartphones, and laptops with Indian Standard Time.
- This initiative, initiated over twenty years ago following the Kargil war, aims to ensure accuracy and reliability in timekeeping across the country.

About Atomic Clocks

- Atomic clocks are advanced timekeeping devices that utilise the natural vibrations of atoms to measure time with exceptional accuracy.
- These clocks rely on the oscillations of atoms, usually caesium or rubidium, which serve as highly stable timekeeping references.
- By detecting the frequency of these atomic vibrations, atomic clocks can maintain timekeeping precision to within a few billionths of a second per day.
- The atomic clock was developed by Louise Essen in 1955. Presently, India has operational atomic clocks located in Ahmedabad and Faridabad.

How do Atomic Clocks work?

- Atomic clocks operate by employing a specific type of atom known as "caesium atoms."
- Caesium atoms are highly stable and exhibit a precise frequency at which their electrons oscillate.

- ⇒ This frequency serves as the fundamental reference for timekeeping in the atomic clock.
- ⇒ In the process of measuring time using caesium atoms, an atomic clock utilises a component called a "microwave cavity." This cavity functions as a chamber containing caesium vapour.
- ⇒ A microwave signal is introduced into the cavity, prompting the caesium atoms to undergo vibration.
- ⇒ During this vibration, the caesium atoms emit radiation characterised by a highly specific frequency.
- ⇒ A detector within the atomic clock then captures this emitted radiation and compares it against a predetermined standard frequency.
- ⇒ Any disparity between these frequencies is utilised to make adjustments to the clock's timekeeping mechanism.

Different types of Atomic Clocks

- ⇒ **Cesium Atomic Clocks:** The most widely used type, caesium atomic clocks, measure the frequency of transitions in the cesium-133 atom, typically using a microwave resonance method. These clocks are highly accurate and serve as the primary standard for defining the second in the International System of Units (SI).
- ⇒ **Rubidium Atomic Clocks:** Rubidium atomic clocks operate similarly to caesium clocks but use rubidium atoms as the reference instead. They are generally smaller, less expensive, and more portable than caesium clocks, making them suitable for applications where size and cost are important factors.
- ⇒ **Hydrogen Maser Clocks:** Hydrogen maser clocks are even more precise than caesium clocks. They rely on the hyperfine transition of hydrogen atoms and operate at much higher frequencies, resulting in superior short-term stability and accuracy. These clocks are commonly used in scientific research, satellite navigation systems, and space missions.
- ⇒ **Optical Atomic Clocks:** Optical atomic clocks use optical transitions in atoms, such as those of strontium or ytterbium, to achieve even higher precision than traditional atomic clocks. By operating at optical frequencies, they can potentially redefine the second with even greater accuracy. Research in this field is ongoing, with optical clocks showing promise for future applications in areas like fundamental physics research and global positioning systems.

Rationale behind India going for Atomic Clocks

- ⇒ India started efforts to develop atomic clocks in response to the denial of Global Positioning System (GPS) information during the Kargil War. The establishment of independent timekeeping capabilities is necessary for defence, cybersecurity, and online transactions.
- ⇒ **National Security and Self-Reliance:** Currently, India relies on foreign atomic clocks, particularly those in the US, for critical infrastructure like the Indian Regional Navigation Satellite System (NavIC). Developing its own atomic clocks allows India to control its timekeeping infrastructure, reducing dependence on external sources. This is vital during potential conflicts where access to foreign signals could be restricted.
- ⇒ **Enhanced Accuracy and Reliability:** Atomic clocks offer unmatched precision compared to conventional methods. By deploying them across the nation, India can synchronise all digital devices with Indian Standard Time (IST), ensuring a unified and highly accurate time reference. This translates to improved performance in various sectors:
 - **Telecommunications:** Precise timing is essential for the smooth operation of communication networks, minimising errors and ensuring seamless data transfer.
 - **Financial Systems:** Timestamping financial transactions with atomic clock accuracy minimises errors and safeguards against fraud in high-frequency trading.
 - **Navigation Services:** India's NavIC system can benefit from the enhanced timing provided by domestic atomic clocks, leading to more reliable positioning data.
 - **Cyber security:** In India's burgeoning digital economy, atomic clocks ensure the accuracy of timestamps for transactions, preventing fraud, ensuring data integrity, and bolstering cybersecurity measures.
 - **"One Nation, One Time":** With a network of atomic clocks, India can achieve a unified and precise time standard across the country. This fosters a sense of national coherence and simplifies time-related activities for citizens and businesses alike.
- ⇒ **Critical Infrastructure and Power Grids:** Atomic clocks play a vital role in synchronising critical infrastructure, including power grids, transportation systems, and emergency services.

CHARGING UP

Context:

- ⇒ In March, the Union government approved a new e-vehicle policy aimed at facilitating the entry of global EV manufacturers into India.
- ⇒ The policy entails lowering duties for EV imports and setting clear localization targets to boost domestic value addition.
- ⇒ This move is expected to garner significant interest from international players, with reports indicating Tesla Motors' intention to scout for locations for a multi-billion-dollar electric car plant in India.



Opportunities for Global EV Manufacturers:

- Access to India's vast and rapidly expanding market, currently the third-largest auto market globally, presents a lucrative opportunity for EV manufacturers like Tesla.
- While the EV market in India is still nascent, it is growing steadily, with sales surpassing 1.5 million in 2023, particularly dominated by two-wheelers and three-wheelers.
- The government's ambition to increase the share of electric vehicles to 30 percent by 2030 further underscores the potential for growth in this sector.
- Additionally, the possibility of Tesla manufacturing a more affordable car in India holds promise for both domestic consumption and export markets, aligning with the government's Make in India initiative.

Impact on Make in India Initiative and Economic Growth:

- The entry of global manufacturers not only expands consumer choices but also brings in advanced technology and promotes competition in a sector traditionally dominated by domestic players.
- Moreover, it contributes to reducing carbon emissions and lessening the country's dependence on oil imports.
- The potential establishment of Tesla's manufacturing presence in India, following Apple's recent expansion in the country, could significantly bolster the Make in India campaign and enhance India's position as a manufacturing hub.

Challenges and Cautionary Measures:

- While the new policy presents opportunities, it's crucial to closely monitor compliance with investment and localization criteria to prevent deviations that could compromise domestic value addition goals.
- Maintaining stringent targets is essential to ensure the long-term sustainability and effectiveness of the policy.
- Moreover, to accelerate the adoption of EVs, there needs to be a concerted effort to rapidly expand the charging infrastructure across the country.

Conclusion:

- The new e-vehicle policy marks a significant step towards attracting global EV manufacturers to India, presenting immense opportunities for economic growth, technological advancement, and environmental sustainability.
- However, to realize these benefits fully, it's imperative to balance regulatory incentives with accountability measures and focus on developing robust infrastructure to support the widespread adoption of electric vehicles across the nation.

GOVERNMENT RELEASES GUIDELINES FOR GREEN HYDROGEN USE IN TRANSPORT SECTOR



Why in news?

- Recently, Indian Government has announced a Rs. 496 crore scheme (until 2025-26) to support pilot projects testing the viability of green hydrogen as a fuel for cars and heavy vehicles.
- The scheme, under the Ministry of New and Renewable Energy (MNRE), aims to validate the technical feasibility, evaluate economic viability, and demonstrate safe operation of hydrogen-powered vehicles and refuelling stations.

Objectives of the MNRE Scheme

- The main objectives of the MNRE scheme are:
 - Validation of technical feasibility and performance of green hydrogen as a transportation fuel
 - Evaluation of the economic viability of green hydrogen-powered vehicles
 - Demonstration of safe operation of hydrogen-powered vehicles and refuelling stations

Indian Industry Efforts

- Major Indian commercial vehicle manufacturers such as Tata Motors, Volvo Eicher, and Ashok Leyland are ramping up research and development efforts and building manufacturing capacities to develop hydrogen-powered trucks and buses.
- Indian energy companies are also working on scaling up green hydrogen production and reducing costs to make it competitive with other fuels.

Benefits for India

- ⇒ India stands to gain significantly from the large-scale adoption of green hydrogen as a vehicular fuel, with potential benefits including:
 - Reduction of emissions to help combat global warming and climate change
 - Curbing pollution and meeting climate goals
 - Reducing costly fossil fuel imports
 - Becoming a global hub for the production and export of green hydrogen

Types of Hydrogen

- ⇒ **Grey Hydrogen:** Produced from natural gas through energy-intensive processes, with high carbon emissions. Currently, most hydrogen produced for industrial consumption is grey hydrogen.
- ⇒ **Blue Hydrogen:** Sourced from fossil fuels, but byproducts such as carbon monoxide and carbon dioxide are captured and stored, making it better than grey hydrogen.
- ⇒ **Green Hydrogen:** Produced using electricity generated from renewable sources such as wind or solar to electrolyse water. It is considered an end-to-end green fuel with water or water vapour as the only byproduct.

Hydrogen Fuel Cell Vehicles

- ⇒ Hydrogen can be used in vehicles through two main technologies:
 - Hydrogen Internal Combustion Engine (ICE) Vehicles: Utilize hydrogen through combustion, similar to diesel and petrol cars, but without carbon emissions.
 - Hydrogen Fuel Cell Electric Vehicles (FCEVs): Convert hydrogen stored in a high-pressure tank into electricity using a fuel cell, with water as the only byproduct. FCEVs are typically lighter than battery electric vehicles (BEVs) due to the lower weight of fuel cells compared to EV batteries.

Challenges

- ⇒ Despite the promise of green hydrogen, several challenges need to be addressed:
 - High production costs
 - Storage and transportation difficulties
 - Lack of infrastructure for refuelling stations
 - Need for specialized high-pressure storage cylinders
 - Safety concerns due to hydrogen's flammability
- ⇒ Competition from advancements in battery technologies for electric vehicles

HARYANA BECOMES FIRST STATE IN INDIA TO HAVE 100% ELECTRIFIED RAILWAY NETWORK

Why in news?

- ⇒ In March 2023, the railway network in the state of Haryana in India has been completely electrified

by Indian Railways, making it the first state in the country to achieve 100% electrification of its railway network.



Haryana: 100% Electrified Railway Network:

- ⇒ The existing Broad Gauge network of Haryana is 1,701 Route kilometre, which is now 100% electrified, resulting in saving on account of reduced line haul cost (about 2.5 times lower), heavier haulage capacity, increased sectional capacity, reduced operating & maintenance cost of electric loco, energy efficient and eco-friendly mode of transportation with reduced dependence on imported crude oil, saving of foreign exchange.

- ⇒ Further, new Broad Gauge network shall be sanctioned along with electrification, in sync with Railways' policy of 100% electrified network.

Indian Railways: 100% electrification of its broad-gauge routes by December 2023:

- ⇒ As per the latest updates, the Broad Gauge routes of seven zonal railways in India have achieved the 100% electrification target.
- ⇒ These railways are East Coast Railway (ECoR), North Central Railway (NCR), North Eastern Railway (NER), Eastern Railway (ER), South Eastern Railway (SER), West Central Railway (WCR), and Central Railway (CR).
- ⇒ This achievement is a significant step towards reducing greenhouse gas emissions and promoting sustainable transportation in the country.

Way Forward:

- ⇒ The Indian Railways has set a target to achieve 100% electrification of its broad-gauge routes by December 2023, and this milestone achieved by these seven zonal railways is a significant step towards achieving this goal.

INDIA'S CHANDRAYAAN-3 MISSION TEAM GIVEN 2024 JOHN L. 'JACK' SWIGERT JR. AWARD

Why in news?

- ⇒ Chandrayaan-3 was the first to land on the uncharted South Pole region of the Moon.



- ⇒ In recognition of this groundbreaking accomplishment, the Chandrayaan-3 team has been honored with the prestigious 2024 John L. 'Jack' Swigert Jr. Award for Space Exploration.

Award Recognition

- ⇒ The award, presented by the Space Foundation during the annual Space Symposium in Colorado, acknowledges the extraordinary achievements of the Indian Space Research Organisation (ISRO) and the Chandrayaan-3 team in the realm of space exploration and discovery.

Chandrayaan-3 Mission

- ⇒ Chandrayaan-3, launched by ISRO in July 2023, comprised a lander named Vikram and a rover called Pragyan.
- ⇒ On August 23, 2023, the mission made history when Vikram successfully touched down on the lunar surface at the South Pole, an area that had remained unexplored by previous missions.

Significance of the Achievement

- ⇒ By landing on the Moon's South Pole, India became the fourth country to master the technology of soft landing on the lunar surface, following the United States, China, and the former Soviet Union.
- ⇒ This accomplishment has opened up new avenues for understanding the Moon's geology, potential water ice reserves, and other scientific revelations.

Award Background

- ⇒ The John L. "Jack" Swigert Jr. Award for Space Exploration is named after astronaut John L. Swigert Jr., who served on the famous Apollo 13 lunar mission.
- ⇒ The award honors individuals or organizations that have made extraordinary contributions to space exploration and discovery, embodying the spirit of accomplishment that the Apollo 13 crew exhibited in overcoming adversity.

ISRO's Achievements

- ⇒ ISRO, the Indian Space Research Organisation, has been at the forefront of India's space program, consistently pushing the boundaries of space exploration.

- ⇒ With missions like Chandrayaan-1, Mangalyaan (Mars Orbiter Mission), and now Chandrayaan-3, ISRO has demonstrated its technical prowess and commitment to advancing humanity's understanding of the universe.

Additional Information of Chandrayaan-3 mission

- ⇒ The Chandrayaan-3 mission aimed to study the Moon's surface composition, mineralogy, and potential for future human habitation.
- ⇒ The success of Chandrayaan-3 has paved the way for ISRO's future ambitious projects, including a planned mission to explore Venus and a joint mission with Japan to study the Moon's polar regions.
- ⇒ The award recognition for Chandrayaan-3 is a testament to India's growing influence and capabilities in the global space arena.
- ⇒ ISRO's achievements have inspired a new generation of Indian scientists and engineers, fostering a passion for space exploration and scientific research.

KODAIKANAL SOLAR OBSERVATORY CELEBRATES 125 YEARS OF STUDYING THE SUN



Why in news?

- ⇒ The 125th anniversary of the iconic Kodaikanal Solar Observatory (KSO) was celebrated on 1 April 2024 by Indian Institute of Astrophysics (IIA), an autonomous institute of the Department of Science and Technology (DST), to remember the history of KSO, felicitate its scientists, and honour its legacy as a milestone for astronomy in India.
- ⇒ The KSO houses a digital repository of 1.2 lakh digitised solar images and thousands of other images of the Sun recorded every day since the start of the 20th century.
- ⇒ A.S. Kiran Kumar, former Chairman of ISRO and Chairperson of the Governing Council of IIA then unveiled the KSO 125 logo for the anniversary celebrations along with a booklet detailing the history and the research highlights of the Observatory.

About Kodaikanal Solar Observatory

- ⇒ Established on 1 April 1899 by the British, the Observatory has one of the longest continuous daily

records of the Sun in the world, and this unique database has been digitised and is publicly available for astronomers from across the globe.

- Starting with these celebrations, IIA has planned a number of events over the coming months to highlight the Observatory's rich history, its diverse achievements, and its ongoing research. which in turn, arose from the Madras Observatory established in 1792.
- Currently, KSO is operational as a field station under the Indian Institute of Astrophysics, which is an autonomous institution under the Department of Science and Technology.

Significance

- The Director of IIA, Prof. Annapurni Subramaniam, highlighted the legacy of the observatory and how more than a century of pursuit of knowledge required continuous innovation through multiple generations of technology while transferring skills through the generations of scientists as well.
- Prof. Siraj Hasan, former Director of IIA and a solar physicist talked about the discovery of the Evershed Effect, an effect observed in sunspots due to radial flow of gas, in 1909 at the observatory.
- S. Seetha, former Director of Space Science Program Office of ISRO underlined that school and college textbooks need to talk about the KSO to increase awareness among students about its uniqueness.

Celebration of Foundation Day

- 1st April is also celebrated by Indian Institute of Astrophysics as its Foundation Day, commemorating when it was constituted as an institution under the Department of Science & Technology in 1971.
- The Foundation Day Lecture for 2024 was delivered by Shri A.S. Kiran Kumar from Kodaikanal on the "Indian Space Program", where he sketched its history starting with the initial vision of Sarabhai and others of using space technology for socio-economic development of the country, including the unique programs for remote education, providing information to farmers and fishing community, and for disaster warning.
- He also spoke about the progress made in various fields of remote sensing, mapping, and communications highlighting the technological challenges that were overcome for the successful Chandrayaan 3 mission, and the future with Gaganyaan as well.

Way Forward

- The event brought into focus how the Kodaikanal Solar Observatory bears testament to more than a century and half of scientists deciphering the Sun from Indian soil, starting with chasing eclipses, discovering Helium in 1868, to understanding the plasma process in the Sun and the production of prominences and flares.

- The Visible Emission Line Coronagraph onboard the recently launched Aditya-L1 that was assembled at CREST, IIA and the proposed National Large Solar Telescope in Ladakh led by IIA, continue to build on this rich legacy.

SYSTEMS SCIENCE FOR A BETTER FUTURE



Context

- The article examines global authoritarian leanings, economic disparities, and environmental crises, stressing the importance of interdisciplinary collaboration and gender-inclusive strategies for fostering sustainable development.
- It highlights the complexities of societal challenges and the need for holistic approaches to address them effectively.

Survey on Authoritarian Preferences:

- Pew Research Center surveyed citizens globally in 2023, revealing preferences for authoritarian rulers over multi-party democracy.
- Notable figures from Global South include India (85%), Indonesia (77%), South Africa (66%), and Brazil (57%), while the West shows significant numbers too.

Economic Discontent and Environmental Concerns:

- Citizens in democratic nations express disillusionment with economic policies favouring the wealthy elite.
- Global economic growth exacerbates environmental crises, with fossil fuel consumption and water scarcity posing existential threats.

India's Unique Challenges:

- India grapples with urban poverty, rapid urbanization, and environmental degradation.
- Despite economic growth, income inequality persists, hindering sustainable development efforts.

Environmental Performance and Population Pressure:

- India's environmental performance ranks poorly, with significant water stress despite a large population share.
- Rapid population growth exacerbates resource scarcity and environmental degradation.

Complexity of Social Systems:

- ⇒ Interdisciplinary understanding is crucial to navigate complex social, economic, and environmental challenges.
- ⇒ Specialization in sciences limits comprehension of interconnected systems and holistic solutions.

Critique of Economic Ideologies:

- ⇒ Economists' reliance on free market ideology overlooks societal well-being and environmental sustainability.
- ⇒ Capitalist institutions influence policies, prioritizing profits over human rights and environmental conservation.

Need for Systems Thinking:

- ⇒ Emphasis on holistic, self-adaptive systems thinking is essential for addressing global challenges effectively.
- ⇒ Cooperation-driven organizations can foster societal well-being, contrasting with profit-driven corporations.

Role of Gender Dynamics:

- ⇒ Women's contributions to family and societal well-being are undervalued and excluded from traditional economic metrics.
- ⇒ Embracing caring, cooperative approaches over competitive ideologies is vital for societal improvement.

Conclusion:

- ⇒ Addressing global challenges requires interdisciplinary cooperation, systems thinking, and gender-inclusive approaches to foster sustainable development and societal well-being.

NEED FOR REGULATION OF ARTIFICIAL INTELLIGENCE



Why in news?

- ⇒ The UN general assembly has taken a significant step by unanimously adopting the first global resolution on artificial intelligence (AI).
- ⇒ The resolution, titled "Seizing the opportunities of safe, secure, and trustworthy artificial intelligence systems for sustainable development," aims at

bridging the gap in AI regulation for safe, secure use in interest of global good.

Why is there a need to regulate AI?

- ⇒ **Bias in algorithm:** AI systems are trained on big data which may inherit biases of the creators. For example, An AI system may be better for some demographics than others.
- ⇒ **Job losses:** Every technology has some impact on the livelihood of the people, AI is no different. AI will proliferate automation technology which will lead to a large number of job losses in multiple sectors.
- ⇒ **Privacy issues:** AI systems either intentionally or unintentionally captures data of the people, sometimes without the consent which raises privacy concerns.
- ⇒ **Manipulative content creation:** Such as deepfakes which can be used to serve narrow interests of certain sections of society. For example, recently there was a deep fake video of a famous actress that got viral which raised attention of the potential misuse.
- ⇒ **Ensuring transparency and accountability:** It is important to hold companies working on these AI tools accountable for their actions.

The EU's approach

- ⇒ The EU uses a risk-based approach, That categorizes systems into four categories, namely unacceptable, high, limited, and minimal risks, prescribing guidelines for each.
- ⇒ The Act prescribes a ban on applications that risk citizens' rights, like manipulation of human behavior, emotion recognition, mass surveillance etc.
- ⇒ It recognizes two things: acknowledging the compliance burden placed on business enterprises and start-ups, and regulating the much-deliberated Generative AI systems such as ChatGPT.

China's stand on AI

- ⇒ Chinese regulatory framework focuses on three subjects
 - **Content moderation:** Which includes identification of content generated through any AI system
 - **Personal data protection:** With a specific focus on the need to procure users' consent before accessing and processing their data
 - **Algorithmic governance:** With a focus on security and ethics while developing and running algorithms over any gathered dataset.

The U.K.'s framework

- ⇒ The U.K, has a principled and context-based approach requires mandatory consultations with regulatory bodies to know regulatory loopholes if any.
- ⇒ Thus, the U.K. has adopted a decentralized approach. There is a mechanism for consultation which is a bit softer than the Chinese and EU approach.

Artificial Intelligence

- Artificial Intelligence (AI) refers to the field of computer science focused on creating systems that can perform tasks typically requiring human intelligence.
- This technology aims to replicate human-like cognitive abilities such as problem-solving, learning, decision-making, and pattern recognition.
- Today, AI finds applications across diverse industries, ranging from finance to healthcare, due to its capability to analyze vast amounts of data and make insightful decisions.
- The evolution of AI has surpassed its original conception, driven by significant advancements in data processing, computational power, and algorithmic sophistication. These improvements have expanded AI's utility and enabled its integration into various fields.

Way Forward

- India has one of the largest populations of internet users in the world which makes the country more vulnerable to such threats posed by AI.
- Also, considering the potential impact of the livelihoods of people it is crucial for the government to formulate comprehensive regulations which keep in mind different stakeholders.

NEW MAP OF UNIVERSE MAY OPEN A WINDOW TO DARK ENERGY



Why in news?

- An international team of researchers has just released the most comprehensive "three-dimensional" map of the universe, which, scientists hope, could reveal some clues about dark energy, the mysterious force that is believed to be causing the universe to expand uncontrollably.

Conducted Research

- The researchers, including an Indian team led by Shadab Alam at the Tata Institute of Fundamental Research in Mumbai, has published its findings from the first year of observations by the Dark Energy Spectroscopic Instrument, or DESI, a unique piece

of equipment that, once fitted over a telescope, can capture light from 5,000 galaxies at the same time.

Outcome of Research

- Using DESI, which is mounted over the Mayall 4-Meter Telescope in Arizona, United States, researchers have been able to measure light from six million galaxies – some of which existed as far back as 11 billion years ago – to prepare the most detailed map of the universe as yet with very precise information about the distances between these galaxies.
- The key thing is that it has been possible to measure the distances between these galaxies with a very high degree of accuracy. That's why it is called a three-dimensional map. Otherwise, there is a catalogue of tens of billions of objects in the universe. Objects have been identified, but distance for most of them from us is not known. Knowing the precise distances of the galaxies is crucial because that allows to calculate the expansion rate of the universe.
- And that, scientists hope, could offer them their first clues into the mystery of dark energy that is supposed to make up almost 70 per cent of the universe but about which nothing is known.

Hypothesis of Dark Energy

- The hypothesis of dark energy comes mainly from the observed phenomenon of the universe expanding at a rapid rate.
- The vast empty spaces between stars and galaxies have been measured to be expanding at an accelerating pace, despite the countervailing force of gravitation that has the effect of pulling things together.
- Scientists have been unable to find any explanation for this rapid expansion, and have been forced to hypothesise that there must be some "dark" energy causing this expansion.

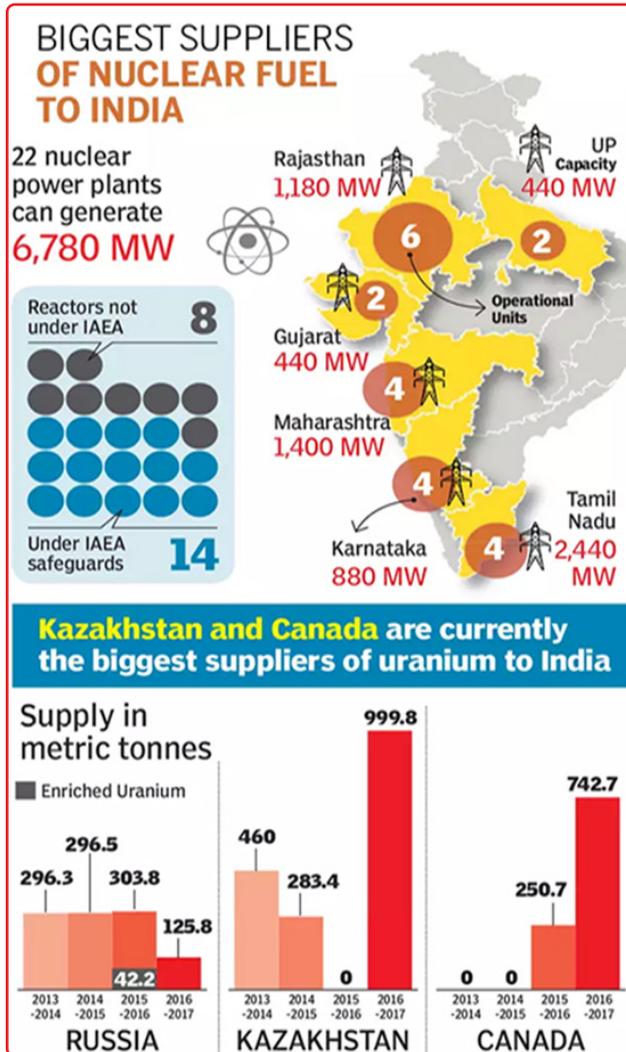
Conclusion

- Understanding the nature of dark energy is one of the fundamental problems in science right now, because it can offer key insights into the origin and evolution of the universe, as well as its eventual fate.
- It can reveal new fundamental forces at work, and could unravel our entire knowledge of the physical world.
- The problem is that, so far, scientists have not been able to figure out even the first piece of the puzzle. But the data from DESI is causing some excitement.

NUCLEAR ENERGY: FIXING THE FINANCE

Urgent Need for Reassessment of Nuclear Financing Policies

- Multilateral Development Banks (MDBs) need to reassess their financing policies to accommodate private capital or blended financing models for nuclear energy generation.



- Despite the indispensable role of nuclear energy in meeting climate goals, MDBs and private investors have not significantly contributed to the industry's financing.
- The lack of financial support from institutions like the World Bank reflects outdated financing policies that hinder the growth of nuclear energy.

Successful Financial Models and Cooperative Funding Practices:

- Countries like France, South Korea, Russia, and the U.K. have implemented successful cooperative funding models for nuclear projects.
- Cooperative finance models such as 'Mankala' in Finland, where multiple private companies jointly own and fund energy producers, offer a replicable example of successful financing.
- Financial creativity, coupled with market support and low interest rates, can unlock the potential of nuclear energy at scale.

Discrepancy Between Nuclear Infrastructure Development and Financing:

- Despite the increasing number of nuclear reactors worldwide, the state of nuclear infrastructure development and finance mobilization is not proportional.
- Examples like NuScale Power's terminated project in Utah and bankruptcy filings of nuclear powerhouses Westinghouse and Areva highlight the challenges faced in nuclear project financing and implementation.
- China's ambitious targets for nuclear energy production underscore the urgency to address the gap between infrastructure development and financing.

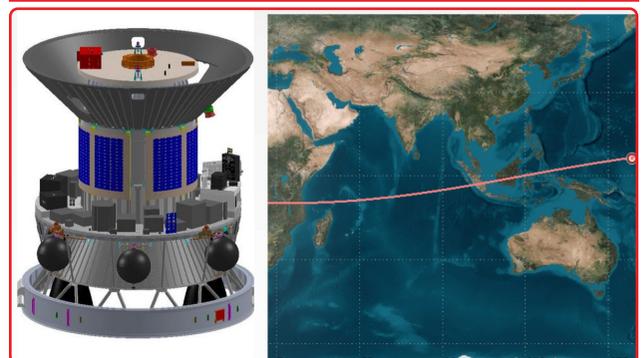
India's Position and Efforts in Nuclear Energy:

- India's nuclear industry faces challenges such as stigma, weaponization risk, and regulatory hurdles, limiting its adoption rate despite offering reliable and cost-effective energy.
- Recent initiatives in India, including inviting private investments, tripling nuclear capacity, and advancements like the Prototype Fast Breeder Reactor (PFBR), indicate a positive trajectory for the industry.
- The PFBR's innovative capabilities signify India's commitment to advancing its nuclear industry and achieving self-reliance in nuclear energy production.

Conclusion:

- Urgent reassessment of nuclear financing needed due to disproportionate infrastructure development and financing. Successful models like cooperative funding exist. India's nuclear industry is evolving despite challenges, signalling positive growth prospects.

PSLV ORBITAL EXPERIMENTAL MODULE-3 (POEM-3)



- The Indian Space Research Organisation (ISRO) has achieved another milestone with the successful re-entry of the PSLV Orbital Experimental Module-3 (POEM-3) into the Earth's atmosphere, leaving no debris in orbit.
- The PSLV-C58/XPoSat mission, which took place on January 1, 2024, has demonstrated ISRO's commitment to responsible space operations and debris mitigation.

POEM-3 Mission Objectives and Payloads

- POEM-3 was equipped with nine different experimental payloads to conduct technology demonstrations and scientific experiments on newly developed indigenous systems.
- Six of these payloads were delivered by Non-Government Entities (NGEs) through IN-SPACe. The mission objectives of these payloads were successfully met within a month of the launch.

Deorbiting and Re-entry Process

- Following the successful placement of all satellites into their designated orbits, the final stage of the PSLV was converted into a 3-axis stabilized platform known as POEM-3.
- The stage was then deorbited from an altitude of 650 km to 350 km, facilitating an expedited re-entry process. Measures were also taken to passivate the stage, including the removal of residual propellants, to reduce the potential risks associated with accidental break-ups.

Impact Location and Tracking

- The orbital altitude of the upper stage continued to decay under the influence of natural forces, primarily atmospheric drag. POEM-3 was expected to have impacted the North Pacific Ocean on March 21, 2024. Until near re-entry, POEM-3 was tracked by ISTRAC ground stations, and the Multi-Object Tracking Radar (MOTR) at Sriharikota also tracked the PS4 stage until the morning of March 21.

Opportunities for Academia, Startups, and NGEs

- Through the POEM platform, which serves as a cost-effective option for conducting short-duration space-borne experiments, ISRO has opened up new opportunities for academia, startups, and NGEs to experiment with their new payloads.
- This opportunity has been effectively utilized by numerous organizations for carrying out experiments in space, including electric thrusters, satellite dispensers, and star-tracking.

Responsible Space Operations

- With the emergence of numerous small satellite constellations, the agency recognizes the substantial risk space debris poses to space operations, including satellite launches, human spaceflight endeavors, and exploration missions.
- As a responsible space agency, ISRO has pledged to tackle this challenge by advancing debris tracking systems, developing technologies for space object deorbiting, and promoting responsible practices for satellite deployment.

Important Facts

- The Vikram Sarabhai Space Centre (VSSC) has taken the lead in conceptualizing and realizing the POEM by augmenting the 4th stage of PSLV. PSLV-C58/

XPOsat is the third such mission in the series, with POEMs being successfully scripted each time. The payload operations were carried out effectively by the spacecraft operations team from the mission operations complex (MOX) at ISTRAC.

- ISRO's System for Safe and Sustainable Spacecraft Operations Management (IS4OM) has been monitoring and analyzing the orbital decay throughout the mission. POEM-3 was also supported by other ISRO centers, including URSC, LPSC, and IISU.

WORLD HOMEOPATHY DAY 2024: CELEBRATING THE POWER OF NATURAL HEALING

World Homeopathy Day



Context

- World Homeopathy Day is observed on April 10th every year.
- The theme for World Homeopathy Day 2024 is "Homeoparivar: One Health, One Family."
- Homeopathy is a form of alternative medicine that believes in the power of tiny homeopathic substances to cure the symptoms of a condition.
- The word "homeopathy" comes from the Greek words "homeo," meaning "similar," and "pathos," meaning "suffering or disease."

History of Homeopathy

- Dr. Samuel Hahnemann, the founder of modern homeopathy, was born in 1755.
- Hahnemann, a German physician and chemist, believed that homeopathic remedies could provide a better and more effective way to treat diseases.
- He conducted extensive research on the use of homeopathic remedies for the treatment of malaria, smallpox, and other conditions.
- Hahnemann found that by taking small doses of homeopathic substances, he could cure the symptoms of malaria without the use of conventional medicine.

Use of Homeopathy in present

- The Hahnemann system of homeopathy is now used by thousands of practitioners around the world.
- It is considered a valid and effective treatment option for a wide range of conditions.

⇒ However, identifying and applying the correct homeopathic remedies for a particular condition can be challenging.

Significance of World Homeopathy Day

- ⇒ The significance of World Homeopathy Day lies in raising awareness about the benefits of homeopathy and its potential as a complementary and alternative medicine (CAM) option.
- ⇒ It provides an opportunity to showcase the effectiveness of homeopathy in treating various health conditions and highlights the need for further research and development in the field.
- ⇒ Furthermore, World Homeopathy Day serves as a platform to promote collaboration among homeopathic practitioners, researchers, and policymakers to advance homeopathy as a safe and effective treatment option for patients worldwide.

Conclusion

- ⇒ It is hoped that future research will lead to further advancements in the development of homeopathic therapies, making them more widely available to those seeking alternative treatment options.

1ST INTERNATIONAL WORKSHOP ON 'EMERGING TECHNOLOGIES & CHALLENGES FOR EXOSKELETON'

International Workshop on
'Emerging Technologies and Challenges for
Exoskeleton'
IND-EXOS 2024
DEBEL, DRDO, BENGALURU, INDIA
16th - 17th April 2024, Bengaluru

Why in news?

- ⇒ The first international workshop on 'Emerging Technologies & Challenges for Exoskeleton' is being held in Bengaluru on April 16-17, 2024.
- ⇒ The workshop, which has been organised by the Defence Bio-Engineering & Electromedical Laboratory of Defence Research & Development Organisation (DRDO), was inaugurated by Secretary, Department of Defence R&D & Chairman DRDO Dr Samir V Kamat, in the presence of Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee (CISC) Lt Gen JP Mathew.

Importance of Exoskeleton

- ⇒ In his keynote address, the DRDO Chairman emphasised the importance of the transformational exoskeleton technology and its immense applications in military & civilian environments.

⇒ He urged the diverse stakeholders including the R&D community, the Armed Forces, industry, and academia to work together to address the challenges and chalk out the roadmap for the future of Exoskeletons.

History of Exoskeleton

- ⇒ Speaking on the occasion, the CISC traced back the history of exoskeleton research, its earlier prototypes, and challenges.
- ⇒ His address traversed through the challenges which are being currently addressed by the R&D Community.
- ⇒ He underscored the significance of exoskeleton technologies in rehabilitation, occupational therapy, and augmentation.
- ⇒ He also brought out that the exoskeleton technology being a dual use technology has tremendous commercial potential.

Endeavour for Future Exoskeleton Technologies

- ⇒ Informative in-depth technical talks were delivered by Prof Robert Reiner of ETH, Zurich and Prof Arun Jayaraman of Northwestern University, Chicago, Illinois. Director General (Life Sciences) Dr UK Singh spoke about the imminent challenges and requirements from the Armed Forces.
- ⇒ He urged the community of researchers to collectively address the challenges in their endeavour for future exoskeleton technologies to meet the requirements of all stakeholders.

Way Forward

- ⇒ The two-day workshop is being attended by more than 300 participants from DRDO, Services, Industry, Academia, and Researchers.
- ⇒ Exoskeleton technology involves wearable structures which enhance the capabilities of the human body.

ADITYA MISSION



Context

- ⇒ Aditya L1 solar mission of the ISRO is continuously sending data about the Sun.

What is the Aditya-L1 mission?

- ⇒ Aditya-L1 is the first space-based Indian observatory to study the Sun. It was launched on September 2, 2023 by the PSLV-C57.

- Solar observatory is placed at Lagrangian point L1 for “Observing and understanding the chromospheric and coronal dynamics of the Sun” in a continuous manner.
- Placing the Aditya-L1 in a halo orbit around L1 point has advantages as compared to placing in a Low Earth Orbit (LEO):
 - It provides a smooth Sun-spacecraft velocity change throughout the orbit, appropriate for helioseismology.
 - It is outside of the magnetosphere of Earth, thus suitable for the “in situ” sampling of the solar wind and particles.
 - It allows unobstructed, continuous observation of the Sun, and view of earth for enabling continuous communication to ground stations.
- It is equipped with seven payloads (instruments) on board with four of them carrying out remote sensing of the Sun and three of them carrying in-situ observation.

What are the seven payloads?

- The Visible Emission Line Coronagraph (VELC) will study the Corona, imaging and spectroscopy, and Coronal mass ejections.
- The Solar Ultraviolet Imaging Telescope (SUIT) will focus upon the Photosphere and Chromosphere imaging- narrow and broadband. It will also measure the solar irradiance variations.
- The Solar Low Energy X-ray Spectrometer (SoLEXS) and High Energy L1 Orbiting X-ray Spectrometer (HELIOS) will study the soft and hard X-ray flares from the Sun over a wide X-ray energy range.
- The Aditya Solar wind Particle Experiment (ASPEX) and Plasma Analyser Package For Aditya (PAPA) will analyze the electrons and protons in the Solar wind or particles. It will also study the energetic ions.
- The Advanced Tri-axial High Resolution Digital Magnetometers will study the interplanetary magnetic field at L1 point.

What is a Lagrange Point?

- Lagrange points are positions in space where objects sent there tend to stay put. At Lagrange points, the gravitational pull of two large masses precisely equals the centripetal force required for a small object to move with them.
- There are five Lagrange points, three are unstable and two are stable. The unstable Lagrange points are labeled L1, L2 and L3. The stable Lagrange points are labeled L4 and L5.
- The L1 point of the Earth-Sun system affords an uninterrupted view of the sun and is currently home to the Solar and Heliospheric Observatory Satellite SOHO.

META UNVEILS UPGRADED AI ASSISTANT POWERED BY LLAMA 3



Why in news?

- Meta CEO Mark Zuckerberg has announced the launch of the company's advanced AI assistant, Meta AI, powered by the state-of-the-art language model Llama 3.
- The new AI offering is designed to enhance the user experience across Meta's popular apps, including WhatsApp, Instagram, Facebook, and Messenger, while also being available on a dedicated website, meta.ai.

Global Expansion and Integration

- In a significant move, Meta AI is expanding its services to over a dozen countries, including Australia, Canada, Ghana, Jamaica, and South Africa, after previously being available only in the United States.
- The AI assistant has been seamlessly integrated with major Meta apps, allowing users to access its features without switching between different platforms.
- Moreover, Meta has partnered with tech giants Google and Bing to provide real-time information through Meta AI, ensuring users have access to the latest and most accurate data.

Innovative Features and Capabilities

- Meta AI promises to deliver faster and more accurate assistance to users, aiding them in tasks such as finding restaurants, planning trips, studying for exams, and generating design inspiration.
- One of the standout features is the introduction of “Imagine,” which enables users to create images in real-time from text descriptions.
- This beta feature is currently available on WhatsApp and the Meta AI website, allowing users to watch their visions come to life as they type.
- Additionally, users can personalize their content by animating images, altering styles, and transforming images into GIFs using Meta AI.

Future Developments and Expansion

- Looking ahead, Meta is working on making Meta AI accessible on its VR headset, Meta Quest, and plans

to integrate the AI assistant with the platform and Ray-Ban Meta smart glasses.

- This move aims to expand the reach and versatility of Meta AI, offering users a more immersive and seamless experience across various devices and platforms.

About Meta

- Meta Platforms, Inc., formerly known as Facebook, Inc. and TheFacebook, Inc., is an American multinational conglomerate headquartered in Menlo Park, California. The company owns and operates several popular products and services, including Facebook, Instagram, Threads, and WhatsApp.
- Meta is among the largest American tech companies and is listed alongside other Big Five corporations such as Alphabet (Google), Amazon, Apple, and Microsoft. In 2023, the company was ranked #31 on the Forbes Global 2000 ranking.

Way Forward

- With the launch of Meta AI, powered by Llama 3, Meta aims to revolutionize the way users interact with artificial intelligence, providing a more personalized, efficient, and innovative experience across its vast ecosystem of products and services.

SJVN SETS MILESTONE WITH INAUGURATION OF FIRST MULTI-PURPOSE GREEN HYDROGEN PILOT PROJECT OF THE NATION



Why in news?

- SJVN Limited has achieved a significant milestone with the inauguration of India's first Multi-purpose (Combined Heat & Power) Green Hydrogen Pilot Project at SJVN's 1,500 MW Nathpa Jhakri Hydro Power Station (NJHPS) in Jhakri, Himachal Pradesh.
- The green hydrogen produced from the project will be utilized for High Velocity Oxygen Fuel (HVOF) Coating Facility of NJHPS for meeting its combustion fuel requirements.
- In addition, it will also generate electricity through its fuel cell of 25 kW capacity.

Inauguration of Plant

- The first Multi-purpose (Combined Heat & Power) Green Hydrogen Generation Plant of the nation has

been inaugurated by Chairperson and Managing Director, Smt. Geeta Kapur on April 24, 2024.

- Speaking about the project, the Chairperson said: "Aligned with National Green Hydrogen Mission of Government of India, SJVN's Green Hydrogen Pilot Project is poised to accelerate the development of green hydrogen production infrastructure in the power sector, thus establishing green hydrogen as a clean energy source."

Production

- The state-of-the-art Green Hydrogen Pilot Project is set to produce 14 kilograms of Green Hydrogen daily during 8 hours of operation.
- The hydrogen produced will be stored at a pressure of 30 bars, in six storage tanks, with a total storage capacity of 12 m³.
- The project will produce hydrogen using alkaline electrolyzer of 20 Nm³/hour capacity, which would be powered by renewable energy supplied from 1.31 MW Solar Power Plant of SJVN in Wadhla, Shimla.
- Besides generating power, the green hydrogen will also be used for High Velocity Oxygen Fuel Coating of turbine underwater parts.

Centralized Operation

- During her visit, the SJVN Chairperson also inaugurated first-of-its-kind Centralized Operation of the 1,500 MW Nathpa Jhakri Hydro Power Station (NJHPS) and 412 MW Rampur Hydro Power Station (Rampur HPS), by remotely operating Unit-2 of Rampur HPS from NJHPS Control Room at Jhakri, Himachal Pradesh. Rampur HPS is being successfully operated on Tandem Operating System with NJHPS.

Contribution

- Smt. Kapur commended the dedicated efforts of the teams at NJHPS, Rampur HPS and at Electrical Design Team at SJVN Corporate Headquarters for this achievement.
- She urged the employees to continue working diligently to realize the aim of being able to operate the entire Rampur HPS from NJHPS at the earliest.

About First Multi-purpose Green Hydrogen Pilot Project

- The green hydrogen produced from the project will be utilized to meet combustion fuel requirements of NJHPS's high-velocity oxygen fuel (HVOF) thermal spray coating facility for turbine underwater parts.
- In addition, it will be used to generate electricity through its 25 kW fuel cell.
- The green hydrogen pilot project will produce 14 kg of green hydrogen daily during 8 hours of operation.
- The hydrogen produced will be stored at a pressure of 30 bars, in six storage tanks, with a total storage capacity of 12 cubic metre.

- The project will produce hydrogen using alkaline electrolyzer of 20 Nm³/hour capacity, which would be powered by renewable energy supplied from SJVN's 1.31 MW solar power plant in Wadhwa, Shimla.

SPACE: A CUTTING-EDGE FACILITY FOR SONAR TESTING AND EVALUATION IN INDIA



Introduction

- In a significant step towards enhancing India's naval capabilities, the Department of Defence (R&D) and the Defence Research and Development Organisation (DRDO) have recently inaugurated a state-of-the-art facility called the Submersible Platform for Acoustic Characterisation and Evaluation (SPACE) at the Underwater Acoustic Research Facility in Kulamavu, Idukki, Kerala.
- This cutting-edge facility, set up by the Naval Physical & Oceanographic Laboratory of DRDO, is designed to serve as a premier testing and evaluation hub for sonar systems destined for the Indian Navy, a critical component of the country's maritime defense strategy.

Importance of Sonar Systems in Naval Warfare

- Sonar (Sound Navigation and Ranging) systems play a vital role in modern naval warfare, enabling the detection, tracking, and identification of submarines, surface vessels, and other underwater objects.
- These advanced acoustic sensors are essential for effective Anti-Submarine Warfare (ASW) operations, which are crucial in protecting a nation's maritime interests and ensuring the safety of naval assets.
- As the Indian Navy continues to expand its fleet and modernize its capabilities, the need for robust and reliable sonar systems has become increasingly paramount.
- The establishment of the SPACE facility reflects the DRDO's commitment to developing and testing these critical technologies, ensuring that the Indian Navy is equipped with cutting-edge sonar systems to maintain a strategic edge in the maritime domain.

Key Features of the SPACE Facility

The SPACE facility is designed to be a comprehensive testing and evaluation hub for sonar systems, catering

to the diverse needs of the Indian Navy. Some of the key features of this state-of-the-art facility include:

- Floating and Submersible Platforms
 - The SPACE facility consists of two distinct assemblages: a floating platform that rests on the water surface and a submersible platform that can be lowered to depths of up to 100 meters using winch systems.
 - This dual-platform design allows for the evaluation of complete sonar systems, enabling quick deployment and easy recovery of scientific packages, such as sensors and transducers.
- Versatile Data Collection Capabilities
 - The SPACE facility is equipped with modern scientific instrumentation, allowing for the survey, sampling, and data collection of air, surface, mid-water, and reservoir floor parameters.
 - This capability ensures that the facility can cater to a wide range of research and development needs, including the characterization of underwater environments and the assessment of sonar system performance in various conditions.
- Advanced Data Processing and Analysis
 - The SPACE facility houses modern, well-equipped scientific laboratories, providing the necessary infrastructure for data processing and sample analyses.
 - This advanced capability will enable researchers and engineers to conduct in-depth analysis of the collected data, leading to the development of more effective and reliable sonar systems for the Indian Navy.

Enabling Cutting-Edge Anti-Submarine Warfare Research

- By providing a dedicated platform for the testing and evaluation of sonar systems, the SPACE facility will play a crucial role in advancing India's Anti-Submarine Warfare research capabilities.
- This is a significant milestone in the country's efforts to strengthen its naval defense capabilities and ensure the protection of its maritime interests.

Inauguration and Significance

- The SPACE facility was officially inaugurated on April 17, 2024, by Dr. Samir V Kamat, the Secretary of the Department of Defence (R&D) and the Chairman of DRDO.
- This event marks a significant milestone in the development of India's naval technology and underscores the country's commitment to enhancing its maritime defense capabilities.

Conclusion

- The inauguration of the SPACE facility is a testament to the DRDO's efforts to foster technological innovation and support the Indian Navy's operational requirements.

⇒ By providing a state-of-the-art platform for the testing and evaluation of sonar systems, the DRDO is paving the way for the development of more advanced and reliable acoustic sensors, which will be crucial in ensuring the superiority of the Indian Navy in the maritime domain.

WHAT IS PROJECT NIMBUS?



Why in news?

- ⇒ The technology giant Google has recently made headlines due to its handling of employee protests against Project Nimbus, a lucrative cloud computing contract with the Israeli government.
- ⇒ In April 2024, Google fired 20 employees, adding to the previously dismissed 28 workers who participated in sit-in protests.
- ⇒ These terminations reportedly extended to even non-participating bystanders, escalating concerns regarding freedom of expression and internal company retaliation.

What is Project Nimbus?

- ⇒ Project Nimbus, signed in 2021, involves a \$1.2 billion agreement where Google, alongside Amazon, provides advanced cloud services and AI capabilities to Israel.
- ⇒ The controversy particularly spirals around accusations that these technologies might be supporting military actions during the ongoing conflict in Gaza.
- ⇒ Despite Google's assurances that these technologies are not being used for weaponry or intelligence missions directly supporting military operations, there is a sense of skepticism among employees and activists.

Employee Protests

- ⇒ The core of the unrest among Google employees is rooted in ethical concerns about the potential misuse of Google's technology in warfare and human rights violations.
- ⇒ The protesters, supported by the advocacy group No Tech For Apartheid, argue that the technology provided under Project Nimbus could exacerbate the military conflict in Gaza.

⇒ These employees liken their protests to previous movements within the company, such as the opposition to Project Maven, which led Google to eventually terminate the contract due to similar concerns.

Google's Stance

- ⇒ In the wake of these protests, Google's top executives, including CEO Sundar Pichai, emphasized the need to maintain a neutral and focused work environment.
- ⇒ Pichai articulated that while the company values open discussion, it is crucial to not allow these debates to disrupt work or create an uncomfortable atmosphere for other employees.
- ⇒ This has led to moderation and occasionally the locking of internal discussion threads that became too heated or were deemed inappropriate for the workplace.

Historical Context and Previous Protests

- ⇒ Google has faced internal protests before too, notably in 2018, related to Project Maven and issues around how sexual assault allegations were handled within the company.
- ⇒ These events have demonstrated Google's responsive, albeit sometimes criticized, approach to employee activism and participation in ethically charged issues.
- ⇒ Moreover, they indicate a growing trend of tech workers seeking a say in how their work is utilized, particularly when it intersects with broader social and ethical dilemmas.

Legal and Ethical Implications

- ⇒ The firing of employees for protest actions raises significant questions about the balance between employer policies and employee rights under U.S. labor laws, which protect collective action concerning working conditions.
- ⇒ The broadening of this protection in the context of the tech industry, known for its liberal and innovative work culture, underscores the complexity of navigating corporate ethics, employee rights, and business contracts in conflict-prone regions of the world.

ENVIRONMENT & ECOLOGY

A BATTLE TO SAVE LADAKH, AND ALL OF HUMANITY

Context

⇒ Sonam Wangchuk's climate fast has highlighted the larger issue of the fragility of the Himalayan ecosystem.

The Himalayan region

⇒ Tucked away between India's neighbours, Pakistan and China, at a height of 11,500 feet, Ladakh comprises

97% indigenous tribes, many of whom lead simple pastoral lives and depend on farming and animal rearing for a livelihood.

- Apart from border disputes, the Himalayan region also faces the damaging effects of climate change through floods, drought, landslides, greenhouse gases, and other pollutants.
- There are about 15,000 glaciers in the Himalayan region, often referred to as the Third Pole.
- In spring and summer, these glaciers form an important part of the hydrological process by releasing meltwater to the Indus, the Ganga, and the Brahmaputra.
- The Himalayan glaciers, like those in the rest of the world, are at risk of melting due to global warming and climate change. This will affect both residents of the mountain region and those living downstream.



Infrastructure boom

- In 2008, the Centre launched eight Missions under the National Action Plan on Climate Change (NAPCC).
- One of these was under the Ministry of Science and Technology, i.e., the National Mission for Sustaining the Himalayan Ecosystem (NMSHE).
- The main objective of NMSHE is to develop a capacity to scientifically assess the vulnerability of the Himalayan region to climate change and continuously assess the health status of the Himalayan ecosystem.

Issues

- Almost as soon as Ladakh became a Union Territory, several mega infrastructure projects were launched at rapid pace.
- These included the construction of bridges, widening of roads, tunnels, railway lines, mega solar projects, a state-of-the-art airport terminal and wayside amenities to boost tourism.
- Among these were the 14.15 kilometre Zojila tunnel, the 230 km Kargil-Zaskar National Highway project, and a 10 gigawatt solar energy project covering 20,000 acres in the Changthang region. The
- Ladakh (UT) Industrial Land Allotment Policy of 2023 aims to make UT Ladakh one of the preferred destinations for investment.

- The Border Roads Organisation (BRO) has been spearheading many of these projects along with the National Highways & Infrastructure Development Corporation Ltd. (NHIDCL).
- Various government bodies, sanctioning and executing the projects at such a feverish pace, are not paying heed to the warnings from past disasters in the mountains and learning from them.
- Since 2010, there have been several disasters in the Himalayan region, with a loss of lives and livelihoods.
- A Supreme Court of India constituted expert committee even suggested that authorities limit the number of pilgrims visiting the Char Dam Himalayan shrines, at Kedarnath, Badrinath, Yamunotri, and Gangotri to carrying capacity.
- Carrying capacity is the maximum number of people that an ecosystem can support, without eroding it.
- But, instead, pilgrim numbers have only swelled every year. Some expert committees have even suggested that no hydroelectric projects are set up in the para-glacial zone.
- When tragedy strikes, the human cost of environmental destruction is sadly borne by poor migrant workers in ongoing projects and by residents, tourists and pilgrims.
- Government bodies sanctioning the projects or the developers executing them escape the wrath of the mountains.

Conclusion

- What has been frustrating climate change activists is their recommendations gathering dust despite approaching the courts and the formation of expert committees.
- In the name of development, we cannot afford to upset the fragile balance in the Himalayan ecosystem and its biodiversity. The onus is on all of us to ensure that the Himalayas and the people living under its shadow are protected.

MAJOR ENVIRONMENT ORDERS (APRIL 12, 2024)



Why in news?

- The groundwater sources in nineteen districts of Andhra Pradesh have fluoride levels greater than 1.5 milligrammes per litre (mg/L),
- National Green Tribunal (NGT) was told in a compliance report by the state government.
- The March 29, 2024 tribunal order was uploaded to the NGT site on April 12, 2024.
- The rural water supply and sanitation department of Andhra Pradesh is providing safe drinking water to the rural inhabitants affected by fluoride through single village / multivillage schemes, the compliance report stated.

Identification of groundwater sources

- The department has identified groundwater sources with fluoride levels exceeding permissible limits and marked them with red paint, signifying they are not suitable for drinking.
- It has also raised awareness among the local public, advising them to refrain from using this water for drinking purposes.

Arsenic concentration in drinking water

- The Central Ground Water Authority has reported that groundwater sources in seven districts of Andhra Pradesh (Anantapur, East Godavari, Guntur, Krishna, Kurnool, Nellore and Prakasam) contain arsenic levels exceeding 0.01 mg/L.
- This exceeds the current maximum permissible limit for arsenic in drinking water.
- Groundwater samples containing arsenic levels approaching the permissible limit of 0.01 mg/L were collected from the National Hydrograph Network monitoring stations and exploratory wells / dug wells (located greater than 11 metres below ground level), primarily in alluvial soils, the Andhra Pradesh report said.
- These samples were not obtained from drinking water sources within the villages.

Effect of elevated arsenic concentration

- The elevated arsenic concentration exceeding permissible limits in the districts is sporadic and observed in only 23 water samples, the report said.
- The reasons for the high arsenic content in these groundwater samples are not geogenic but mainly attributable to the application of phosphate fertilisers and pesticides, as well as poor soil drainage conditions.

Role of Administration

- In all samples analysed from drinking water sources in rural habitations of Andhra Pradesh, the arsenic concentration remains within the permissible limit of 0.01 mg/L set by the Bureau of Indian Standards. This suggests that the situation is not alarming, the report stated.

- Furthermore, the rural water supply and sanitation department of Andhra Pradesh is ensuring the provision of safe drinking water to all rural habitations affected by arsenic through single village schemes.
- Additionally, all water supply sources in Andhra Pradesh undergo testing at the respective jurisdictional water quality monitoring laboratories once a year for chemical parameters and twice a year for bacteriological parameters (before and after the monsoon season), the report clarified.

Assam Government's role

- Assam authorities told to conform to SOP over use of formaldehyde to preserve fishes
- The eastern bench of the NGT, April 10, 2024, directed the authorities in Assam to strictly adhere to the standard operating procedures (SOP) regarding the prevention of the use of formaldehyde for fish preservation in the state.
- In its affidavit dated November 20, 2023, the Assam government mentioned the SOP for regulating the import, stocking and sale of fish transported from other self-sufficient states via road or river routes using formaldehyde to preserve fish for an extended period in the market.
- A subsequent affidavit dated February 9, 2024 was filed by Assam, indicating that the draft SOP had been officially accepted and notified by the government, effective from January 20, 2024, to address the issue of formaldehyde usage.
- This included the establishment of a state-level and district-level task forces. Following the SOP notification, the commissioner and secretary of the fishery department, Assam, had instructed all district fishery development officers across the state to promptly establish district-level task forces in accordance with the SOP.
- These task forces are tasked with regulating the import, stocking, and sale of imported fish treated with formaldehyde.
- The applicant also submitted a rejoinder affidavit on April 7, 2024, stating that 13 districts have already established their district-level task forces. Additionally, records of the formation of such task forces for the Karimganj district, along with details of the steps taken to implement the SOP, have been forwarded.

Sewage polluting Narmada river

- The NGT, April 10, 2024 directed the member secretary of Gujarat Pollution Control Board to investigate a complaint regarding sewage drains in Bharuch polluting the Narmada river.
- The authority has been instructed to promptly take appropriate remedial action in accordance with the law.

Conclusion

- An original application was registered based on a letter petition submitted by president of Maa Revashree Charitable Trust, highlighting the concern that wastewater from 12 sewage drains is being discharged into Narmada river.
- The prayer in the application was to expedite the pending sewage treatment plant project of Bharuch city on a fast-track basis.

INDIA HAS LOST OVER 1,500 SQ KM OF LAND TO 'CATASTROPHIC' SOIL EROSION



Why in news?

- A new study has revealed a worrying trend for India's soil health.
- Nearly 30 per cent of the country's landmass is experiencing "minor" soil erosion, while a critical 3 per cent faces "catastrophic" topsoil loss, according to the research.
- The biggest hotspot for soil erosion in the country is the Brahmaputra Valley in Assam.

Classification of Soil Erosion based on DTE

- The study, Geospatial modeling and mapping of soil erosion in India, for the first time, classified soil erosion on a pan-India basis.
- Topsoil – the uppermost layer of soil – is vital for agriculture as it holds nutrients and moisture essential for plant growth. Erosion significantly reduces fertility and can lead to decreased crop yields.
- Data accessed and quantified by DTE shows the northeastern state Assam lost close to 300 square kilometres or 31 per cent of its surface soil to "catastrophic" erosion.
- According to the Food and Agriculture Organization of the United Nations, it could take up to 1,000 years to produce 2 to 3 centimetres of top or surface soil, which has a depth of 6 cm.

Catastrophic Erosion

- The study came up with six classifications for soil erosion – ranging from "minor" to "catastrophic" – in terms of soil eroded in tonnes over a hectare over a year.

- A region would be classified as "catastrophic" if it reports over 100 tonnes of soil lost to erosion over a hectare during a year's time.
- The cutoffs were decided by us (the researchers) and the numbers – percentage of landmass eroded – can vary if someone comes up with a different classification.

Impact in Himalayan Region

- Apart from the Brahmaputra Valley, the lower reaches of the Himalayas are characterised by moraine or loose soil and highly unstable slopes.
- The region spans from the Kashmir Valley to the southern regions of Himachal Pradesh and Uttarakhand and extends across the border into Nepal and parts of Odisha.
- This region stands as one of the most prominent erosion hotspots in the country, exacerbated by its susceptibility to seismic activity or earthquakes.

Problem with Odisha

- Odisha, which differs markedly from the Himalayas and the Brahmaputra valley in terms of topography and biodiversity, is also another hotspot for "catastrophic" erosion.
- This erosion extends from the southern reaches of the Mahanadi river, traversing along the western borders of the state's lush green cover and natural forests, all the way to the northern parts of Andhra Pradesh.
- This underscores the significant soil degradation experienced by the forest cover in the region.

Assam's Case

- District-wise, the study highlighted that nine out of the 20 most susceptible districts to soil erosion in the country are located in Assam.
- Further, the national mean for soil in the country stood at 21 tonnes per hectare per year.

RUSLE equation

- The RUSLE equation – known as Revised Universal Soil Loss Equation – takes into account various factors like predicted crop loss, rainfall and runoffs, also known as the R-factor, soil erodibility, steepness and length of a slope of a mountain, crop management and support practices like strip cropping, etc., to estimate soil loss at 250 metre spatial resolution.

Conclusion

- This loss can be directly attributed to anthropogenic interventions like deforestation and rigorous farming practices over the years.
- While there have been region-specific studies related to soil erosion, Research team wanted to have a holistic view of soil conservation for future planning of soil conservation.

INDIA MUST ADOPT HOLISTIC APPROACHES TO HANDLE HUMAN-WILDLIFE CONFLICTS



Context

- ⇒ India, with its rich biodiversity and burgeoning human population, grapples with a significant challenge: human-animal conflict.
- ⇒ As habitats shrink and human activities encroach upon wildlife territories, confrontations between humans and animals, mainly tigers and elephants, have escalated, posing threats to both communities.
- ⇒ It emerges as a major talking point in states like Kerala ahead of the Lok Sabha election.
- ⇒ Understanding and mitigating this conflict is crucial for fostering coexistence and preserving India's natural heritage.

Complexities underlying Human-Animal conflict

- ⇒ The complexities underlying human-animal conflict in India are manifold.
- ⇒ With an estimated population of around 31,000 across 29 reserves, India is home to the largest number of wild Asian elephants globally.
- ⇒ Tragically, encounters with these majestic creatures result in over 500 human fatalities annually.
- ⇒ Equally distressing is the fact that more than 100 elephants succumb to human-induced activities such as encroachments, mining, quarrying, ivory poaching, poisoning, encounters with electric fences, and collisions with trains.
- ⇒ Similarly, India is home to more than 2,960 tigers – 75 per cent of the world's wild tiger population.
- ⇒ Human-tiger encounters due to an intricate network of factors often lead to loss of lives on both sides, especially in states like Uttar Pradesh, Assam, Bengal, Odisha, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu and Kerala.

Fatalities caused by specific incidents

- ⇒ In most parts, conflicts occur only at micro-local levels, with fatalities caused by specific incidents in localised areas due to human action or complex animal behaviour.

- ⇒ Human safety must be prioritised per anthropocentric principles, without compromising the rights of animals or the balance of nature.
- ⇒ Tigers are facing the threat of extinction, while elephants are experiencing a crisis of attrition.

Effect of Human expansion

- ⇒ The relentless march of urbanisation, expansion of agricultural lands and infrastructural development significantly contribute to the fragmentation of natural habitats and animal corridors.
- ⇒ As a consequence, wildlife increasingly encroaches upon human settlements.
- ⇒ Moreover, the depletion of natural resources compels animals to venture into agricultural fields and villages in search of sustenance, intensifying the conflict between humans and wildlife.
- ⇒ Farmers suffer crop depredation, leading to economic losses and food insecurity. Livestock predation further exacerbates these hardships.
- ⇒ Additionally, human lives are at risk as encounters with large mammals, especially elephants and tigers, result in injuries and fatalities.
- ⇒ Psychological distress and fear are pervasive among affected communities, perpetuating animosity towards wildlife.

Addressing the conflict

- ⇒ In essence, the convergence of these factors amplifies tensions, highlighting the urgent need for comprehensive strategies to mitigate human-animal conflicts and foster harmonious coexistence between communities and wildlife in India.
- ⇒ Governments in states have been attempting to address this issue using strategies such as trenches, fences, drones, radio collars, and village relocation.
- ⇒ Balancing conservation efforts with human livelihood needs presents a complex dilemma. India boasts several flagship species like tigers, elephants, and leopards, emblematic of its natural heritage.
- ⇒ Yet, ensuring their survival often entails restricting human activities, which can incite resentment and resistance from local communities.
- ⇒ Moreover, retaliatory killings of problem animals perpetuate a cycle of violence, posing a threat to species conservation.

Multi-pronged Approach

- ⇒ Addressing human-animal conflict requires a multi-pronged approach encompassing proactive measures and community involvement.
- ⇒ Implementing effective land-use planning to delineate wildlife corridors and buffer zones can mitigate habitat fragmentation and reduce human-wildlife encounters.
- ⇒ Employing innovative deterrent methods such as electric fencing, chilli smoke, and beehive fences can deter crop-raiding animals without harming them.

- Furthermore, investing in community-based conservation initiatives that empower local stakeholders is imperative.
- Encouraging sustainable agriculture practices, promoting livestock insurance schemes, and providing alternative livelihood options can alleviate the socio-economic burdens on communities while fostering tolerance towards wildlife.
- Education and awareness programmes aimed at fostering empathy and understanding between humans and animals are also pivotal in fostering coexistence.

Way Forward

- The Indian government has taken strides towards addressing human-animal conflict through initiatives like Project Tiger and Project Elephant, focusing on habitat conservation and mitigating conflicts involving flagship species.
- However, more concerted efforts are needed to mainstream conflict mitigation measures into policy frameworks and enhance resource allocation for on-the-ground implementation.
- Similarly, in some states, community-based volunteers or rapid response teams monitor the movements of wild animals and mitigate issues of conflict with humans.
- They are called 'friends of wild animals'.
- Kerala, amid repeated loss of lives by animal attacks, declared human-animal conflict as a state-specific disaster, shifting the responsibility to the state disaster management authority.

Conclusion

- Human-animal conflict in India is a pressing issue that demands urgent attention and concerted action.
- By adopting holistic approaches that integrate conservation goals with community welfare, India can pave the way for sustainable coexistence between humans and wildlife.

OCEAN FLOOR A 'RESERVOIR' OF PLASTIC POLLUTION



Why in news?

- New research from CSIRO, Australia's national science agency, and the University of Toronto in Canada, estimates up to 11 million tonnes of plastic pollution is sitting on the ocean floor. Every minute, a garbage truck's worth of plastic enters the ocean.
- With plastic use expected to double by 2040, understanding how and where it travels is crucial to protecting marine ecosystems and wildlife.

Estimates of accumulation

- This is the first estimate of how much plastic waste ends up on the ocean floor, where it accumulates before being broken down into smaller pieces and mixed into ocean sediment.
- Millions of tonnes of plastic waste enter our oceans every year but what we didn't know is how much of this pollution ends up on our ocean floor.
- Ocean floor has become a resting place, or reservoir, for most plastic pollution, with between 3 to 11 million tonnes of plastic estimated to be sinking to the ocean floor.
- While there has been a previous estimate of micro-plastics on the seafloor, this research looks at larger items, from nets and cups to plastic bags and everything in between.

Scientific Data based on Recent Research

- Ms Alice Zhu, a PhD Candidate from the University of Toronto who led the study, said the estimate of plastic pollution on the ocean floor could be up to 100 times more than the amount of plastic floating on the ocean's surface based on recent estimates.
- The ocean surface is a temporary resting place of plastic so it is expected that if we can stop plastic entering our oceans, the amount would be reduced.
- However, our research found that plastic will continue to end up in the deep ocean, which becomes a permanent resting place or sink for marine plastic pollution.

Predictive Models

- Scientific data was used to build two predictive models to estimate the amount and distribution of plastic on the ocean floor -- one based on data from remote operated vehicles (ROVs) and the other from bottom trawls.
- Using ROV data, 3 to 11 million metric tonnes of plastic pollution is estimated to reside on the ocean floor.
- The ROV results also reveal that plastic mass clusters around continents -- approximately half (46 per cent) of the predicted plastic mass on the global ocean floor resides above 200 m depth.
- The ocean depths, from 200 m to as deep as 11,000 m contains the remainder of predicted plastic mass (54 per cent).

Conclusion

- Although inland and coastal seas cover much less surface area than oceans (11 per cent vs 56 per cent out of the entire Earth's area), these areas are predicted to hold as much plastic mass as does the rest of the ocean floor.
- These findings help to fill a longstanding knowledge gap on the behaviour of plastic in the marine environment.
- Understanding the driving forces behind the transport and accumulation of plastic in the deep ocean will help to inform source reduction and environmental remediation efforts, thereby reducing the risks that plastic pollution may pose to marine life.

THE BLURRY LINES BETWEEN WILDLIFE 'CAPTURE' AND 'RESCUE'



Introduction

- Rescue is defined as an act of saving or being saved from danger or difficulty.
- On a fundamental level, when it comes to wildlife, the term 'rescue' conjures up a sense of hope for the survival of the animal, the drama of the operation, admiration for the skills of human responders, and an acknowledgment of the struggles of coexistence.

Wildlife capture and rescue

- Here, in India, the escalating frequency of human-wildlife interactions is undeniable.
- Given the inevitability of conflict with wildlife, we should look for better solutions than those which focus solely on reactive capture and relocation, which have frequently proven unsustainable, or, worse, fatal to the animals involved.
- Navigating the blurry lines between what constitutes a true "wildlife rescue" and "capture" can be a nuanced challenge in India.
- The successful capture of animals frequently involved in conflict, such as elephants, snakes, and large carnivores, takes many complex forms, requiring chemical and physical immobilisation, alongside a balanced team of experts, each with their specific roles.

- Common scenarios necessitating actual 'rescue' include instances such as leopards trapped in open wells, elephants stranded in irrigation tanks, snakes trapped in homes, or even elephant calves separated from their herds.
- However, the mere presence or sighting of wildlife in areas outside our perceived notion of their 'habitat' does not always necessitate a "rescue".

The rescue of snakes

- The failure to distinguish between capture, removal, and rescue becomes all the more apparent when we look further into how conflict with snakes is managed.
- The frequency of interactions with snakes is higher than with all other wild animals combined.
- Unfortunately, this leads to a greater incidence of poor handling, unnecessary removal from habitats, relocation to unfamiliar terrain, and the use of snakes as props in social media posts, all in the name of 'rescuing' them.
- There is plenty of evidence to suggest that relocated snakes have extremely poor survival prospects.
- Just as importantly, relocation does not really resolve conflict. Instead, it creates a vacuum that more than one snake could subsequently occupy, thereby potentially increasing the frequency of conflict.
- These 'rescue' operations, irrespective of species, do more harm than good, as they can cause physical trauma, injuries, and undue stress, compromising the animals' post-release survival chances.
- Overall, the term 'rescue' itself carries the implication that one species is under threat from another. Either elephants or snakes are under threat from humans or human development activities, or humans are under threat from the wild animals with whom they share a lived space.
- Attempting a 'rescue' in either scenario may villainise one party or another and erode public faith in conservation efforts. 'Rescue' as a solution to conflict draws a line in the sand, and pits animals against people. This does not help long-term conservation goals.
- We need to see community more holistically, as comprising and integrating both human beings and non-human animals, instead of driving divisiveness through our wildlife management practices.

Suggestions

- The resolution of potential conflicts that arise between humans and non-human animals in shared environments should begin with a realistic assessment of the situation by identifying the problem, limiting any factors that may stress the animal, making sure other proactive measures have been exhausted, and basing any intervention on the

most ethical means – one that considers the welfare of the animals and the people involved.

- ⇒ Proactive mitigation strategies to avoid conflicts before they occur should always be our first instinct.
- ⇒ Some promising approaches being tested across India, especially by the Karnataka Forest Department, include early warning systems, regular monitoring, fencing, better lighting, public education, and improved waste management to reduce, or better prepare communities for potential interactions with wildlife.

Conclusion

- ⇒ Relocation of a wild animal disrupts two ecosystems – the one that the animal is taken from, and the one to which that animal is introduced.
- ⇒ We should look for an approach that leaves every one of us, human and animal alike, better off.

A WARMING ASIA



Introduction

- ⇒ The World Meteorological Organisation's State of the Climate Asia report came recently. The number of people impacted by "disaster" events in Asia in 2023 was lower than that in 2022.

Report Outcome

- ⇒ Asia faced the most disasters in the world as 79 events associated with extreme weather, climate, and water-related hazards in 2023 affected over nine million people in the region, directly killing over 2,000 people.
- ⇒ The findings for India are particularly sobering.
- ⇒ Heatwaves, floods and landslides took a heavy toll on life in the country.
- ⇒ The warnings issued by scientific studies for more than a decade and a half ring true – people living in coastal areas, mountainous regions, even the plains are all vulnerable to climate vagaries.

Warnings to Asian nations

- ⇒ Like most climate literature, the report drives home the need to keep temperature rise to levels that help avert catastrophes.
- ⇒ But it's also a warning to be prepared for receding glaciers, rising sea-levels and droughts.

- ⇒ Most Asian countries do come together in global forums such as the UNFCCC, but time has come to develop mechanisms of cooperation that will enable people – and cities and towns – to be resilient against climate change.
- ⇒ Natural phenomenon rarely respects national boundaries.
- ⇒ And, large parts of Asia, especially South Asia, have ecological continuities that make the case for joint work on building defenses compelling.
- ⇒ The Climate Asia report too should hasten such collaboration.
- ⇒ "Precipitation was below normal in the Himalayas and in the Hindu Kush mountain ranges in Pakistan and Afghanistan in 2023, while southwest China suffered from a drought, with below-normal precipitation levels in nearly every month of the year," it points out.

Asia's stride in Renewable Energy Adoption is getting derailed due to climate change

- ⇒ Asia has energy security-related demands.
- ⇒ India and China have made remarkable strides in renewable power, but the two countries have concerns.
- ⇒ In 2023, drought constricted China's energy options and a dry spell in the monsoon season forced India to step up the use of coal after reduced hydroelectricity output threatened power outages.
- ⇒ Historical conflict has made energy diplomacy a high-hanging fruit for the two countries.
- ⇒ The Subcontinent, too, is not close to a collaboration mechanism akin to the ASEAN.
- ⇒ As the climate crisis deepens, countries in the region will need to iron out such complications.

Adaptation

- ⇒ **Early Warning Systems:** Investing in weather monitoring, early warning systems, and communication infrastructure is crucial. This allows for timely evacuation and response to extreme weather events.
- ⇒ **Climate-resilient infrastructure:** Building seawalls, levees, and raising infrastructure in flood-prone areas can protect communities. Incorporating heat-resistant materials and sustainable building practices can also be beneficial.
- ⇒ **Nature-based solutions:** Protecting and restoring mangroves, coral reefs, and forests plays a vital role. These ecosystems act as natural barriers against floods and storms, while also storing carbon.
- ⇒ **Disaster preparedness:** Educating communities about disaster risks, evacuation procedures, and stockpiling essentials can save lives. Regular drills and exercises are important.

Mitigation

- **Renewable energy:** Transitioning from fossil fuels to solar, wind, geothermal, and hydropower can significantly reduce greenhouse gas emissions.
- **Energy efficiency:** Investing in energy-efficient appliances, buildings, and industrial processes can significantly reduce energy consumption.
- **Sustainable agriculture:** Practices like crop rotation, cover crops, and reducing water usage can improve soil health and reduce emissions from agriculture.
- **Sustainable forestry:** Sustainable logging practices, planting trees, and reducing deforestation can help to store carbon and mitigate climate change.

Collaboration

- Sharing knowledge and best practices between countries in the region is essential.
- International cooperation is crucial to secure funding and technological advancements for climate action.

Conclusion

- The World Meteorological Organisation's State of the Climate Asia report shows nature doesn't respect boundaries, which makes a case for cooperation.

CAN GREEN CREDITS BENEFIT INDIA'S FORESTS?



Context

- The Green Credit Programme, announced by the Environment Ministry in October 2023, is a market-based mechanism where individuals and companies can claim incentives called 'green credits' for contributions to environmental and ecological restoration.

About

- The Green Credit Scheme is a voluntary program initiated by the government. It incentivizes individuals and entities for their positive contributions to the environment.
- Green Credits are units of incentives. These are provided to participants engaged in activities that have a positive impact on the environment.
- This scheme is part of the broader 'LiFE' campaign (Lifestyle for Environment). It promotes and rewards voluntary environmentally-positive actions.

Activities Covered Under Green Credit Programme

- The Green Credit Programme encompasses eight key types of activities aimed at enhancing environmental sustainability. These activities include:
 - **Tree Plantation:** Planting trees to increase green cover and combat deforestation.
 - **Water Management:** Implementing strategies to efficiently manage and conserve water resources.
 - **Sustainable Agriculture:** Promoting eco-friendly and sustainable agricultural practices.
 - **Waste Management:** Implementing effective waste management systems to reduce environmental pollution.
 - **Air Pollution Reduction:** Initiatives aimed at reducing air pollution and improving air quality.
 - **Mangrove Conservation and Restoration:** Protecting and restoring mangrove ecosystems for ecological balance.

How will the Green Credit System work?

- The Green Credit System will be administered by the Indian Council of Forestry Research and Education (ICFRE), which will develop guidelines, processes and procedures for the implementation of the programme.
 - The ICFRE will also establish thresholds and benchmarks for each Green Credit activity based on scientific criteria and best practices.
 - The participants of the Green Credit System will have to register themselves with the ICFRE and submit their proposals for generating or buying Green Credits.
 - The ICFRE will evaluate the proposals and approve them if they meet the eligibility criteria. The ICFRE will also monitor and verify the implementation of the approved proposals and issue Green Credits accordingly.
 - The participants will be able to trade their Green Credits on a domestic market platform that will be developed by the ICFRE in collaboration with other stakeholders.
 - The platform will facilitate transparent and efficient transactions of Green Credits among buyers and sellers.
 - The program establishes a Green Credit Registry and a trading platform and provide information on the supply and demand of Green Credits.
- ### Challenges Related to Green Credit Programme
- The process of verifying and validating environmentally-positive actions can be complex and time-consuming. This poses administrative burdens on participants and regulatory bodies.
 - There is a risk that some participants may engage in "greenwashing." They falsely claim environmental benefits without actually implementing sustainable practices.

- ⇒ Limited awareness and participation among individuals and entities may hinder the effective implementation.
- ⇒ Lack of financial resources and incentives for participants to engage in environmentally-friendly activities can pose challenges to the success of the program.
- ⇒ Serious doubts are also raised regarding who should be in charge of reducing pollution and conserving biodiversity, as well as how rigorous monitoring would be maintained.
- ⇒ The Green Credit System may impose some costs on entities that participate in it.

Suggestions

- ⇒ While challenges exist, the focus on methodologies, demand, and continuous evaluation will pave the way for a sustainable and impactful green credit market, contributing to India's commitment to environmental sustainability.
- ⇒ The Green Credit System has to be carefully evaluated before being put into practice, especially given its emphasis on afforestation and tree planting.
- ⇒ Unresolved issues with forest ownership and governance, problems with biodiversity and the environment, and global criticisms of carbon credit programmes should all be taken into account.

Conclusion

- ⇒ The Green Credits Programme emerges as a visionary approach to incentivize environmental stewardship through a market-based model.
- ⇒ By offering incentives for a diverse range of beneficial actions, the program seeks to drive holistic environmental improvements while ensuring rigorous standards.

CLIMATE CHANGE POSES DIRE HEALTH AND HUMAN RIGHTS RISKS



Context

- ⇒ Climate change has not traditionally been seen as a health and human rights concern but that may be changing following recent high-profile court cases.
- ⇒ On April 9, the European Court of Human Rights ruled in favour of a group of elderly Swiss women

who claimed the government's inadequate efforts to combat climate change put them at risk of dying during heatwaves.

- ⇒ And in India, the Supreme Court on April 6 recognised a right against the adverse effects of climate change as a distinct fundamental right in the Constitution.
- ⇒ In that judgement, one of the judges said the rights to life and equality couldn't be fully realised without a clean, stable environment. The court also highlighted the connection between climate change and the right to health.

Greatest threat to Humanity

- ⇒ The World Health Organization has declared climate change to be the greatest threat to health that humanity faces.
- ⇒ Since climate change affects so many aspects of our lives, its effects on health and health care are complex, multiple and highly variable across geographies, ecozones and development levels.
- ⇒ There are direct impacts on our bodies and communities, such as have emerged with extreme heat, droughts, floods, fires and other climate change-driven catastrophic events.
- ⇒ There also are more complex and indirect impacts, such as increasing food insecurity, the rising threat of infectious diseases, increased exposure to water and air pollutants, the health impacts of forced mobility and migration and the mental health and social impacts of the climate crisis that affect us on our deepest levels.

Raising the issue of climate justice

- ⇒ A terrible irony of the climate crisis however, is that the burdens of climate change are not shared equally by all.
- ⇒ Those who have done the least to impact the climate, the peoples of low and middle-income countries, the rural poor and Indigenous communities are by far the most affected.
- ⇒ Many of the worst-affected states, including the small island nations, have argued that reparations are essential if they are to survive.

Impact on Indigenous people

- ⇒ Indigenous peoples, particularly those still living on their traditional lands, are literally fighting for their lives against loggers, miners, ranchers, farming interests, the energy industries and others who seek the bounty they have preserved for us all.
- ⇒ Earth has essentially three lungs; the Amazon Basin, the Congo Basin and what remains of the forests of Southeast Asia.
- ⇒ Without these great generators of oxygen and capturers of carbon, Earth's atmosphere would soon cease to be breathable for mammals, including humans.

- ⊖ This makes Indigenous rights inextricably linked to all of our health and wellbeing.

Health inequity is increasing exposures to water and air pollutants

- ⊖ Another major form of health inequity is increasing exposures to water and air pollutants, again most impacting those who have done the least to impact the climate.
- ⊖ Premature deaths due to diseases caused by these chemical pollutants were estimated to top nine million in 2015.
- ⊖ Access to health care, even in the wealthiest societies, has also been affected by climate crises.
- ⊖ The multiple hurricanes which devastated Puerto Rico in 2017 led to widespread disruptions in health care facilities and forced thousands of people on chronic medications, including antivirals for HIV, to have sustained treatment interruptions.
- ⊖ Hurricane Katrina and its aftermath led to significant destruction of healthcare facilities in the United States, primarily through flooding and led to multiple deaths, including among elderly and disabled patients in long-term care facilities.

Threat of infectious diseases

- ⊖ The threat of infectious diseases is also rising, including in the Global North, as climate change shifts the best habitats for some species, bringing animals and humans closer together and hence increasing the risk of diseases spilling over from one to the other.
- ⊖ The climate crisis is also responsible, in part, for the enormous levels of population displacement, mobility and migration we are now seeing.
- ⊖ There are an estimated 110 million people, the largest number ever recorded who are displaced either internally in their home countries, or outside their homelands.

Challenges

- ⊖ Providing even the most basic health care services, such as childhood immunizations, prenatal care and adequate water and food is an enormous challenge and will likely only increase.
- ⊖ And as we have seen in many countries, the rise in migration and displacement can have potent impacts on political culture – increasing nationalism, xenophobia, anti-immigrant policies and racism.

How will humanity cope with these interrelated challenges?

- ⊖ The human rights movement does have some compelling examples of success.
- ⊖ Multiple cases, including several brought by young students, have successfully argued for a new right: the right to live in a healthy environment. This is

another universal right we all share by virtue of our human status.

- ⊖ It is essential to protect human health and the health and wellbeing of all the living things with which we share the planet.

Conclusion

- ⊖ Realizing any right is always a struggle and the resistance is always immense.
- ⊖ But this is a right we really have no choice but to fight for.
- ⊖ We cannot maintain human health without healthy ecosystems.
- ⊖ And that requires we extend the right to live in a healthy environment to all of us now living and for the generations to come.

COULDED TIGER CAT: A NEW SPECIES DISCOVERED IN BRAZIL'S RAINFORESTS



Why in news?

- ⊖ In a remarkable discovery, scientists have identified a new species of wild cat thriving in the dense rainforests of Brazil.
- ⊖ Dubbed the clouded tiger cat (*Leopardus pardinoides*), this feline marvel has captivated the hearts of animal enthusiasts and conservationists alike, sparking renewed efforts to safeguard the region's rich biodiversity.

The Clouded Tiger Cat: A Diminutive Yet Significant Find

Distinctive Features

- ⊖ **Size:** Approximately the same as a domestic housecat, the clouded tiger cat is a relatively small wildcat.
- ⊖ **Coat:** Its distinctive spotted coat allows it to seamlessly blend into its surroundings, a remarkable adaptation for survival.

A Unique Lineage

- ⊖ Through extensive research by the Tiger-Cats Conservation Initiative in Brazil, scientists have concluded that the clouded tiger cat is a distinct species from its relatives, the northern tiger cat and the Atlantic Forest tiger cat.

- This determination was based on a comprehensive analysis of the cat's appearance, genetic diversity, and geographic distribution.

Habitat and Distribution

Cloud Forest Dwellers

- The clouded tiger cat inhabits the cloud forests of the southern Central American and Andean mountain ranges, spanning from Costa Rica to Argentina.
- Its habitat vastly differs from that of its savanna and shrubland-dwelling relatives, highlighting the remarkable diversity of the region.

A Reminder of Nature's Surprises

- The discovery of this new species serves as a poignant reminder that nature still holds countless wonders waiting to be unveiled, even in regions previously believed to be well-documented.

Threats and Conservation Efforts

Endangered Existence

- Widespread deforestation and habitat destruction pose significant threats to the survival of the clouded tiger cat and numerous other species.
- Illegal hunting and disease transmission from domestic animals further compound the challenges faced by this newly discovered feline.
- Conservationists warn that without urgent action, the clouded tiger cat could face extinction before concerted efforts to protect it can even begin.

A Call to Action

- The clouded tiger cat's discovery underscores the pressing need for greater protection of wildlife and their habitats through sustainable practices.
- Researchers emphasize the importance of increased research and conservation efforts in areas currently under threat, urging governments, organizations, and individuals to take decisive action to safeguard our planet's precious biodiversity.

Brazil's Rainforest: A Global Treasure

- The Amazon rainforest, often referred to as Brazil's rainforest, is the world's largest intact forest and a vital component of the global ecosystem.
- Serving as a home to millions of people, including indigenous communities, and responsible for absorbing vast amounts of atmospheric carbon dioxide and producing oxygen, the Amazon is aptly nicknamed the "lung" of the planet Earth.

Conclusion

- As we celebrate the discovery of the clouded tiger cat, let us also renew our commitment to preserving the magnificent rainforests that harbor such wonders, ensuring a future where biodiversity and human progress coexist in harmony.

UP NOW USES A CALCULATOR TO SCIENTIFICALLY FIX FEE FOR TRANSPORTING FAECAL SLUDGE TO TREATMENT PLANTS

Context

- Ever since Uttar Pradesh released its latest guidelines on faecal sludge management on November 7, 2023, more than 20 cities have passed their own bylaws for managing faecal waste.
- Among the issues tackled by these bylaws, a critical aspect has been the establishment of fees for transporting faecal waste or human excreta in trucks.

COST COMPONENT	DEFAULT VALUE	USER INPUT
Number of trips (per annum)	1,000	0
Average distance per desludging (km)	18	0
Average distance covered Per Year (km)	18,000	0
Fuel cost per year*	₹ 4,05,000	₹ 0
Driver's salary per year	₹ 1,82,500	₹ 0
Helper salary per year	₹ 146,000	₹ 0
Maintenance per year	₹ 35,000	₹ 0
Registration/license per year	₹ 5,000	₹ 0
Insurance of vehicle per year	₹ 10,000	₹ 0
Cost of PPE (safety kits) per year	₹ 5,000	₹ 0
Other expenses per year	₹ 15,000	₹ 0
Interest charges on vehicle per annum*	₹ 26,300	₹ 0
Office cost (yearly)	₹ 1,20,000	₹ 0
Admin and general expenses (yearly)**	₹ 47,490.00	₹ 0
Profit per annum	₹ 0	₹ 0
Total desludging cost per annum		₹ 9,97,290
Desludging cost per trip		₹ 997
Desludging fee per trip		₹ 1,200
Profit per trip		₹ 203
Government subsidy		₹ 0
*Fuel cost/litre ₹ 0 *Consider interest charges No **Admin cost % 0.0		

Impact of Initiative

- This development is significant, especially against the backdrop of the Swachh Bharat Mission.
- As reported by the Union Ministry of Jal Shakti in March 2023, the initiative led to the construction of over 110 million individual toilets and an additional 0.2 million community toilets in the country, resulting in over 95 per cent of households now having access to toilets.

Strategies

- To effectively manage excreta waste, two primary approaches exist. While one strategy involves connecting toilets to sewage treatment plants through pipelines, the more practical solution, given the rapid urban expansion, entails the implementation of decentralised septic tanks for waste collection, followed by transportation to nearby faecal sludge treatment plants (FSTPs).

As per the Uttar Pradesh Faecal Sludge and Septage Management Policy 2019, at least 86 per cent of the state's urban population relies on on-site sanitation systems.

Current fee determination

- The challenge, though, is that the market for transporting faecal sludge is largely unregulated. Currently, the fee for this service is determined arbitrarily by truck operators, often leaving low-income households unable to afford it.
- While some urban local bodies have attempted to fix the fee, they too have done it arbitrarily, failing to address the underlying issues.
- The absence of a fair and consistent pricing structure has severe consequences, leading to improper waste disposal practices that include dumping in open fields or even local waterbodies, posing significant risks to public health through water contamination.
- A study conducted by the Delhi-based non-profit Centre for Science and Environment (CSE) on selected cities in Uttar Pradesh in 2023, reveals a startling disparity in fees, ranging from Rs 500 to Rs 3,500 per trip.

Faecal Sludge Desludging Fee Calculator

- The November 2023 Uttar Pradesh guidelines have addressed this challenge of establishing scientifically sound transportation fees by embracing a new tool: a faecal sludge desludging fee calculator developed by CSE.
- The calculator takes into account the key cost components of providing desludging service.
- It has three columns titled cost component, default value (derived during the CSE study in Uttar Pradesh) and user input, to calculate the fee in different cities.
- The calculator factors in the equal monthly instalments operators will have to bear if they purchase vehicles on loan, and also has a cell to input government subsidies.
- The guidelines, based on the calculator, show that for every trip of up to 10 km, operators can charge between Rs 700 (if the truck makes four or more trips a day) to Rs 2,200 (if it makes only one trip a day).
- For distances between 10-15 km, the fee varies between Rs 800 and Rs 2,300.
- In the next slab, for distances of 15 to 20 km, the recommended fee is Rs 900 to Rs 2,400.
- Finally, if the distance is more than 20 km, the fee should be between Rs 1,100 and Rs 2,600. The new fees have a profit margin of more than 50 per cent per trip.

Clear impact

- In Sitapur, which has an FSTP almost 15 km outside the city, the fee has been revised from Rs 2,500 to Rs 1,000.

- Similar fee corrections have also taken place in Pilibhit and Moradabad, which earlier had a fee of up to Rs 3,000. In Pilibhit, the fee has now been revised to Rs 2,000, and in Moradabad, it stands at Rs 1,500.
- Meanwhile, cities like Raebareli have fixed a fee for the first time. Modinagar town has set differential desludging fees, Rs 750 for the poor households and Rs 1,500 for the non-poor households.

Conclusion

- Though developed based on data from Uttar Pradesh, the calculator's flexibility allows for its use across India and even in countries that use trucks to handle faecal waste.
- Fixing a fair transportation price is crucial for balancing viability for operators and affordability for users.

GHAZIPUR LANDFILL: RISING TEMPERATURES ADD FUEL TO FIRE CONCERNS



Why in news?

- Alarms continue to sound over the Ghazipur landfill site in Delhi after a recent fire outbreak.
- Now, a new study has emerged highlighting the dangers posed by rising temperatures in the region.

What happened here?

- The Ghazipur landfill, notorious for its immense size and environmental impact, caught fire on April 21, 2024.
- The incident blanketed parts of Delhi in toxic smoke, raising health concerns for residents.

What is the effect of increasing temperature?

- Increasing temperatures, a growing threat due to climate change, could exacerbate these dangers, the study has underlined.
- The unregulated nature of the landfill, with its mix of decomposing waste and flammable materials, creates a tinderbox susceptible to spontaneous combustion during hot weather.
- High temperatures in the middle layers of the dumpsite are expanding, moving towards the surface, according to the study published in journal Scientific Reports.

- ⇒ The composition of the input waste must be carefully decided so that the temperature fluctuations are normalized.

What is the reason behind increase in temperature?

- ⇒ A municipal solid waste (MSW) dumpsite becomes an "elevated temperature landfill" when it reaches higher temperatures than usual, often exceeding 55 degrees Celsius or 62.7°C.
- ⇒ Normally, landfills generate heat as waste decomposes. However, when temperatures rise much higher, it's typically due to unusual chemical reactions within the waste.
- ⇒ These abnormal reactions are the main cause of high temperatures in these landfills, according to the United States Environmental Protection Agency.
- ⇒ Elevated temperatures in landfills can cause changes in landfill gas composition, noxious odours, rapid and severe waste settlement, leachate seeps and outbreaks.

Municipal Solid Waste (MSW)

- ⇒ MSW typically comprises waste materials originating from homes, businesses, institutions and industries in urban areas.
- ⇒ It includes papers, plastics, glasses, metals, food scraps, clothes, yard waste and other miscellaneous waste materials.

Leachate

- ⇒ Leachate is a contaminated liquid (containing high concentrations of inorganic ions, organic molecules, and other harmful substances, including heavy metals and ammonia).
- ⇒ The biological decomposition of waste in landfills releases gases, heat, and leachate as a by-product.
- ⇒ The toxic leachate, according to the paper, can contaminate nearby water bodies or percolate to reach groundwater.
- ⇒ After taking monthly leachate samples from May 2021 through October 2021, the researchers found that samples were alkaline, indicating an abundance of alkaline compounds.
- ⇒ The conductivity value, which represents the presence of salts, was also found to be high.
- ⇒ The team also collected water samples from handpumps and found that water in the wells near the landfill was more alkaline than the distant ones.
- ⇒ The conductivity of groundwater was high at the north of the landfill and at the points near the landfill.
- ⇒ The values indicated that the leachate is seeping into the groundwater, the researchers highlighted.
- ⇒ "The alkaline nature of water and high conductivity values near the landfill suggest a severe risk of groundwater pollution," the researchers wrote in their study.

Recording temperature

- ⇒ The team also recorded temperatures at several points in the landfills. Temperature is important to facilitate the biological decomposition of wastes.
- ⇒ It should ideally be 35°C to 40°C and 50°C to 60°C are the ideal temperature ranges for two kinds of bacteria involved in breaking down garbage, respectively.
- ⇒ The team also recorded maximum temperatures close to the mid-depths of the landfill.
- ⇒ The Ghazipur landfill can be accepted as an elevated temperature landfill based on the temperature data obtained.

Zones based on temperature

- ⇒ The landfill subsoil could be broadly categorised into three zones based on the temperature.
- ⇒ Zone-1 can be established up to the depth of 30 metres from the surface and has a temperature range of 30-50°C, while Zone-2, which sits between 30 m and 50 m below the surface, witnesses mercury ranging between 60°C and 70 °C.
- ⇒ Zone-3 extends up to a depth of 60 m and is the coolest, where temperatures stay below 30 °C.

Way Forward

- ⇒ The Municipal solid waste has dumped unscientifically in unsecure landfill areas in almost all the big cities in India.
- ⇒ These closed or operational landfills are contributing in greenhouse gas (GHG) emission thus on global warming.
- ⇒ There is estimate that waste sector contributes approximately 5% to global greenhouse gases emission.
- ⇒ There is need to initiate mitigation of GHG emission from landfill areas.
- ⇒ Beside that there is scarcity of land in Indian cities to be used as landfills.
- ⇒ Thus, mining of valuable resources from old or operational landfill is one of the steps to recycle MSW and also mitigate GHG emission.

HOKKAIDO, JAPAN'S 'GARDEN OF THE GODS', IS WARMING



Why in news?

- Sapporo, the main city of Japan's second-largest island of Hokkaido, recorded 26 degrees Celsius on April 15, 2024, an official of the Japanese Meteorological Agency (JMA) told AFP.
- Record-keeping of temperatures began in 1877. April 15, 2024 is the earliest time in the year that Sapporo, a city famous for its snow and ice sights, has recorded this temperature which the JMA classifies as a 'summer day', AFP added.
- It is a far cry from 2008, when Hokkaido played host to the G8 summit. An analysis brought about by the World-Wide Fund for Nature-Japan had then noted that the mean temperature in August, Hokkaido's hottest month, was 21°C.

Hokkaido's Climate

- Hokkaido's climate is sub-arctic, with an annual average temperature of 8°C and an average annual precipitation of 1,150 mm.
- At Asahikawa, in central Hokkaido, the mean temperature in January, the coldest month, is -9°C. The mean temperature in August, its hottest month, is 21°C, but because of climate change, these statistics will likely change soon.
- The April 15 temperature has now vindicated WWF-Japan's warning. It also means that Hokkaido, long considered Japan's last wild frontier, will no longer be the 'Garden of the Gods' as it was known to be, by the Ainu, Japan's indigenous people.

Warming archipelago

- The Japanese archipelago, which stretches from the Ryukyuan islands (including Okinawa) near Taiwan to Hokkaido near Russian-administered Sakhalin, is warming up.
- A study last year noted that "In Japan, the temperature increased by 1.28°C/100 years from 1898 to 2021 (JMA 2021), and the three recent years, 2019-2021, are the warmest since 1898. In urban areas, a much larger temperature rise has been observed because of the urban heat island."
- Perhaps the biggest impact is being seen in Hokkaido, which borders the Sea of Okhotsk near the Russian Far East.

Results based on various Reports

- The Japan Times, in an article last year, noted that "In a high global emissions scenario, a 5 degrees Celsius average temperature rise by the end of this century would mean more intense squalls and less snowfall, while warmer seas around the island (Hokkaido) would disrupt the migratory patterns of fish."
- The Asahi Shimbun reported a study by Hokkaido University researchers this March that sea ice "in the Sea of Okhotsk is not only dwindling in terms of coverage area, but has also lost 30 percent of its thickness across a span of 30 years".

- "If things continue on the same course, the researchers predict there will be times in the future when no ice floes will reach Hokkaido's coast," the newspaper added.

The Ainu

- As Hokkaido – blessed with natural and a hotspot for tourism including winter resorts and winter sport areas – warms, it will also have an impact on the Ainu, who already have been a marginalised people in Japan since coming into contact with ethnic Japanese (Yamato people) 400 years ago.
- "The Ainu are the indigenous people of Hokkaido and are believed to have outnumbered the Japanese until about 1800," WWF-Japan noted in 2008.
- The Ainu were largely a hunter-gatherer people. After the Japanese subdued them militarily and incorporated Hokkaido into Japan, the Ainu were and still are subject to racism from mainstream Japanese society.
- The Ainu were recognised as an indigenous people of Japan in 2019.
- The Japan Times highlighted a 2020 landmark lawsuit brought about "by the Raporo Ainu Nation to claim their traditional Indigenous rights to catch the prized fish comes as estimated salmon stocks hover at around half of what they were just two decades ago, with rapidly warming waters in the Sea of Okhotsk and northern Pacific potentially upending migration patterns".

Conclusion Education Centre

- And while Japan faces its own problems with a rapidly shrinking population, the Sapporo temperature shows that climate change's grip on the archipelago, including its last wilderness, is tightening fast.

INDIA'S LARGEST CLIMATE CLOCK UNVEILED AT CSIR HQ FOR EARTH DAY CELEBRATION**Why in news?**

- In celebration of Earth Day, the Council of Scientific & Industrial Research (CSIR) recently unveiled India's largest Climate Clock at its headquarters in New Delhi.

- This initiative underscores CSIR's commitment to raising awareness about climate change and its adverse impacts.

Establishment & Structure

- CSIR was founded in 1942 by the Government of India with the primary goal of fostering scientific research and industrial development within the nation.
- Operating as an autonomous body under the Ministry of Science and Technology, CSIR comprises 38 national laboratories, 39 outreach centers, 3 Innovation Complexes, and 5 units dispersed across India.

Mandate and Research Areas

- CSIR is entrusted with the responsibility of conducting scientific and industrial research spanning various domains including aerospace engineering, biotechnology, chemical sciences, earth sciences, electronics, and materials science.
- The organization's research endeavors encompass a diverse array of fields such as agriculture, biotechnology, chemical sciences, earth sciences, engineering sciences, information sciences, life sciences, materials sciences, and physical sciences.

Contributions and Industry Collaboration

- CSIR has made substantial contributions to numerous sectors through the development of pioneering technologies, industrial processes, and products. Notable achievements include the creation of India's first computer, the Param series of supercomputers, and the discovery of novel drugs and medicinal plants.
- Through extensive collaboration with domestic and international industries, CSIR facilitates the translation of research outcomes into commercial products and processes, thereby fostering innovation and driving economic growth.

Human Resource Development and International Partnerships

- CSIR places significant emphasis on nurturing talent in the field of science and technology through fellowship programs, training initiatives, and academic collaborations with universities and research institutions.
- Actively engaging in international collaborations, CSIR leverages global expertise, resources, and technologies to advance scientific research and innovation, contributing to the global scientific community.

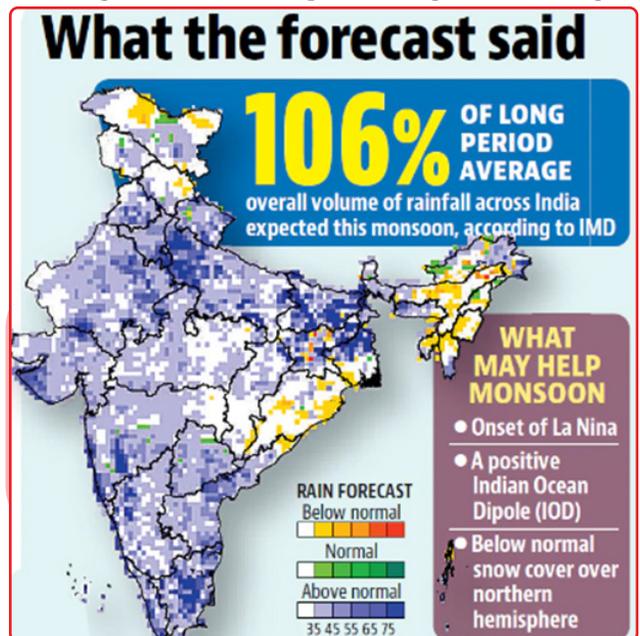
INDIA TO GET 'ABOVE NORMAL' RAIN THIS MONSOON SEASON, IMD FORECASTS

Why in news?

- India is likely to receive above normal rainfall during the upcoming June-September southwest monsoon

season, the India Meteorological Department (IMD) predicted in its first long-range seasonal forecast issued on April 15, 2024.

- This is the first time, after a gap of eight years, that the IMD has forecast "above normal" rains in the country. This above normal seasonal rainfall was "very likely" over most parts of the country, the IMD said, except in some areas over northwest, east and northeast India, where below normal rainfall was "very likely".
- If distributed fairly across the country, the forecast should be a cause of cheer, especially for agriculture and a time when 35.7 per cent area in the country was under 'abnormal' to 'exceptional' degrees of drought, with different parts facing water shortages.



Expected Seasonal Rainfall

- Quantitatively, the seasonal rainfall over the country as a whole is likely to be 106 per cent of Long Period Average (LPA).
- The IMD categorises the seasonal rainfall as above-normal when it ranges between 105-110 per cent of the LPA.
- The LPA for the period between June and September is 87 centimetres (870 mm) and is calculated as the average rainfall between 1971-2020. By this calculation, it means that there would be 92.2 cm of rainfall across India.

The forecast is based on four main factors:

- Retreat of El Nino.
- Favourable La Nina conditions.
- Positive Indian Ocean Dipole (IOD).
- Reduced snow cover in Northern Hemisphere.

El Nino & La Nina

- El Nino conditions, currently prevailing over the equatorial Pacific region and generally responsible

for warmer temperatures in many places around the world including in India, were likely to weaken to neutral El Nino Southern Oscillation (ENSO) conditions during early part of the monsoon season.

- ⇒ The warming phase of ENSO cycle is known as El Nino and its cooling phase as La Nina. It is characterised by the unusual cooling of the central and east-central equatorial Pacific Ocean.
- ⇒ "La Nina conditions are likely to develop during second half of monsoon season.
- ⇒ At present, neutral IOD conditions are prevailing over the Indian Ocean and the latest climate model forecasts indicate that the positive IOD conditions are likely to develop during the later part of the southwest monsoon season," the IMD said.

Forecast in various Areas

- ⇒ IMD also pointed out that winter and spring snow cover extent over the Northern Hemisphere as well as Eurasia has a generally inverse relationship with the subsequent Indian summer monsoon rainfall.
- ⇒ The Northern Hemisphere snow cover areas during January to March 2024 were observed to be below normal.
- ⇒ The forecast shows that most of India will receive above normal rainfall, except for parts in Ladakh, Himachal Pradesh, Assam, Tripura, Mizoram, Manipur, West Bengal, and Odisha, which were likely to receive below normal rains (see map below).
- ⇒ The last time India's official weather forecaster issued an "above normal" rainfall prediction was in 2016, which came after two consecutive drought years.

Impact on Indian Economy

- ⇒ India receives 70-90 per cent of its annual rainfall in the four months of June-September.
- ⇒ A normal and well-distributed monsoon is crucial for the 61 per cent of Indian farmers, who are dependent on rains for practising agriculture.
- ⇒ The monsoon has a direct impact on India's economy. Uniform distribution leads to a successful monsoon season, which boosts farm production and incomes of both farmers and labourers.
- ⇒ This has an impact on rural household incomes, which then stimulates demand for goods and services, especially rural demand.

Way Forward

- ⇒ The onset of the monsoon over mainland India happens on June 1.
- ⇒ IMD issues the operational long-range forecast for the southwest monsoon in two stages. The first stage forecast is issued in April and the second stage updated forecast is issued by the end of May.
- ⇒ The monsoon forecast comes days after the IMD had predicted intense heatwave conditions in the summer season of April-May-June.

KERALA BIRD FLU



Why in news?

- ⇒ Thousands of ducks in Kerala have been infected with the Highly Pathogenic Avian Influenza (HPAI) H5N1, the district administration confirmed.
- ⇒ The reports of infection in ducks from Edathua and Cheruthana in Kuttanad region have confirmed the presence of the disease, said officials of the Alappuzha district collectorate. However, they refused to share further details.
- ⇒ About 21,537 birds, a majority of them ducks, will be killed within a kilometre radius from the affected areas, the official said.

Symptoms and Initiated measures

- ⇒ Many birds infected by HPAI show nervousness, lack of coordination and movements, tremors, gasping for air, swelling and redness around neck, head and eyes.
- ⇒ The reports of mass infections started coming in around April 12 and the carcass were immediately sent to the National Institute of High-Security Animal Disease, Bhopal, which confirmed the tests to be positive on April 17.
- ⇒ The animal husbandry department has initiated measures to contain the disease.

Earlier Cases

- ⇒ Avian flu outbreaks have been reported four times in the region in three years. Earlier cases were reported in 2021, 2022 and 2023 from Kuttanad, Thakazy Gram Panchayat and Vazhuthanam.
- ⇒ The disease is known to infect poultry birds since the 1960s.
- ⇒ The H5N1 strain has infected avian birds, sea birds, mammals across the world, even in the farthest corners in the Arctic and Antarctica.
- ⇒ Among mammals it has infected sea lions, elephant seals, polar bears and penguins.
- ⇒ The infection by the currently circulating H5N1 virus clade 2.3.4.4b was first reported from Europe in 2020.
- ⇒ It has caused multiple outbreaks and deaths of millions of birds and mammals across the globe.

Current scenario

- The latest bird flu outbreak has created a scare among the scientific community, with a recent case of human transmission reported in Texas.
- Scientists have predicted if the virus becomes capable of human-to-human transmission; it can lead to a global health emergency and could be 100 times worse than the COVID-19 pandemic.

Conclusion

- The current subtype of the bird flu virus has shown an alarming ability to infect a wider array of wild birds and mammals.
- As it circulates among multiple hosts, this increases the likelihood of genetic mutations, heightening the risk of viral evolution and potential adaptation to mammals.

ON INDIA'S 'HEAT ACTION PLANS'



Context

- The IMD has also predicted an increase in the maximum temperature and the frequency of heatwave conditions in the forthcoming days over eastern and southern India, raising the question of India's readiness to face this hazard.

What is a heatwave?

- According to the IMD, the definition of a heatwave depends on the physiography of regions.
- The IMD will declare a heatwave if the maximum temperature recorded at a station is 40 degrees Celsius or more in the plains, 37 degrees Celsius or more in the coast, and 30 degrees Celsius or more in the hills.
- A heatwave's severity is determined by its departure from normal temperature.
- There is a 'normal heatwave' when the departure is by 4.5-6.4 degrees Celsius and a 'severe heatwave' if the departure is greater.
- Heatwave declaration could also be based on actual maximum temperature: a 'heatwave' is when this figure is greater than 45 degrees Celsius and a 'severe heatwave' when greater than 47 degrees Celsius.
- The IMD takes the latter two 'routes' only when at least two stations in a meteorological subdivision

report such a high maximum or when at least one station has recorded a corresponding departure from the normal for at least two consecutive days.

Tackling heatwaves

- With the severity and frequency of heatwaves increasing across the country, governments at various levels – State, district, and city – have prepared heat action plans (HAPs).
- HAPs aim to increase preparedness and lower the adverse impacts of extreme heat by outlining strategies and measures to prepare for, address, and recover from heatwaves.
- The National Disaster Management Authority and IMD are reported to be working with 23 States to develop HAPs.
- There is no centralised database on HAPs, but at least 23 HAPs exist at the State and city level, with a few States, such as Odisha and Maharashtra, laying out district-level HAPs.
- HAPs in India follow a general pattern. They provide a snapshot of regions' heat profile, including information on the number of past heatwave events, yearly trends in the summer maximum temperature, land surface temperature, and so on, followed by a vulnerability assessment which maps out regions that require immediate attention and a response plan.

The recommendations

- HAPs typically suggest a combination of measures such as using forecasts and early warning systems to alert the public and relevant authorities about heatwaves, educating the public through campaigns that provide information on risks associated with heatwaves, building heat shelters and cooling centres, and providing clean drinking water to avoid dehydration.
- HAPs provide directives for hospitals to be well equipped with supplies and an adequate number of trained healthcare workers to recognise and treat a large influx of patients with heat-related illnesses.
- HAPs also suggest long-term measures such as adopting urban planning strategies that promote tree planting, using heat-resistant building materials to reduce urban heat island effect, and using cool roofing technologies to reduce solar absorption, thereby decreasing indoor temperatures.

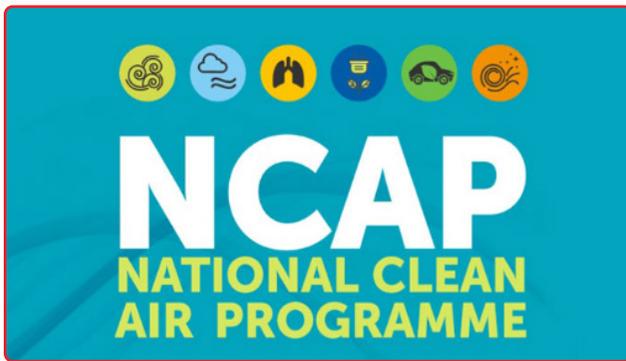
Way forward

- The scope of a heatwave needs to be expanded to accommodate humid heat and warmer nights in addition to extreme dry heat. This requires the development of a heat index that accounts for multiple factors beyond temperature.
- While most HAPs have conducted vulnerability assessments during the development of the plans,

the methods adopted are inconsistent. It is, therefore, time to transition to a robust, full-fledged climate risk assessment that can identify the likelihood of heatwaves in different areas and estimate the exposure of people and important assets to heatwaves while factoring in inherent vulnerabilities.

- Also, hotspot mapping for prioritising and formulating targeted interventions is needed, which is now possible with easy-to-access geospatial data.
- There is a need to allocate dedicated budgets for HAPs.
- HAPs currently are stand-alone plans with limited finance. Pooling in resources would be possible if they are integrated with broader action plans promoting urban resilience and climate adaptation.

ON THE NATIONAL CLEAN AIR PROGRAMME



Context:

- When the Indian government launched the National Clean Air Programme (NCAP) in 2019, it was to cut the concentration of atmospheric Particulate Matter (PM) by 20-30% by 2024, from 2017 levels. This was later revised to 40% by 2026.

NCAP and issues

- Under NCAP, cities continuously violating annual PM levels in India need to prepare and implement annual Clean Air Action Plans (CAAPs).
- To facilitate this, the Ministry of Environment, Forest, and Climate Change has allocated funds.
- Most cities proactively submitted their CAAPs yet their implementation has been inconsistent.
- On average, only 60% of the allocated funds have been used thus far, according to the Ministry, with 27% of cities spending less than 30% of their designated budgets.
- Implementation delays hinder NCAP's success, particularly delays in approvals from the competent authorities.
- There is also a lack of standard operating procedures for the implementation process.
- Time-consuming tasks required to implement control measures and the absence of well-defined timelines create further delays.

- Yet other reasons include bureaucratic red-tape and lingering doubts regarding the effectiveness of proposed mitigation measures.
- After the recent findings over the inefficacy of outdoor smog towers, decision-makers' hesitation is justified.
- But overcoming this also requires a systemic approach based on Emissions Inventory (EI), Air Quality (AQ) modelling, and Source Apportionment (SA).

How can scientific tools help?

- EI and SA studies are critical to identify and understand the origins of pollution.
- EIs provide insights into local pollution sources and their contributions, allowing experts to forecast future emissions based on demographic shifts and technological advancements across sectors, among other factors.
- EIs also help shape targeted pollution control strategies. They have their limitations, too, particularly in assessing the impact of transboundary pollution sources – such as when determining the effect of stubble-burning outside Delhi on the city's air quality.
- SA studies offer a detailed analysis of contributions from various pollution sources, including those located afar.
- But SA studies can't distinguish between the origins of pollution, like, say, emissions from diesel trucks 200 m away and 20 km away, because diesel emissions have similar chemical signatures.
- These gaps can be bridged through AQ modelling, which informs our understanding of pollution dispersion, including from distant sources.

Suggestions

- Ideally, the cities should look into EI and SA data to pinpoint air pollutants and prepare mitigation measures targeting each polluting activity.
- Based on the potential and infrastructure requirements, cities need to set proper yearly targets and fund them.
- Moreover, the NCAP's reliance on concentration data – a measure of population exposure to harmful pollution – further complicates the situation.
- Pollution from high-emitting industries and other sources outside city limits, carried into urban areas by winds complicates urban air-quality management.
- Many existing control measures focus only on primary PM emissions, neglecting their secondary precursors.
- A shift towards comprehensive strategies addressing both primary and secondary pollutants is thus important.
- Beyond the need for data and models, swift implementation on the ground is essential.

- ⇒ For this, implementation agencies should seek to reduce bureaucratic red tape by utilising shared, standardised technical evaluations.
- ⇒ As NCAP funding is linked with the performance of cities (based on the annual average PM concentration reduction), prior budgeting and time management play crucial roles.
- ⇒ Technical feasibility, budgeting, and time estimates need to be part of the initial plans.

Way forward

- ⇒ The journey towards cleaner air in India, as charted by NCAP, will be difficult but is necessary.
- ⇒ NCAP's success hinges on a multifaceted approach that combines rigorous scientific studies, strategic funds, and swift and effective implementation of mitigation measures.

SIGNIFICANT EXPANSION OF GLACIAL LAKES IN THE INDIAN HIMALAYAS: ISRO REPORT



Why in news?

- ⇒ The Indian Space Research Organisation (ISRO) has reported that more than 27% of the identified glacial lakes in the Himalayas have significantly expanded since 1984, based on long-term satellite monitoring.
- ⇒ Out of the 676 expanding glacial lakes, 130 are located within India, primarily in the Indus, Ganga, and Brahmaputra river basins.
- ⇒ This expansion is attributed to the unprecedented rates of glacier retreat and thinning due to human-induced climate change.

Key Findings

- ⇒ ISRO analyzed 2,431 glacial lakes larger than 10 hectares during 2016-17, of which 676 have notably expanded since 1984.
- ⇒ Among the 130 expanding lakes in India, 65 are in the Indus basin, 7 in the Ganga basin, and 58 in the Brahmaputra basin.
- ⇒ 601 of the 676 expanding lakes have grown more than twice in size, while 10 lakes have grown between 1.5 to 2 times, and 65 lakes have expanded by 1.5 times.
- ⇒ The majority of the expanding lakes are moraine-dammed (307), followed by erosion (265), other types (96), and ice-dammed (8).

- ⇒ 314 expanding lakes are located between 4,000-5,000 meters, and 296 are situated above 5,000 meters.

Ghepang Ghat Glacial Lake Case Study

- ⇒ ISRO highlighted the long-term changes in the Ghepang Ghat glacial lake, located in the Indus basin of Himachal Pradesh at an elevation of 4,068 meters.
- ⇒ The lake has increased in size by 178%, from 36.49 hectares in 1989 to 101.30 hectares in 2022, at a rate of approximately 1.96 hectares per year.

Glacial Lake Outburst Flood (GLOF) Risks

- ⇒ The expansion of glacial lakes poses significant risks to downstream communities in the form of Glacial Lake Outburst Floods (GLOFs).
- ⇒ These floods occur when glacial lakes suddenly release large volumes of meltwater due to the failure of natural dams, which can be triggered by factors such as avalanches, extreme weather events, or other environmental factors.
- ⇒ In the previous time, a GLOF event in Sikkim resulted in the death of at least 40 people, with 76 reported missing.

Importance of Satellite Monitoring

- ⇒ Monitoring and studying the occurrence and expansion of glacial lakes in the Himalayan region is challenging due to the inaccessible and rugged terrain.
- ⇒ Satellite remote sensing technology has proven to be an excellent tool for inventory and monitoring, providing wide coverage and revisit capability.
- ⇒ Assessing long-term changes in glacial lakes is crucial for understanding glacier retreat rates, assessing GLOF risks, and gaining insights into the impacts of climate change.

About Himalayas and Glacial lakes

- ⇒ The Himalayas are often referred to as the "Third Pole" due to their extensive glaciers and snow cover.
- ⇒ Glacial lakes play a crucial role as freshwater sources for rivers in the Himalayan region, supporting millions of people downstream.
- ⇒ The rapid expansion of glacial lakes in the Himalayas is a clear indicator of the severe impacts of climate change on the region's delicate ecosystem.

Conclusion

- ⇒ The report emphasised on conservation of Himalaya to mitigate the risks associated with GLOFs and develop effective climate action strategies for the region.

ETHICS

INTERNATIONAL DAY OF CONSCIENCE 2024

Context

- ⇒ 'International Conscience Day' is celebrated every year on 5 April. This day is celebrated to remind people to introspect, follow their conscience and do the right thing.



Theme of Year 2024

- The theme for the International Day of Conscience in 2024 is 'Promoting a Culture of Peace with Love and Conscience'.
- This theme emphasizes the importance of cultivating a global mindset focused on peace, compassion, and moral integrity.

History

- The inaugural International Day of Conscience was first commemorated in 2020 by the United Nations General Assembly. This annual observance was established to encourage people around the world to introspect, follow their conscience, and do what is right.
- In 2024, the global community will celebrate the fifth United Nations International Day of Conscience. This milestone marks five years of dedicated efforts to raise awareness about the power of individual and collective conscience in shaping a more just, harmonious, and sustainable world.

Importance of International Conscience Day

- International Conscience Day holds great significance for several reasons:

Preventing Harm:

- The day is celebrated to highlight the importance of discretion and moral conscience in preventing people from harming others verbally, physically, sexually, or mentally.
- It underscores the role of individual and societal conscience in upholding human dignity and rights.

Upholding Human Rights:

- International Conscience Day emphasizes that everyone has the fundamental right to self-respect, peace, and security.
- It serves as a reminder that disregard for human rights has historically led to "barbaric acts" that have "offended the conscience of mankind," as stated in the Preamble of the Universal Declaration of Human Rights.

Defining and Condemning Anti-Human Acts:

- On this occasion, scholars define and condemn acts that are considered antithetical to human values and wellbeing.

- The goal is to raise public awareness and discourage such harmful practices through education and moral advocacy.

Promoting a Culture of Peace:

- International Conscience Day is also linked to the broader movement for a global "culture of peace."
- This concept emerged from a 1989 UNESCO congress in Côte d'Ivoire and has since evolved into a meaningful objective for the international community.

Origin of the Culture of Peace

- The notion of a culture of peace first took root at the 1989 UNESCO congress in Côte d'Ivoire.
- Since then, the promotion of a culture of peace has been widely embraced as an important goal for the global community.

Conclusion

- The evolving concept of a culture of peace has inspired activities at various levels, with full participation from civil society organizations and grassroots movements.
- As a result, the culture of peace is gradually taking on the characteristics of a truly global movement, with far-reaching implications for peace, justice, and human development worldwide.

EXAMPLES OF ETHICS



Longevity India Initiative

Context

- The Indian Institute of Science (IISc) has launched the 'Longevity India Initiative' to promote healthy ageing by researching overcoming challenges associated with growing older.
- The initiative focuses on identifying early disease indicators, researching ageing biomarkers, and developing new therapeutics and technologies.

Ethical Values exhibited by the Initiative are:

- **Respect for Human Dignity:** By challenging the idea that ageing is inevitable and aiming to increase human health span
- **Collaboration and Partnership:** The involvement of multiple stakeholders, including researchers,

clinicians, industry partners, philanthropists, and civil society

- ⇒ **Equity and Inclusivity:** By considering factors like lifestyle and culture, especially in a diverse country like India
- ⇒ **Responsibility and Accountability:** The initiative recognizes the urgency of addressing the growing burden of ageing in the country and emphasizes the need for diverse stakeholders to come together and take responsibility for developing solutions.

Misuse of Public Money by three IAS officers

Context

- ⇒ Three senior IAS officers from the Chandigarh Administration made unauthorized expenditures of over Rs 6 lakh during a trip to Paris in 2015.
- ⇒ The recent audit report highlighted that they changed hotels and overstayed for a meeting meant for a lower-ranking official.

The ethical issues highlighted in this case:

- ⇒ **Misuse of Authority:** The senior IAS officers misused their authority by making unauthorized expenditures and changing the purpose of the trip to Paris.
- ⇒ **Financial Impropriety:** The officers incurred unauthorized expenses amounting to over Rs 6 lakh, which were not justified and did not follow proper procedures.
- ⇒ **Lack of Transparency:** The officers did not obtain proper approvals or certificates regarding the visit, and the purpose of the trip was misrepresented.
- ⇒ **Breach of Trust:** By overstaying and switching hotels without proper authorization, the officers breached the trust placed in them by the government and taxpayers.
- ⇒ **Violation of Norms:** The officers exceeded the allowed duration for foreign travel, did not obtain necessary approvals, and disregarded established norms and procedures.

Nestle infant milk in poorer countries has a higher sugar content compared to developed countries

Context

- ⇒ Public Eye, a Swiss investigative organization, along with the International Baby Food Action Network, uncovered this issue.
- ⇒ The World Health Organization (WHO) warns that early exposure to sugar can lead to a lifelong preference for it, heightening the risk of obesity and other chronic diseases.

Ethical Issues in this case:

- ⇒ **Health Impact:** Higher sugar content in infant milk can lead to health issues such as obesity and chronic illnesses, especially considering the vulnerability of infants.

- ⇒ **Transparency:** There's a lack of transparency regarding the nutritional content of Nestle infant milk, particularly in poorer countries
- ⇒ **Targeting Vulnerable Populations:** Marketing products with higher sugar content to poorer countries, where health resources and education might be limited, can be seen as exploitative and unethical.
- ⇒ **Equity:** Discrepancies in sugar content between products sold in different countries can raise questions about equity and fairness in access to healthier nutritional options.
- ⇒ **Breach of trust:** Selling an inferior product breaches consumer trust.

Regulations

- ⇒ The Codex Alimentarius sets global standards for food safety and quality, established by the joint effort of the Food and Agriculture Organization and WHO.
- ⇒ In India, the Food Safety and Standards Act 2006 define regulations and establishes the Food Safety and Standards Authority of India as the apex regulatory body for ensuring food safety and quality.

NAVIGATING LIFE AS A CONSUMER WITH DISABILITY



Context

- ⇒ Every year, March 15 is celebrated as World Consumer Rights Day to create awareness about the rights of consumers.
- ⇒ One section of consumers who might remain invisible in these celebrations or even in the discourse around consumer rights is consumers with disabilities.

Persons with disabilities

- ⇒ Every single day, persons with disabilities face the struggle of seeking help for the most basic human activities, and the consequent loss of dignity, independence, and privacy.
- ⇒ The pervasive inaccessibility that they encounter as consumers not only undermines their right to lead an independent life but also prevents them from equally participating in society as others.

The potential change-makers

- In India, persons with disabilities account for 5-8% of the population (World Bank, 2009).
- The issue highlights two major challenges for consumers with disabilities: the inaccessibility of goods and services and the inaccessibility of customer support options.
- Businesses could be a starting point. Businesses generally don't perceive persons with disabilities as their target consumers.
- This is evidenced by their inaccessible offerings, which are typically designed for 'mainstream' consumers.
- Another entity capable of making a difference is the government. The gap in sensitisation among businesses can be abridged through effective policy measures.
- For example, FSSAI in October 2023 issued an advisory to all food business operators for incorporating QR codes containing product information on all food products.
- This simple yet effective step will allow people with visual impairment to ascertain crucial product information on their own.
- While transformative, this measure is limited to one type of product. The government could consider bringing comprehensive accessibility guidelines for all goods and services.
- India can build on the lessons from the initiatives in countries such as Australia, the U.S., and Canada and integrate similar strategies into its policies.

Legal reforms

- Persons with disabilities are also empowered by laws that safeguard their rights and interests as consumers.
- The primary legislation in this regard is the Rights of Persons with Disabilities Act (RPWDA), 2016, which grants a bouquet of rights including the rights to equality, accessibility, and reasonable accommodation.
- In particular, the Act includes provisions for universally designed consumer goods and accessible services.
- The Rules notified under the RPWDA also require all Information and Communications Technology (ICT) goods and services to be accessible in accordance with the BIS standards laid down by the government.
- In case of a violation of these rights, a consumer with disability can file a complaint with the Disability Commissions established under the Act. However, Disability Commissions only issue recommendatory directions. So, they often fail to provide effective redress.
- Another avenue is the Consumer Protection Act (CPA), 2019, which not only details various consumer

rights but also empowers Consumer Commissions to impose penalties and award compensation against consumer complaints.

- Consumers with disabilities have successfully obtained such remedies in numerous cases brought before Consumer Commissions.
- Unlike the RPWDA, the CPA has strong enforcement and compliance mechanisms.
- However, it lacks any dedicated rights for consumers with disabilities contrary to the RPWDA, which may deter them from filing complaints with Consumer Commissions. Hence, it becomes imperative to align the CPA with the RPWDA.

Way forward

- In addition to these legal reforms, it is crucial to raise awareness about the existing rights and resources available to consumers with disabilities under the two chief legislations.
- While consumer awareness has been a key focus of the state, particularly with the launch of the flagship Jago Grahak Jago Campaign, consumers with disabilities have never received attention.

NEPAL HOSTS INAUGURAL RAINBOW TOURISM CONFERENCE, PAVING THE WAY FOR INCLUSIVE TRAVEL



Why in news?

- Mayako Pahichan Nepal, in collaboration with the Nepal Tourism Board, orchestrated the groundbreaking first International Rainbow Tourism Conference.
- This one-day event marks a significant leap forward in fostering diversity and inclusivity within Nepal's tourism industry, positioning the country as a welcoming destination for the sexual minority community in South Asia.

Participants and Objective

- The conference drew around 120 attendees, including members of the LGBTI community, NGOs, activists, writers, and media representatives from Nepal, India, Sri Lanka, Germany, Spain, and the US.
- Its primary objective was to position Nepal as a leading LGBT-friendly tourism destination,

leveraging rainbow tourism to promote economic growth and social empowerment within the LGBTI community.

Rights of LGBT Community

- ⇒ Nepal's commitment to LGBT rights is underscored by its constitution and reinforced by landmark Supreme Court decisions.
- ⇒ With over 3,100 formal registrations of LGBT individuals, Nepal has formulated laws ensuring equal treatment and a violence-free environment.
- ⇒ The Supreme Court's directives, including legalizing same-sex marriage, demonstrate Nepal's dedication to justice and equality for all citizens.

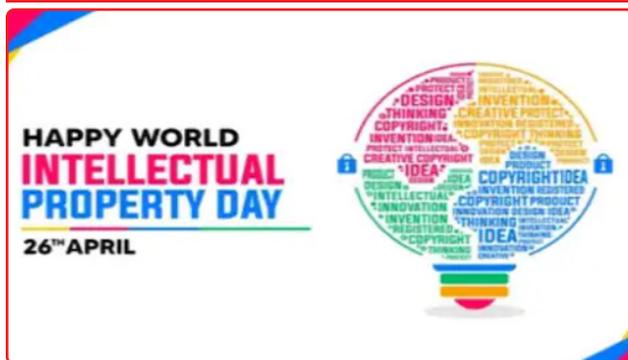
Declaration and Commitment

- ⇒ The conference concluded with a declaration reaffirming Nepal's unwavering commitment to promoting diversity and inclusivity within the tourism industry.
- ⇒ As Nepal embraces rainbow tourism, it sends a powerful message of acceptance and tolerance to the world, striving to create a world where every traveler feels embraced and empowered.

Conclusion

- ⇒ Through initiatives like this conference, Nepal solidifies its position as a beacon of inclusivity in global tourism, promising not only economic growth but also a more equitable and accepting world for all.

WORLD INTELLECTUAL PROPERTY DAY 2024 CELEBRATES ON 26TH APRIL



Context:

- ⇒ World Intellectual Property Day is celebrated annually on April 26th by the World Intellectual Property Organization (WIPO).
- ⇒ This day is dedicated to promoting the role of intellectual property (IP) in stimulating innovation and creativity.

World Intellectual Property Day- Theme for 2024

- ⇒ The official theme for World Intellectual Property Day 2024 is 'IP and the SDGs: Building Our Common Future with Innovation and Creativity'.

- ⇒ The theme highlights the importance of IP in achieving the Sustainable Development Goals (SDGs) and creating a better future for all.

Significance of the World Intellectual Property Day

- ⇒ Celebrating World Intellectual Property Day holds great significance as it:
 - ⇒ Raises awareness about the need for a balanced approach to IP protection, considering the rights of creators and the public interest.
 - ⇒ Provides an opportunity to connect inventors, entrepreneurs, IP offices, and other stakeholders to explore and promote IP solutions that contribute to economic development and social well-being.
 - ⇒ Highlights the role of intellectual property in fostering innovation and creativity, which are essential for progress and sustainable development.

History and Origins of World Intellectual Property Day

- ⇒ The origins of WIPO can be traced back to 1883 when the Paris Convention for the Protection of Industrial Property was signed.
 - ⇒ This convention established IP protections for inventions, trademarks, and industrial designs.
 - ⇒ In 1970, the Convention Establishing the World Intellectual Property Organization entered into force, formally creating WIPO. WIPO became a specialized agency of the United Nations in 1974.

WIPO's Role

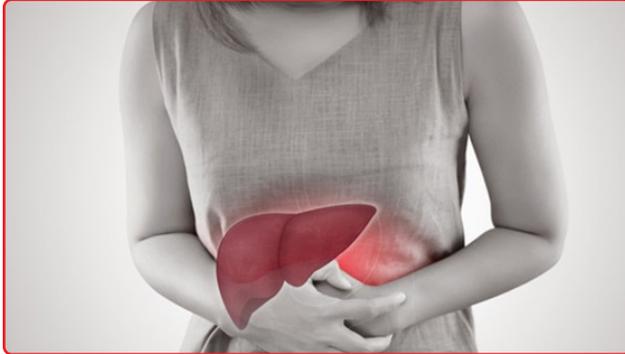
- ⇒ WIPO is a specialized agency of the United Nations that works to promote the protection and advancement of intellectual property worldwide.
 - ⇒ It provides a framework for cooperation among member states in areas such as:
 - Intellectual property law
 - Registration of intellectual property
 - Protection of intellectual property rights
 - ⇒ WIPO also offers various services and resources to promote IP awareness and the benefits of IP protection, including registration, dispute resolution, and the development of uniform standards and infrastructure.

Conclusion

- ⇒ On World Intellectual Property Day, various events and activities are organized to celebrate the role of IP in driving innovation, creativity, and sustainable development.
 - ⇒ It is an opportunity to recognize the contributions of inventors, creators, and innovators, and to encourage continued progress in the field of intellectual property.

HEALTH

HEPATITIS WARNING

**Introduction:**

- A WHO report has flagged the seriousness of India's Hepatitis challenge.
- India is called the Hepatitis capital of the world. Despite a national programme to eliminate Hepatitis, India is seeing a huge burden of this disease.

The number of reported and unreported Hepatitis patients in India

- With nearly 3 crore Hepatitis B patients and more than 50 lakh Hepatitis C patients, the country's burden of these liver diseases is the second highest in the world.
- They claimed more than a lakh lives in 2022.
- Even more worrying is that a very small fraction of the infected come under the diagnostic ambit.
- Less than 30 per cent of Hepatitis C cases are detected; the figure for Hepatitis B is less than 3 per cent.

National Viral Hepatitis Control Programme (NVHCP)

- It aims to eliminate Hepatitis C by 2030 and "achieve significant reduction in morbidity and mortality associated with Hepatitis B" by that year.
- The WHO report is a warning that the country has much work to do to attain this target.
- However, the global health agency has also struck a note of optimism: "Course correction between 2024 and 2026 can bring NVHCP on track".

About Hepatitis

- Hepatitis refers to an inflammatory condition of the liver.
- It is commonly the result of a viral infection, but there are other possible causes of hepatitis.
 - These include autoimmune hepatitis and hepatitis that occurs as a secondary result of medications, drugs, toxins, and alcohol.
 - Autoimmune hepatitis is a disease that occurs when your body makes antibodies against your liver tissue.

- The liver is a vital organ that processes nutrients, filters the blood, and fights infections.
- When the liver is inflamed or damaged, its function can be affected.
- Hepatitis B and C are spread through contact with contaminated blood.

Hepatitis B: Symptoms and cures

- Hepatitis B can lead to the scarring of liver tissues and increase the risk of cancer.
- Diagnosis is complicated – carriers can harbour the virus for years without appearing to be diseased.
- They can infect others even when they do not show symptoms – these often show up only when the pathogen takes an aggressive form.
- There is no cure, though treatment can help manage symptoms to an extent.
- The NVHCP, initiated in 2018, provides free testing and medication.
- However, the WHO report indicates that the programme hasn't touched most patients.
- Rigorous adoption of blood screening protocols in the past 20 years has substantially reduced the risks from transfusion.
- Most of the Hepatitis B infections in the country are today passed on from mother to child.
- Vaccination can prevent the disease but the highest immunity is conferred when the child is administered a jab just after birth.
- In India, less than 50 per cent infants get vaccinated this early.
- This is largely to do with the low rate of institutionalised births in large parts of the country.
- Informing community healthcare workers with vaccination protocols could increase the efficacy of the immunisation regime.

Hepatitis C cures

- Hepatitis C is far easier to treat.
- Anti-virals can cure the disease and prevent long-term liver damage.

Conclusion:

- According to WHO, treatment costs in India are amongst the lowest in the world.
- But 70 per cent patients eluding the diagnostic network speaks of a healthcare deficit that must be addressed immediately.
- Whether it's containing viral diseases like hepatitis or bacterial infections like TB, there can be no shortcuts to expanding the country's medical facilities.

INDIA IS FALLING BEHIND IN EFFORTS TO CONTROL TUBERCULOSIS**Context**

- The article discusses India's struggle with recurring shortages of tuberculosis drugs, hindering efforts to eliminate TB by 2025.



TB Drug Shortage in India:

- India, aiming to eliminate TB by 2025, is grappling with recurring shortages of drugs for drug-sensitive and multidrug-resistant TB (MDR-TB).
- Critical MDR-TB drugs faced acute shortages seven months ago, lasting nearly a year, followed by a stock-out of Delamanid in September 2021.
- The lack of drug availability exacerbates delays in diagnosis, treatment initiation, and treatment success, posing significant challenges in the TB care cascade.

Impact on TB Control Efforts:

- Non-availability of drugs contributes to treatment non-adherence, with studies showing that 8% of non-adherent patients miss treatment due to drug shortages.
- The shortage of drug-sensitive TB medicines, manufactured in India, reflects mismanagement within the national TB programme.
- Renaming the National TB Control Programme to the National TB Elimination Programme without addressing fundamental issues like drug availability suggests incompetence and lack of seriousness in TB eradication efforts.

Challenges and Consequences:

- Last-minute permissions for local drug procurement by States create logistical challenges at the field level, undermining effective TB control measures.
- A Health Ministry circular allows States to procure drugs locally for three months, with patients potentially bearing the cost if district health facilities fail to provide free drugs.
- This approach is criticized for its adverse impact on TB patients, especially those from poor socioeconomic backgrounds, who may struggle to afford medications.

Concerns and Criticisms:

- India's inability to ensure continuous drug availability highlights deficiencies in TB control program management.
- The reliance on patients to procure medicines as a last resort is condemned as unacceptable, considering the financial constraints of most TB patients.

- The situation raises doubts about India's ability to achieve the TB elimination goal by 2025 and suggests a lack of basic TB control elements.

Conclusion:

- Recurring drug shortages undermine India's efforts to eliminate TB by 2025, highlighting systemic weaknesses in TB control program management.
- Urgent measures are needed to address drug availability issues and ensure timely access to TB medications for all patients, regardless of socioeconomic status.
- Effective TB control requires comprehensive strategies that prioritize drug availability, alongside other essential elements of TB care and prevention.

INDIA'S FERTILITY RATE DECLINES



Context

- In India, the numbers were significant, with over 1.6 crore live births in 1950 and 2.2 crore in 2021.
- While India surpassed China's population record in 2022, a new study by The Lancet Journal explores a decline in India's fertility rate from 1950 to 2021.
- The report suggests 4.8 children per woman in 1950 to 2.2 children per woman in 2021. The study further reports the expected decline in the next 25 years.

Projection by year 2050

- India's total fertility rate (TFR), which measures births per woman, will decline to 1.29 by the year 2050.
- Globally, there were 12.9 crore live births in 2021, marking an increase from around 9.3 crore in 1950 but a decrease from the peak of 14.2 crore in 2016.
- In India, the numbers were significant, with over 1.6 crore live births in 1950 and 2.2 crore in 2021. However, the project indicates a decrease to 1.3 crore by 2050.

Low-income countries may have a high fertility rate

- While many parts of the world grapple with declining fertility rates, low-income countries are expected to continue facing high fertility challenges throughout the 21st century, as highlighted by researchers from

the Global Burden of Disease 2021 Fertility and Forecasting Collaborators.

- The study suggests that the majority of children will be born in some of the world's poorest regions, with the share of live births in low-income countries expected to nearly double from 18 percent to 35 percent between 2021 and 2100.
- Additionally, these countries are likely to confront more frequent climate-related challenges such as floods, droughts, and extreme heat, exacerbating food, water, and resource insecurity, as well as increasing the risk of heat-related illnesses and fatalities.

Impact of Education in Low-income countries

- Although fertility rates are declining globally, the study anticipates "considerably steeper fertility declines" in sub-Saharan Africa in the coming decades, attributed to increased education and access to contraceptives.
- The Global Burden of Disease (GBD) study, hailed as the most extensive effort to quantify health loss across different regions and periods, is coordinated by the Institute for Health Metrics and Evaluation at the University of Washington in the United States.

Conclusion

- The study's findings have significant implications for India, including challenges such as an ageing population, labour shortages, and potential social imbalances stemming from gender preferences.

MYTH VS. FACTS



Why in news?

- Some media reports have highlighted that medicine prices will witness a significant hike by up to 12% from April, 2024.
- These reports further claim that more than 500 medicines will be affected by this increase in price. Such reports are false, misleading and malicious.

Scheduled and non-scheduled formulations

- As per the provisions of Drug Price Control Orders (DPCO) 2013, drugs are categorized as scheduled and non-scheduled formulations.
- The formulations which are listed in Schedule-I

of DPCO 2013 are scheduled formulations and the formulations that are not specified in Schedule-I of DPCO 2013 are non-schedule formulations.

Revision of ceiling price of scheduled medicine on basis of WPI

- National Pharmaceutical Pricing Authority (NPPA) under the Department of Pharmaceuticals annually revises the ceiling prices of scheduled medicines on the basis of Wholesale Price Index (WPI).
- The scheduled medicines included in the Schedule-I of the DPCO, 2013 are essential medicines.
- During the calendar year 2023 over the corresponding period in 2022, the annual change in WPI with base year 2011-12 was (+) 0.00551% as per data published by Department for Promotion of Industry and Internal Trade (DPIIT).
- Accordingly, the Authority in its meeting held on 20.03.2024 has approved the WPI increase @ (+) 0.00551% for the scheduled medicines.
- The ceiling prices on 923 medicines are effective as on date. Based on the above mentioned WPI factor of (+) 0.00551%, there will be no change in the prevailing ceiling prices for 782 medicines and the existing ceiling prices will continue to prevail up to 31.03.2025.
- Fifty-Four (54) medicines with ceiling price ranging from Rs. 90 to Rs. 261 will have miniscule increase of Rs. 0.01(one paisa).
- As the permissible price increase is miniscule, the companies may or may not avail this increase.
- Thus, in the year FY 2024-25, there will be almost no change in the ceiling price of medicines based on WPI.

Maximum increase permissible

- The WPI increase is the maximum increase permissible as per the DPCO, 2013 and the manufacturers may or may not avail this increase, keeping in view the market dynamics.
- The companies adjust their Maximum Retail Price (MRP) depending upon the ceiling price of their medicines, as MRP (excluding GST) can be any price which is less than the ceiling price.
- The revised prices will be applicable from 1st April 2024 and the detail of revised prices is available on NPPA's website www.nppaindia.nic.in.

Way Forward

- In case of non-scheduled formulation, a manufacturer is at liberty to fix the price.
- However, no manufacturer of non-scheduled formulation can increase the MRP by more than 10% during preceding 12 months under Para 20 of DPCO, 2013.

THE OUTLINE OF AN ESSENTIAL GLOBAL PANDEMIC TREATY



Context:

- An estimated 18 million people may have died from COVID-19, according to various credible estimates, a scale of loss not seen since the Second World War.
- Over 120 million people are pushed into extreme poverty, and a massive global recession.
- Now, the World Health Organization (WHO) has declared the monkey-pox outbreak as a Public Health Emergency of International Concern (PHEIC).

Pandemic v/s Epidemic:

- According to the WHO, a pandemic is declared when a new disease for which people do not have immunity spreads around the world beyond expectations.
- An epidemic is a large outbreak, one that spreads among a population or region. It is less severe than pandemic due to a limited area of spread.

Covid-19

- The novel corona virus outbreak in 2019-2020 with the nickname COVID-19 is a new strain of viruses which can cause fever, cough, breathing difficulties, pneumonia and even death in humans. WHO declared COVID-19 infections as a public health emergency of international concern and later called it a pandemic.
- Corona virus consists of an RNA genome and is one of the largest in the RNA family.
- Corona viruses are enveloped and contain single-stranded positive-sense RNA.

Health inequity created by Covid-19:

- **Socio-economic consequences of Covid-19:** They are irreversible in low and low middle-income countries, while high-income economies are recovering.
- **Monopolies held by pharma majors:** such as Pfizer, BioNTech, and Moderna since the beginning of the COVID-19 pandemic, even as fewer of their vaccines reached people in low-income countries.
- **Vaccination:** Only 3% of people in low-income countries had been vaccinated with at least one dose, compared to 18% in high-income countries.

- **Precautions:** Six to eight weeks after the PHEIC declaration, countries, except for Asia, did not take the requisite precautions.
- **Covid Vaccine and treatment:** When world leaders pledged \$07 billion in a digital fundraiser for developing a corona virus vaccine and treatments, the United States did not send any representative.

India's role:

- India produces nearly 60% of the world's vaccines and is said to account for 60%-80% of the United Nations' annual vaccine procurement.
- India continued the shipment of vaccines and other diagnostics even when it was experiencing a vaccine shortage for domestic use.
- India shipped 35 lakh doses of 'Made-in-India' COVID-19 vaccines to 72 countries.

What is the pandemic treaty?

- The World health organization established an intergovernmental negotiating body (INB) to draft and negotiate the contents of the pandemic treaty in compliance with Article 19 of the WHO Constitution.
- The pandemic treaty is expected to cover aspects like: Data sharing and genome sequencing of emerging viruses; Equitable distribution of vaccines and drugs; Related research throughout the world.

Importance of Global Pandemic Treaty:

- **Build coherence and avoid fragmentation:** A treaty under the umbrella of WHO would build coherence and avoid fragmentation.
- **Early warning system:** It will formally commit governments and parliaments to implement an early warning system and a properly funded rapid response mechanism.
- **Common metrics for health investment:** It will mobilize nation states to agree on a set of common metrics that are related to health investments and a return on those investments.
- These investments should aim to reduce the public-private sector gap

Way Forward

- Finally, a global pandemic treaty will not only reduce socioeconomic inequalities across nation states but also enhance a global pandemic preparedness for future health emergencies. India must take the lead in this. Addressing the issues associated with the development and distribution of vaccines will augment the effort to efficiently get vaccines to hundreds of millions in the shortest period of time.
- It is important to ensure fair, affordable, and equitable access to all tools for combating pandemics and, therefore, the need to build a framework for allocation of tools.

UNION HEALTH MINISTRY LAUNCHES MYCGHS IOS APP



Why in news?

- Ministry of Health and Family Welfare launched the myCGHS app for iOS ecosystem of devices.
- The app is designed to enhance access to Electronic Health Records, information, and resources for Central Government Health Scheme (CGHS) beneficiaries.

Importance of myCGHS iOS app

- The myCGHS app is an essential leap for CGHS in the realm of healthcare services.
- It empowers CGHS beneficiaries with convenient access to essential healthcare features right at their fingertips.
- This initiative aligns with the government's vision of leveraging technology to enhance the quality and accessibility of healthcare services.

Development

- The myCGHS iOS app is developed by the technical teams of the National Informatics Centre (NIC) Himachal Pradesh and NIC Health Team.
- It is a convenient mobile application offering features aimed at enhancing information and accessibility for CGHS beneficiaries.

Features

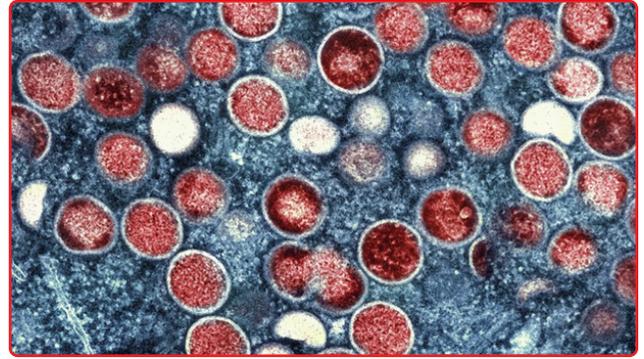
- The myCGHS app facilitates a wide range of services, including booking and cancellation of online appointments, downloading CGHS card and index card, accessing lab reports from CGHS labs, checking medicine history, checking medical reimbursement claim status, accessing referral details, locating nearby wellness centers, staying updated with news and highlights, locating nearby empanelled hospitals, labs, and dental units and accessing contact details of wellness centers and offices.
- The app features security features like 2-factor authentication and functionality of mPIN ensuring the confidentiality and integrity of users' data.

Way Forward

- The event marks a significant milestone in digital healthcare service in the Department of CGHS.

- The myCGHS app will now be available for download on both iOS and Android platforms, free of charge. CGHS beneficiaries are encouraged to embrace this innovative solution for a seamless healthcare experience.

THE MPOX VIRUS USES A 'GENOMIC ACCORDION' TO EVOLVE AND INFECT HUMANS



Context

- Poxviruses have long been a cause of fear as well as curiosity for humankind. One particularly infamous poxvirus, smallpox, alone may have killed more than 500 million people in the last century.

Mpox's 15 minutes

- Another poxvirus, mpox, was recently in the headlines after a rapidly expanding global outbreak in 2022-2023.
- The virus was previously called 'monkeypox' after a spillover event in a research facility involving monkeys in 1958; the name is considered both wrong and inappropriate today: since then, researchers have identified mpox in many sporadic outbreaks among humans.
- They have also found multiple mpox lineages have been circulating in humans, adapting by accumulating mutations modulated largely by the APOBEC proteins.

Apolipoprotein B Editing Complex (or APOBEC3)

- The interaction between the virus genome and an important family of proteins coded by the human genome is known as the Apolipoprotein B Editing Complex (or APOBEC3).
- These proteins offer protection against certain viral infections by editing the genome sequence of the virus while it replicates in the cell.

Outbreak

- It wasn't until 2022 that the disease became widely known, thanks to outbreaks in more than 118 countries and the World Health Organisation (WHO) quickly declaring it a public health emergency.
- Based on WHO data, infections have a mortality rate of 1-10%.

- The outbreak was due to one clade (strains of the virus descended from a common ancestor) – called IIb having developed very high human-to-human transmission through close contact and spread through the sexual route.
- While the rate of new infections has been dropping, mpox continues to circulate among unvaccinated individuals worldwide.
- This increases the chance that a more virulent and transmissible strain might emerge and become endemic somewhere.

Expanding, contracting as required

- Mpox, like all poxviruses, are DNA viruses.
- The mpox genome also has a sequence of bases repeating in a pattern, which researchers believe play a role in the virus's evolution.
- All mpox genomes can be divided into two distinct yet broad clades: I and II. Clade I is thought to have a higher mortality. Each clade has sub-clades, or lineages, defined by specific evolutionary processes.
- The mpox family of viruses is also known to be able to evade selective evolutionary pressures.
- It does this by duplicating genes and/or accumulating mutations and expanding its genome significantly or contracting its genome by deleting gene stretches or inactivating them.
- Such rhythmic expansions and contractions are called genomic accordions.

One eye on the genome

- As with any viral infection, without urgent intervention, the outbreak has the potential to spread rapidly across national, and even continental, boundaries and emerge as another global outbreak.
- To prevent such an outcome, genome sequences from before and during mpox outbreaks have provided well-lit glimpses of the evolutionary dynamics the virus uses to invent new ways to move between and survive in different populations of animals and people.

Conclusion

- Thus, through rigorous genomic investigations and coordinated public health efforts, we can mitigate the threat of emerging pathogens and the world's health security.

TOSS OUT THE JUNK FOOD, BRING BACK THE HEALTHY FOOD PLATE

Introduction

- India, like in many other countries, is undergoing a major "nutrition transition".
- In what characterizes rapidly changing dietary patterns, there is a significant shift away from traditional diets, which were high in fiber and comprised mostly whole foods, to more western-style diets, which are processed and high in calories.



The surge in junk food

- The change has coincided with rapid economic progress and urbanisation along with a surge in the consumption of packaged and processed foods (popularly called "junk foods")
- These foods are nutritionally low in vitamins, minerals, fibre but are high in calories, fats, salt, sugar, and innumerable preservatives.
- Categorised as high in fats, salts and sugars (HFSS) foods, scientific evidence shows how junk food has been medically found to weaken the body's defences against infection, increase blood pressure, lead to a spike in blood sugar, cause weight gain, and also contribute to increased risk of cancer.
- The Indian Council of Medical Research (ICMR) study published in 2023 estimates that in India the prevalence of metabolic disorders is glaringly high where 11% has diabetes, 35% is hypertensive and almost 40% are suffering from abdominal obesity.

Court's concern

- A ruling by the Supreme Court of India, in 2013, stated that any food article which is hazardous or injurious to public health is a potential danger to the fundamental right to life guaranteed under Article 21 of the Constitution of India.
- Recognising the need to promote people's health and well-being, the Government of India has prioritised the promotion of healthy foods and an active lifestyle through its initiatives such as Eat Right India, the Fit India Movement, and Prime Minister's Overarching Scheme for Holistic Nutrition (Poshan) 2.0.
- As children are more exposed to the advertising of unhealthy foods, the Food Safety and Standards Authority of India (FSSAI) released the Food Safety and Standards (Safe food and balanced diets for children in school) Regulations, 2020, restricting the sale of HFSS in school canteens/mess premises/hostel kitchens, or within 50 metres of the school campus.
- Recently, the National Commission for Protection of Child Rights also issued notice to a health drink giant to evaluate and withdraw all misleading advertisements, packaging and labels that brand the

product as a “health drink”, citing the product’s high sugar content that can adversely impact the health of children.

- Despite a policy intention to provide a safe food environment, there is still much work that needs to be done in ensuring effective implementation of interventions that can have an impact on the consumption of junk foods.

Formulating a clear definition

- First, a good starting point for the government is to protect growing children from the harmful impact of junk foods.
- Second, Front-of-Pack Labelling (FOPL) appears to be a low-hanging fruit which can enable consumers to make informed choices about what foods they choose to eat. The nutrition labelling practice that draws one’s attention with clear and understandable signals can help you make an informed food choice.
- Third, policies can also be developed to facilitate the positive subsidies for healthy foods such as whole foods, millets, fruits and vegetables that will improve their availability, affordability, and thus greater consumption in rural and urban areas.
- Fourth, in addition to the policies, a behavioural change campaign targeting children and young adults alike can play a critical role in helping youth adopt healthy dietary habits and mindful eating practices.

Way forward

- It is critical to acknowledge the urgency of switching to healthier diets and creating public demand, or, as Prime Minister Narendra Modi calls it, a “Jan Andolan” or people’s movement, for healthy and nutritionally diverse diets.

ART & CULTURE

SANGEET NATAK AKADEMI ORGANIZES ‘SHAKTI – A FESTIVAL OF MUSIC AND DANCE’ IN SHAKTIPEETHS

Why in news?

- The Sangeet Natak Akademi (SNA) is organizing the festival ‘Shakti – A Festival of Music and Dance’ from April 9 to 17, 2024.
- The festival is celebrated in seven different Shaktipeeths (sacred sites) across the country.
- The event is being organized under the Kala Pravah series to revive the temple traditions in the country during the auspicious Navratri period.

Inauguration and Venue

- The Shakti Utsav was inaugurated on April 9, 2024, from the Kamakhya Temple in Guwahati, Assam.



- After the inauguration, the festival will be organized in the following seven Shaktipeeths:
 - Kamakhya Temple, Guwahati (Assam)
 - Mahalakshmi Temple, Kolhapur (Maharashtra)
 - Jwalamukhi Temple, Kangada (Himachal Pradesh)
 - Tripura Sundari Temple, Udaipur (Tripura)
 - Ambaji Temple, Banaskantha (Gujarat)
 - Jai Durga Shaktipeeth, Deoghar (Jharkhand)
 - Shaktipeeth Maa Harsiddhi Temple, Ujjain (Madhya Pradesh)
- The festival will conclude on April 17, 2024, at the Shaktipeeth Maa Harsiddhi Temple in Ujjain, Madhya Pradesh.

About Sangeet Natak Akademi (SNA)

- SNA is India’s largest national-level academy of music and drama, established by the Government of India.
- The academy was established in 1953 through a parliamentary resolution and was later reorganized in 1961.
- SNA is the apex body in India dedicated to the preservation and promotion of the rich intangible heritage expressed through music, dance, and drama.
- The headquarters of SNA is located in New Delhi, and it functions as an autonomous institution under the Ministry of Culture.
- SNA is managed by its General Council, with the Chairman appointed by the President of India for a term of five years.
- The academy plays a vital role in promoting and preserving the cultural heritage of India.
- SNA presents the prestigious Ustad Bismillah Khan Yuva Puraskar to artists under the age of 40 who have excelled in dance, music, and theatre.
- The current President of SNA is Dr. Sandhya Purecha.

Conclusion

- This festival organized by the Sangeet Natak Akademi showcases its commitment to reviving and preserving the rich cultural traditions of India, particularly the temple traditions associated with the Shaktipeeths.

PUNE CELEBRATES YOGA MAHOTSAV AHEAD OF INTERNATIONAL YOGA DAY



Context

- The 'Yoga Mahotsav' was held in Pune, Maharashtra, to mark the 75-day countdown to the International Day of Yoga.
- Organized by the Morarji Desai National Institute of Yoga and the National Institute of Naturopathy, Ministry of Ayush, the event witnessed the overwhelming participation of thousands of people.
- The participants engaged in the practice of the Common Yoga Protocol (CYP) starting at 6.00 AM on April 7th, showcasing the growing popularity of Yoga.

Esteemed Guests and Dignitaries

- The event was graced by the presence of distinguished guests, including Shri Satyajit Paul, Deputy Director General, Ministry of Ayush; Shri Vishwas Mandalik, President, Yoga Vidya Gurukul, Nashik; Smt. Vijayalakshmi Bharadwaj, Director, Ministry of Ayush; Dr. Satya Lakshmi, Director, National Institute of Naturopathy, Pune; and Vaidya Dr. Kashinath Samagandi, Director of MDNIY.
- Their participation underscored the collective commitment towards promoting Yoga and advancing the cause of personal and societal betterment.

Promoting Yoga as a Global Movement

- Shri Satyajit Paul, in his address, expressed his delight at Pune hosting the 'Yoga Mahotsav' and highlighted Yoga as a global movement towards a healthier and better tomorrow.
- He appreciated the huge gathering and congratulated the participants for their enthusiasm in embracing Yoga.

Emphasis on Common Yoga Protocol

- The Common Yoga Protocol (CYP) was given significant importance during the event, with a live demonstration performed by the experts from the Morarji Desai National Institute of Yoga.
- More than 5,000 Yoga practitioners participated in the CYP demonstration, which was streamed through various social media platforms of the Ministry of Ayush, MDNIY, and other Yoga institutions.

Collaborative Efforts

- The Indian Yoga Association's Maharashtra State Chapter also supported the 75th day IDY-2024 celebration, further reinforcing the collective efforts to promote Yoga worldwide.

Conclusion

- The Yoga Mahotsav in Pune served as a testament to the growing popularity and importance of Yoga in fostering personal and societal well-being, as the nation prepares to celebrate the International Day of Yoga.

TRIPURA: MATABARI PERA PRASAD, RIGNAI PACHARA TEXTILES AND RISA GET GI TAG



Why in News?

- Three traditional products from Tripura have recently received Geographical Indication (GI) tag. The products are 'Matabari pera prasad', 'Rignai pachara' textiles, and 'Risa'. With addition of these, Tripura now has 4 GI Protected products.

Matabari Pera Prasad

- The 'Matabari pera prasad' is a sweet offering at the renowned Tripureswari temple in Tripura. Made from milk and sugar, this delicacy is famous for its distinctive taste and deep-rooted cultural traditions.
- With the increasing demand for the peda among locals and visitors, companies have started marketing the product to customers worldwide. The peda can now be ordered online, as well as through Facebook and WhatsApp.

Rignai Pachara Textiles

- 'Rignai pachara' is a traditional hand-woven attire meticulously crafted by skilled artisans using

indigenous materials and techniques. This garment holds symbolic value within Tripura's cultural tapestry and reflects the rich legacy of the region's textile heritage.

- The 'Rignai pachara' has garnered significant interest among urban dwellers, particularly in metropolitan areas, for its traditional allure.

Risa

- Risa, another traditional product from Tripura, received the GI tag earlier this month. Known for its surprising and stylish designs, exclusive multi-colour combinations, and lasting texture, Risa carries great significance for the art of Tripuri.
- Tripuri tribal women make all the fabrics, including Risa, using loin looms. They create the most amazing and stylish designs by using multi-coloured warp and weft threads on the loom.

Other Product of Tripura: Queen Pineapple of Tripura

- In addition to the recently recognised products, the queen pineapple of Tripura had already received a GI tag through the initiative of the North Eastern Regional Agricultural Marketing Corporation (NERAMAC).
- This nutrient-rich pineapple is one of the 13 fruits and vegetables from the Northeast that have been awarded the GI tag.

About GI Tag

- The Geographical Indication is awarded to products that have a specific geographical origin, and that have characteristics related to a particular location.
- Till date, around 635 products in India have been given the GI tag. The first GI tag in the country was given two decades ago to the famous Darjeeling tea.
- The GI tag ensures legal protection against unauthorised imitation or misuse of the products produced in particular geographical region, safeguarding their authenticity and preserving the cultural heritage associated with them.
- This recognition also facilitates market access and promotion, both domestically and internationally, thereby fostering economic opportunities for local communities involved in their production.
- GI tag also serves as a catalyst for sustainable development initiatives, encouraging responsible production practices and empowering indigenous communities involved in the production and trade of these products.

WHAT IS EID AL-FITR AND HOW DO MUSLIMS CELEBRATE IT?

Why in news?

- Eid al-Fitr, one of Islam's principal festivals, will be celebrated on April 11, 2024, according to the Fiqh Council of North America.



- At the end of June, Muslims will celebrate Eid al-Adha.

What is Eid?

- Eid literally means a "festival" or "feast" in Arabic.
- There are two major eids in the Islamic calendar per year – Eid al-Fitr earlier in the year and Eid al-Adha later.
- Eid al-Fitr is a three-day-long festival and is known as the "Lesser" or "Smaller Eid" when compared to Eid al-Adha, which is four-days-long and is known as the "Greater Eid."

Why is Eid celebrated twice a year?

- The two Eids recognize, celebrate and recall two distinct events that are significant to the story of Islam.
- Eid al-Fitr means "the feast of breaking the fast."
- The fast, in this instance, is Ramadan, which recalls the revealing of the Quran to Prophet Muhammad and requires Muslims to fast from sunrise to sundown for a month.

How do Muslims celebrate Eid al-Fitr?

- Eid al-Fitr features two to three days of celebrations that include special morning prayers.
- People greet each other with "Eid Mubarak," meaning "Blessed Eid" and with formal embraces.
- Sweet dishes are prepared at home and gifts are given to children and to those in need.
- In addition, Muslims are encouraged to forgive and seek forgiveness. Practices vary from country to country.

What is its Significance in Islamic Countries?

- In many countries with large Muslim populations, Eid al-Fitr is a national holiday.
- Schools, offices and businesses are closed so family, friends and neighbors can enjoy the celebrations together.
- In the U.S. and the U.K., Muslims may request to have the day off from school or work to travel or celebrate with family and friends.
- In countries like Egypt and Pakistan, Muslims decorate their homes with lanterns, twinkling lights or flowers.

- ⇒ Special food is prepared and friends and family are invited over to celebrate.
- ⇒ Fanous, the colorful lanterns of Ramadan, light up the streets of Amman, Jordan, throughout the holy month of fasting.
- ⇒ In places like Jordan, with its Muslim majority population, the days before Eid al-Fitr can see a rush at local malls and special "Ramadan markets" as people prepare to exchange gifts on Eid al-Fitr.
- ⇒ In Turkey and in places that were once part of the Ottoman-Turkish empire such as Bosnia and Herzegovina, Albania, Azerbaijan and the Caucasus, it is also known as the, "Lesser Bayram" or "festival" in Turkish.

How do Muslims celebrate Eid al-Adha?

- ⇒ The other festival, Eid al-Adha, is the "feast of the sacrifice."
- ⇒ It comes at the end of the Hajj, an annual pilgrimage by millions of Muslims to the holy city of Mecca in Saudi Arabia that is obligatory once in a lifetime, but only for those with means.
- ⇒ Eid al-Adha recalls the story of how Allah commanded Ibrahim to sacrifice his son Ismail as a test of faith.
- ⇒ The story, as narrated in the Quran, describes Satan's attempt to tempt Ibrahim so he would disobey Allah's command.
- ⇒ Ibrahim, however, remains unmoved and informs Ismail, who is willing to be sacrificed.
- ⇒ But, just as Ibrahim attempts to kill his son, Allah intervenes and a ram is sacrificed in place of Ismail.
- ⇒ During Eid al-Adha, Muslims slaughter an animal to remember Ibrahim's sacrifice and remind themselves of the need to submit to the will of Allah.

When are they celebrated?

- ⇒ Eid al-Fitr is celebrated on the first day of the 10th month in the Islamic calendar.
- ⇒ Eid al-Adha is celebrated on the 10th day of the final month in the Islamic calendar.
- ⇒ The Islamic calendar is a lunar calendar, and dates are calculated based on lunar phases.
- ⇒ Since the Islamic calendar year is shorter than the solar Gregorian calendar year by 10 to 12 days, the dates for Ramadan and Eid on the Gregorian calendar can vary year by year.

What is the spiritual meaning of Eid al-Fitr?

- ⇒ Eid al-Fitr, as it follows the fasting of Ramadan, is also seen as a spiritual celebration of Allah's provision of strength and endurance.
- ⇒ Amid the reflection and rejoicing, Eid al-Fitr is a time for charity, known as Zakat al-Fitr.
- ⇒ Eid is meant to be a time of joy and blessing for the entire Muslim community and a time for distributing one's wealth.

SPORTS

ASIAN WRESTLING CHAMPIONSHIP: UDIT BAGS SILVER, ABHIMANYU AND VICKY CLAIM BRONZE EACH



Why in news?

- ⇒ India's 19-year-old Udit won the silver medal in the men's 57kg category at the Asian Wrestling Championships 2024 in Bishkek, Kyrgyzstan.
- ⇒ Abhimanyu (men's 70kg) and Vicky (men's 97kg) also won the bronze medals in their respective weight divisions to take India's tally to three medals after the opening day of the competition.
- ⇒ A total of five Indian wrestlers, all in the men's freestyle division, were in action.
- ⇒ Rohit (67kg) and Parvinder Singh (79kg) also competed but could not finish on the podium.

Udit's Silver Medal Performance

- ⇒ Udit, the U20 Asian champion, defeated Ebrahim Mahdi Khari of Iran 10-8 in the qualification round, Kyrgyzstan's Almaz Smanbekov 6-4 in the quarter-finals and the Democratic Republic of Korea's Kim Kum Hyok 4-3 in the semi-finals to enter the gold medal bout against Japan's Kento Yumiya.
- ⇒ However, Yumiya eked out a narrow 5-4 win in the final, and Udit had to settle for the silver medal. This was the first time since 2019 that India did not win the gold medal in the category.

Abhimanyu and Vicky's Bronze Medal Wins

- ⇒ Abhimanyu (men's 70kg) blanked the Republic of Korea's Lee Seungchul 10-0 in the quarter-finals before losing to Japan's Yoshinosuke Aoyagi in the semi-finals by the same score.
- ⇒ Abhimanyu then rallied from a three-point deficit to beat Uzbekistan's Begijon Kuldashev 6-5 in the bronze medal match.
- ⇒ Vicky (97kg) defeated the People's Republic of China's Tuerxunbieke Muheite 9-6 but went down against Kazakhstan's Rizabek Aitmukhan 13-0 by technical superiority in the semi-finals.
- ⇒ Vicky beat Kyrgyzstan's Andrei Aronov 10-1 to seal the bronze.

Other Indian Wrestlers' Performance

- Rohit made it to the bronze medal match in the 65kg category but was beaten 5-3 by Japan's Masanosuke Ono.
- Parvinder Singh (79kg) lost to Japan's Ryunosuke Kamiya 3-0 in the qualification round and bowed out.

Way Forward

- Indian wrestlers Akash Dahiya (61kg), Yash Tushir (74kg), Sandeep Mann (86kg), Vinay (92kg) and Anirudh Kumar (125kg) will be in action in the remaining five men's freestyle weight categories.

INTERNATIONAL DAY OF SPORT FOR DEVELOPMENT AND PEACE 2024



Introduction

- Every year on April 6th, the world celebrates the International Day of Sport for Development and Peace (IDSDP).
- This day is dedicated to recognizing the positive impact that sports and physical activity can have on people's lives and communities around the globe.

Theme for International Day of Sport for Development and Peace 2024

- The global theme for IDSDP 2024 is "Sport for the Promotion of Peaceful and Inclusive Societies".
- This emphasizes the unique ability of sports to unite people, foster social change, and contribute to sustainable development and lasting peace.

Origin

- The United Nations has long acknowledged the power and universality of sports.
- In 2013, the UN General Assembly officially designated April 6th as the International Day of Sport for Development and Peace.
- This decision reflects the growing recognition of the positive influence that sports can have on advancing human rights and driving social and economic progress.

Partnerships and Collaboration

- To mark the occasion, the UN will host an event at its headquarters in New York on April 4th.

- This event will bring together members of the international sporting community, including the UN Football for the Goals initiative, to share best practices, discuss challenges, and explore collaborative opportunities to drive positive social change through sports.

Sport's Unifying Power

- Sport has the unique ability to transcend boundaries, unite individuals and communities, and promote values such as teamwork, respect, and fairplay.
- By harnessing the power of sports, the international community can work towards achieving the UN's objectives for sustainable development and lasting peace.

A Reminder of Sport's Potential

- The International Day of Sport for Development and Peace serves as a reminder of the transformative potential of sports.
- It is an opportunity to celebrate the efforts of sporting bodies and communities around the world who are using sports as a tool for good, and to inspire further action towards building a more just, peaceful, and inclusive world.

NEPALI CRICKETER DIPENDRA SINGH AIREE JOINS ELITE CLUB WITH SIX SIXES IN AN OVER



Why in news?

- On Saturday, April 12, 2024, Nepal's 24-year-old all-rounder Dipendra Singh Airee etched his name in the history books by smashing six sixes in a single over during the ACC Men's T20I Premier Cup clash against Qatar in Al Amerat.
- Airee's incredible display of power and precision joined the elite company of Yuvraj Singh and Kieron Pollard, who had previously achieved the same feat in Men's T20Is.

The Rise of a Nepali Cricketing Superstar

- Dipendra Singh Airee's journey to this remarkable milestone began at the 2016 ICC Men's U19 Cricket World Cup, where he showcased his talent and potential.
- At the young age of 17, Airee made his way into Nepal's senior team, and since then, he has been a

consistent performer, steadily rising through the ranks to become one of the country's most promising cricket talents.

Yuvraj and Pollard's Precedents

- Airee's six sixes in an over followed in the footsteps of two cricketing legends.
- Yuvraj Singh was the first to achieve this feat, doing so during the 2007 ICC Men's T20 World Cup against England, where he smashed Stuart Broad for six consecutive maximums.
- Years later, in 2021, Kieron Pollard joined Yuvraj in the elite club when he unleashed his power against Sri Lanka's Akila Dananjaya in a T20I match in Coolidge.

The Fastest Fifty in T20I History

- Interestingly, this was not the first time Airee had displayed his six-hitting prowess.
- Last year, the Nepali all-rounder had hit six consecutive sixes in the Asian Games against Mongolia, though the feat was spread across two overs.
- In that match, Airee also went on to score the fastest fifty in T20I history, reaching the milestone in just nine deliveries, breaking Yuvraj Singh's previous record of 12 balls.

The Significance of Airee's Achievement

- Dipendra Singh Airee's extraordinary performance in the ACC Men's T20I Premier Cup has not only cemented his place as a rising star in Nepali cricket but also has significant implications for the national team's upcoming campaign in the ICC Men's T20 World Cup 2024.
- With less than 50 days to go until the prestigious tournament, Airee's form and confidence will be a crucial asset for Nepal as they prepare to take on the likes of South Africa, Sri Lanka, Bangladesh, and the Netherlands in Group D.

The Impact on Nepal's T20 World Cup Aspirations

- Nepal's inclusion in the ICC Men's T20 World Cup 2024 is a testament to the country's growing cricketing prowess.
- The team's progress in recent years has been remarkable, and Airee's performance is a testament to the depth of talent within the Nepali squad.
- As the team gears up for the tournament, Airee's ability to single-handedly shift the momentum of a game will be a valuable weapon in Nepal's arsenal.

Airee's Journey and the Future of Nepali Cricket

- Dipendra Singh Airee's journey from the 2016 ICC Men's U19 Cricket World Cup to his record-breaking exploits in the ACC Men's T20I Premier Cup is a testament to his unwavering dedication and the steady development of Nepali cricket.

- As the country continues to produce talented cricketers, the spotlight on Airee and his teammates will only grow brighter, and their performances on the world stage will be a source of immense pride for the nation.

MISCELLANEOUS

THE JOURNEY OF BABA SAHEB AMBEDKAR – LIFE, HISTORY & WORKS



Early Life

- Baba Saheb Dr. Bhim Rao Ambedkar was born on 14 April 1891, he was the 14th and last child of his parents.
- Dr. Babasaheb Ambedkar was the son of Subedar Ramji Maloji Sakpal. He was Subedar in British Army. Babasaheb's father was a follower of Sant Kabir and was also a well-read person.
- Dr. Bhimrao Ramji Ambedkar was hardly two years old when his father retired from service. His mother died when he was only about six. Babasaheb got his early education in Bombay. Since his school days he realized with intense shock what it was to be an untouchable in India.

Education

- Dr. Ambedkar was taking his school education in Satara. Unfortunately, Dr. Ambedkar lost his mother. Afterwards, they shifted to Bombay. Throughout his school education, he suffered from the curse of untouchability. His marriage took place after his matriculation in 1907 in an open shed of a market.
- Dr. Ambedkar completed his graduation at Elphinston College, Bombay, for which he was getting a scholarship from His Highness Sayajirao Gaikwad of Baroda.
- After his graduation, he had to join Baroda Sansthan according to the bond. He lost his father when he was in Baroda, 1913 is the year when Dr. Ambedkar was selected as a scholar to go to U.S.A, for the higher studies. This was the turning point of his educational career.
- He got his M.A. and Ph.D. degrees from Columbia University in 1915 and 1916 respectively. He then left

for London for further studies. He was admitted there to the Gray's Inn for Law and also allowed to prepare for the D.Sc. at the London School of Economics and Political Science. But he was called back to India by the Dewan of Baroda. Later, he got his Bar-at-Law and D.Sc. degree also. He studied for some time at Bonn University in Germany.

- In 1916 he read an essay on 'Castes in India – their Mechanism, Genesis, and Development'. In 1916, he wrote his thesis 'National dividend for India – A Historic and Analytical Study' and got his Ph.D. Degree.
- This was published after eight years under the title – "Evolution of Provincial Finance in British India." Then after getting this highest degree, he returned to India and was appointed a Military Secretary to the Maharaja of Baroda with a view to groom him as the finance minister in the long run.

Initial works in India

- Babasaheb returned to the city in September, 1917 as his scholarship tenure ended and joined the service.
- But after a brief stay in the city till November, 1917, he left for Mumbai. The maltreatment he faced on grounds of untouchability had forced him to leave the service.
- Dr. Ambedkar returned to Bombay and joined Sydenham College as a Professor of Political Economy. As he was well read, he was very popular among the students.
- But he resigned his post, to resume his studies in Law and Economics in London. Maharaja of Kolhapur gave him the financial help. In 1921, he wrote his thesis. "Provincial Decentralization of Imperial Finance in British India,' and got his M.Sc. Degree from the London University.
- Then he spent some period in Bonn University in Germany. In 1923, he submitted his thesis – "Problem of Rupee its Origin and Solution", for the D.Sc. Degree. He was called to Bar in 1923.

Opposition to Untouchability

- After coming back from England in 1924 he started an Association for the welfare of the depressed classes, with Sir Chimanlal Setalvad as the President and Dr. Ambedkar as the Chairman.
- To spread education, improve economic conditions and represent the grievances of depressed classes were the immediate objects of the Association.
- The Bahiskrit Bharat, newspaper was started in April 3, 1927 to address the cause of the depressed classes in view of the new reform.
- In 1928, he became a Professor in Government Law College, Bombay and on June 1, 1935 he became the Principal of the same college and remained in that position till his resignation in 1938.

- On October 13, 1935, a provincial conference of the depressed classes was held a Yeola in Nasik District.
- In this conference, he gave the shock to the Hindus by announcing. "I was born in Hinduism but I will not die as a Hindu" Thousands of his followers supported his decision.
- In 1936 he addressed the Bombay Presidency Mahar Conference and advocated the renunciation of Hinduism.
- On August 15, 1936, he formed Independent Labour Party to safeguard the interest of the depressed classes, which mostly formed the labour population.

Appointed to Executive Council of Governor General of India

- In 1938, Congress introduced a bill making change in the name of untouchables. Dr. Ambedkar criticized it. In his point of view changing the name is not the solution of the problem.
- In 1942, he was appointed to the Executive Council of the Governor General of India as a Labour member, in 1946, he was elected to the Constituent Assembly from Bengal. At the same time he published his book, Who were Shudras?

After Independence

- After Independence, in 1947, he was appointed as a Minister of Law and Justice in Nehru's first cabinet. But in 1951, he resigned his ministership, expressing his differences on the Kashmir issue, India's Foreign Policy and Nehru's Policy towards the Hindu Code Bill.
- In 1952, Columbia University conferred upon him the degree of LL.D. in recognition of the work done by him in connection with the drafting of India's Constitution. In 1955, he published his book titled Thoughts on Linguistic States.
- Dr. B.R. Ambedkar was awarded a Doctorate on January 12, 1953, from Osmania University.

Conversion to Buddhism

- Ultimately after 21 years, he proved true, what he had announced in Yeola in 1935, that "I will not die as a Hindu".
- On 14th October 1956, he embraced Buddhism in a historic ceremony in Nagpur and died on 6th December 1956.
- Dr Babasaheb Ambedkar was conferred with the title of "Bodhisattva" by the Buddhist monks at "Jagatik Buddhism Council" in 1954 in Kathmandu, Nepal. The special thing is that Dr Ambedkar was conferred with the title of Bodhisattva while he was alive.

Contribution

- He contributed to India's Independence struggle and in its reforms post-independence. Apart from this, Babasaheb played a significant role in the formation of the Reserve Bank of India.

⇒ The Central bank was formed on the concept presented by Babasaheb to the Hilton Young Commission.

A man of Study and Action

- ⇒ The sparkling life history of Dr. Ambedkar shows that he was a man of study and action.
- ⇒ Firstly, he acquired sound knowledge of Economics, Politics, Law, Philosophy and Sociology, in pursuing his studies; he had to face many social odds.
- ⇒ But he did not spend all his life in reading and studying and in the libraries.
- ⇒ He refused the higher posts with attractive salaries because he never forgot his brothers in the depressed class. He dedicated the rest of his life for equality, brotherhood and humanity. He tried his best for the upliftment of the depressed classes.

Legacy

- ⇒ After having gone through his life history it is necessary and proper to study and analyze his main contribution and their relevance.
- ⇒ According to one opinion there are three points which are more important even today.
- ⇒ Today also Indian Economy and Indian Society are facing many economic and social problems.
- ⇒ Dr. Ambedkar's thoughts and actions may guide us for the solution of these problems.
- ⇒ Dr. B.R. Ambedkar's death anniversary is observed as Mahaparinirvan Diwas across the country.

WORLD INEQUALITY REPORT AND INEQUALITY IN INDIA



About

- ⇒ World Inequality Report is launched by the Paris based World Inequality Lab. The report in the context of India is titled as, Income and Wealth Inequality in India, 1922-2023: The Rise of the Billionaire Raj.

Findings at the India Level:

- ⇒ Inequality in India was at a lower level at the time of independence, like the top 1% got 11% of national income. This inequality went through a phase of decline till the 1980s on account of the socialistic policies of the then government, like the share of top 1% declined to 6%.

- ⇒ But the 1980s marked a phase of transition from socialistic towards an open market economy model. This transition was completed with the launch of LPG reforms in 1991, thereby leading to skyrocketing inequality in India. Ex: The share of the top 1% in national income increased to 22%.

Income inequality in India

- ⇒ Based on data from the National Sample Survey Organization's (NSSO)3 consumption expenditure survey (CES) rounds in 1993-94 and 1999-2000, Deaton and Dreze (2002) found that economic inequality markedly increased during the 1990s in several forms – strong divergence across states, rising urban-rural inequality, and growing disparities within urban areas.
- ⇒ Banerjee and Piketty (2005) were the first to mobilize annual tax tables provided by the income tax authorities in combination with national accounts to shed light on the dynamics of top incomes over the long run (1922-2000).

Wealth Inequality

- ⇒ The literature on wealth inequality in India also takes off only in the 2000s. Perhaps the first comprehensive study of wealth distributions in India is found in Subramanian and Jayaraj (2006) who combine successive AIDIS rounds to study wealth inequality in India between 1991-92 and 2002-03. They report bottom 50% shares of 8% in 1991-92 and 2002-03 and top 1% shares of 15.7%.
- ⇒ They also present an early attempt at combining surveys with data on the richest 178 households from a rich list published by 'Business Standard' to re-estimate wealth shares in 2002-03 – they find the top 1% share increased from 15.7% to 17.8%.

Other dimensions of inequality in India:

The income and wealth inequality in India also has intersections with other socio-economic markers of deprivation which are imminent in Indian society. For example;

- ⇒ **Gender:** Women in India have remained underdeveloped in comparison to their male counterparts. Economically, women face hurdles like glass ceiling in jobs and promotions. For ex: According to the Opportunity Index Report, 85% working women in India believe that they have missed out on a raise, promotion or work offer because of their gender. Politically, women account for just around 14% of MPs in India and even when women are elected there are issues like Sarpanch Patis which hampers real women political empowerment of women.
- ⇒ **Caste:** The IHDS findings state that untouchability is still practiced by around 27% of the households surveyed. According to IHDS (2011-12), 51% of Schedule Caste households have adult women with

- zero years of education and 27% for illiterate male members. For upper caste, it is 24% in case of women and 11% in case of men.
- ⊖ **Age, particularly old age:** LASI survey has highlighted that 70% of elderly population is below the poverty line and face several forms of daily life activity limitations. This has put them on an unequal footing vis-a-vis their younger counterparts.
 - ⊖ **Religion:** Sachar committee has highlighted the backwardness among the Muslim communities in India in comparison to other religions in India.
 - ⊖ **Region:** Development divide between North-South states in India reflects the regional development deficit in India. For example, during covid pandemic, only 10% of the students in Bihar got access to digital education but in Kerala, this accessibility was around 90%.
 - ⊖ **Ethnicity:** Backwardness among the tribal communities in India vis-a-vis the mainstream population highlights the ethnic divide in development parameters. For ex: the tribals are over-represented in terms of population below poverty line, higher prevalence of malnutrition among them and then higher level of illiteracy too.

Reasons for persistence of inequality in India:

- ⊖ **LPG reforms:** Capital intensive model of development has led to jobless growth in India, thereby intensifying the divide between the rich and poor. For ex: Before the LPG reforms, only one billionaire in India.
- ⊖ **Gaps in India's Taxation:** Abolition of Wealth Tax, loopholes in income tax regime etc allow the rich to effectively pay lower taxes than their fair share. This reduces the progressive nature of taxation and wealth distribution.
- ⊖ **Lower expenditure on social services:** Expenditure on health and education has remained way below the recommended value. For ex: Around 3% of GDP on education as compared to the recommended value of 6%.
- ⊖ **Persistence of ascriptive identities:** Gender, caste and religious discrimination have led to inequalities like 97% of manual scavengers are Dalits, lower female labor force participation rate and issues of religious communities such as Muslims.
- ⊖ **Criminalization of politics:** With increasing criminalization of politics (43% of MPs have criminal records), potential of political schemes and decisions for upliftment of downtrodden sections has drastically reduced, thereby reducing the poor and downtrodden sections as a mere vote bank group.

Steps taken by the government

- ⊖ PM Awas yojana for housing to all.
- ⊖ Jal Jeevan Mission for clean drinking water facilities for all.

- ⊖ Swachh Bharat Abhiyan to promote sanitation and minimum hygienic level among all.
- ⊖ Saubhagya Yojana for access to electricity to all.
- ⊖ PM Jan Dhan Yojana for financial inclusion, particularly of women through opening zero balance bank accounts.
- ⊖ KIRAN scheme, CURIE scheme, Eklavya schools
- ⊖ PM Matru Vandana Yojana, Janani Suraksha Yojana for better reproductive health of women.
- ⊖ Nari Shakti Vandana Adhiniyam (106th Constitutional Amendment) for increasing the women representation by providing 33% reservation to women in Lok Sabha and State Legislative Assembly.

Conclusion

- ⊖ Going Forward, it is important for India to proceed with inclusive development lens so as to achieve SDGs along with the goal of Viksit Bharat Sankalp.

PSLV ORBITAL EXPERIMENTAL MODULE-3 (POEM-3)



- ⊖ The Indian Space Research Organisation (ISRO) has achieved another milestone with the successful re-entry of the PSLV Orbital Experimental Module-3 (POEM-3) into the Earth's atmosphere, leaving no debris in orbit.
- ⊖ The PSLV-C58/XPoSat mission, which took place on January 1, 2024, has demonstrated ISRO's commitment to responsible space operations and debris mitigation.

POEM-3 Mission Objectives and Payloads

- ⊖ POEM-3 was equipped with nine different experimental payloads to conduct technology demonstrations and scientific experiments on newly developed indigenous systems.
- ⊖ Six of these payloads were delivered by Non-Government Entities (NGEs) through IN-SPACe. The mission objectives of these payloads were successfully met within a month of the launch.

Deorbiting and Re-entry Process

- ⊖ Following the successful placement of all satellites into their designated orbits, the final stage of the

PSLV was converted into a 3-axis stabilized platform known as POEM-3.

- The stage was then deorbited from an altitude of 650 km to 350 km, facilitating an expedited re-entry process. Measures were also taken to passivate the stage, including the removal of residual propellants, to reduce the potential risks associated with accidental break-ups.

Impact Location and Tracking

- The orbital altitude of the upper stage continued to decay under the influence of natural forces, primarily atmospheric drag. POEM-3 was expected to have impacted the North Pacific Ocean on March 21, 2024. Until near re-entry, POEM-3 was tracked by ISTRAC ground stations, and the Multi-Object Tracking Radar (MOTR) at Shriharikota also tracked the PS4 stage until the morning of March 21.

Opportunities for Academia, Startups, and NGEs

- Through the POEM platform, which serves as a cost-effective option for conducting short-duration space-borne experiments, ISRO has opened up new opportunities for academia, startups, and NGEs to experiment with their new payloads.
- This opportunity has been effectively utilized by numerous organizations for carrying out experiments in space, including electric thrusters, satellite dispensers, and star-tracking.

Responsible Space Operations

- With the emergence of numerous small satellite constellations, the agency recognizes the substantial risk space debris poses to space operations, including satellite launches, human spaceflight endeavors, and exploration missions.
- As a responsible space agency, ISRO has pledged to tackle this challenge by advancing debris tracking systems, developing technologies for space object deorbiting, and promoting responsible practices for satellite deployment.

Important Facts

- The Vikram Sarabhai Space Centre (VSSC) has taken the lead in conceptualizing and realizing the POEM by augmenting the 4th stage of PSLV. PSLV-C58/XPoSat is the third such mission in the series, with POEMs being successfully scripted each time. The payload operations were carried out effectively by the spacecraft operations team from the mission operations complex (MOX) at ISTRAC.
- ISRO's System for Safe and Sustainable Spacecraft Operations Management (IS4OM) has been monitoring and analyzing the orbital decay throughout the mission. POEM-3 was also supported by other ISRO centers, including URSC, LPSC, and IISU.

INTERNATIONAL GIRLS IN ICT DAY 2024 OBSERVED ON APRIL 25



Context

- Every year on the fourth Thursday of April, the world celebrates International Girls in ICT Day.
- This important occasion aims to highlight the significance of girls and young women in the field of Information and Communications Technology (ICT) and encourage them to pursue education and careers in STEM (Science, Technology, Engineering, and Mathematics).
- This year, International Girls in ICT Day falls on April 25.

History of Computers and ICT

- The history of computers and ICT dates back to the 19th century when Charles Babbage, an English mathematician and engineer, invented the first mechanical computer called the Difference Engine in 1822.
- This machine was designed to perform basic calculations and solve complex problems.
- In 1833, Babbage conceived the idea of the Analytical Engine, which was the first automatic mechanical digital computer capable of performing all calculations and storing large amounts of data.
- However, due to lack of funding, the Analytical Engine was never built during his lifetime.

Ada Lovelace: The World's First Computer Programmer

- In 1843, Augusta Ada King, Countess of Lovelace, published a paper explaining the Analytical Engine and drew comparisons between it and existing calculators.
- She is widely regarded as the world's first computer programmer, as she wrote the first computer program by sequencing instructions on the punched cards that the Analytical Engine used.

ENIAC and the "ENIAC Girls"

- In 1945, John Mauchly and J. Presper Eckert Jr. led a project at the University of Pennsylvania to build the first electronic programmable computer in the

United States, called ENIAC (Electronic Numerical Integrator and Computer).

- The programming of ENIAC was handled by six women, known as the "ENIAC girls," who played a crucial role in this groundbreaking achievement.

Rapid Advancements in Computing

- From the mid-20th century to the early 21st century, the world witnessed a significant leap in the development of computers and technology.
- This period saw the invention of transistors, programming languages like COBOL and FORTRAN, UNIX operating system, floppy disks, and the Ethernet.
- Major tech companies like Intel, IBM, Apple, and Microsoft were established during this time.

Portable Computers and Mobile Phones

- In the early 2000s, portable computers became commonplace due to advancements in battery life and miniaturization of computing resources.
- This innovation also paved the way for the development of cellular mobile phones, which have become an integral part of our daily lives.

Encouraging Girls in ICT

- International Girls in ICT Day aims to inspire and encourage girls and young women to explore opportunities in the field of ICT.
- By highlighting the achievements of pioneering women in this field and promoting STEM education, this day strives to empower the next generation of female leaders in technology.

WORLD HEMOPHILIA DAY 2024, DATE, HISTORY AND THEME



Why in news?

- World Hemophilia Day is an annual observance held on April 17th to raise awareness about hemophilia, a rare and inherited bleeding disorder.
- This year, the theme for World Hemophilia Day 2024 is "Equitable access for all: recognizing all bleeding disorders."

History of World Hemophilia Day

- The foundation of World Hemophilia Day was laid in 1989 by the World Federation of Hemophilia (WFH).

- The date of April 17th was chosen to honor the birth of Frank Schnabel, the founder of the organization, who played a pivotal role in advocating for hemophilia awareness and improved treatment options.

Hemophilia: A Royal Disease

- While hemophilia cases have been documented as far back as ancient Egypt, the disease gained more widespread recognition when Queen Victoria of England became a carrier of hemophilia B, or factor IX deficiency, in the 19th century.
- She passed on this genetic trait to three of her nine children, earning hemophilia the moniker "the royal disease."

The Etymology of Hemophilia

- The term "hemophilia" is a shortened version of the original term "hemorrhaphilia," which was coined by Dr. Schonlein, a professor at the University of Zurich, and his student, Friedrich Hopff.

Understanding Hemophilia

- Hemophilia is a rare bleeding disorder in which the blood does not clot properly due to alterations in the genes that regulate the body's ability to stop bleeding.
- This genetic condition is more common in men, as the genes responsible for producing the clotting factors VIII and IX are located on the X chromosome.

Types of Hemophilia

- There are three main types of hemophilia:
 1. **Hemophilia A:** Caused by mutations in the F8 gene, which provides instructions for producing clotting factor VIII.
 2. **Hemophilia B:** Caused by mutations in the F9 gene, which provides instructions for producing clotting factor IX.
 3. **Hemophilia C:** Caused by a deficiency in factor XI, located on an autosome, and is considered a rare form of the disease.

Symptoms and Complications of Hemophilia

- Individuals with hemophilia may experience a range of symptoms and complications, including excessive bleeding, joint pain, swelling, and bone-related issues.
- Undiagnosed cases, particularly in individuals with mild hemophilia, can even be life-threatening, as a seemingly minor injury or surgery can lead to fatal internal bleeding.

The Importance of Diagnosis and Treatment

- Accurate diagnosis of hemophilia is crucial, as it allows for appropriate management and treatment.
- While there is no cure for hemophilia, advancements in treatment options, such as factor supplementation and gene therapy, have significantly improved the quality of life for those living with the condition.

World Hemophilia Day: Raising Awareness and Advocating for Change

- World Hemophilia Day provides an important platform to educate the public about the causes, symptoms, and challenges faced by individuals living with hemophilia and other bleeding disorders.
- It also highlights the need for ongoing research, innovation, and improved access to care, particularly in underserved and marginalized communities.

The Theme for World Hemophilia Day 2024

- This year's theme, "Equitable access for all: recognizing all bleeding disorders," emphasizes the importance of ensuring that all individuals affected by bleeding disorders, regardless of their age, gender, or location, have access to the necessary support, resources, and medical care they need to live fulfilling and empowered lives.

Advocating for Comprehensive Care and Support

- World Hemophilia Day encourages the global bleeding disorders community to come together and advocate for comprehensive care and support, including access to specialized healthcare providers, affordable treatment options, and robust social and emotional support networks.
- This collaborative effort is crucial in addressing the challenges faced by those living with hemophilia and other bleeding disorders.

The Role of Healthcare Professionals and Advocacy Organizations

- Healthcare professionals, such as hematologists, genetic counselors, and specialized care teams, play a vital role in ensuring accurate diagnosis, appropriate treatment, and comprehensive management of hemophilia and related disorders.
- Advocacy organizations, like the World Federation of Hemophilia, work tirelessly to raise awareness, promote research, and collaborate with governments and healthcare systems to improve access to care and treatment options worldwide.

DNA ANALYSIS REVEALS HOW ANCIENT NOMADS WHO DISAPPEARED FROM EUROPE 1,000 YEARS AGO LIVED

Context

- For centuries, our main sources of information have been pottery sherds, burial sites and ancient texts.
- But the study of ancient DNA is changing what we know about the human past, and what we can know.
- In a new study, we analysed the genetics of hundreds of people who lived in the Carpathian Basin in southeastern central Europe more than 1,000 years ago, revealing detailed family trees, pictures of a complex society, and stories of change over centuries.



Who were the Avars?

- The Avars were a nomadic people originating from eastern central Asia. From the 6th to the 9th century CE, they wielded power over much of eastern central Europe.
- The Avars are renowned among archaeologists for their distinctive belt garnitures, but their broader legacy has been overshadowed by predecessors such as the Huns.
- Nevertheless, Avar burial sites provide invaluable insights into their customs and way of life. To date, archaeologists have excavated more than 100,000 Avar graves.
- Now, through the lens of "archaeogenetics", we can delve even deeper into the intricate web of relationships among individuals who lived more than a millennium ago.

Kinship patterns, social practices and population dynamics

- Much of what we know about Avar society comes from descriptions written by their enemies, such as the Byzantines and the Franks, so this work represents a significant leap forward in our understanding.
- We combined ancient DNA data with archaeological, anthropological and historical context. As a result, we have been able to reconstruct extensive pedigrees, shedding light on kinship patterns, social practices and population dynamics of this enigmatic period.
- We sampled all available human remains from four fully excavated Avar-era cemeteries, including those at Rákóczi-falva and Hajdúnánás in what is now Hungary. This resulted in a meticulous analysis of 424 individuals.
- Around 300 of these individuals had close relatives buried in the same cemetery. This allowed us to reconstruct multiple extensive pedigrees spanning up to nine generations and 250 years.

Communities were organised around main fathers' lines

- Our research uncovered a sophisticated social framework. Our results suggest Avar society ran on a strict system of descent through the father's line (patrilineal descent).

- ⇒ Following marriage, men typically remained within their paternal community, preserving the lineage continuity.
- ⇒ In contrast, women played a crucial role in fostering social ties by marrying outside their family's community.
- ⇒ This practice, called female exogamy, underscores the pivotal contribution of women in maintaining social cohesion.
- ⇒ Additionally, our study identified instances where closely related male individuals, such as siblings or a father and son, had offspring with the same female partner. Such couplings are called "levirate unions".
- ⇒ Despite these practices, we found no evidence of pairings between genetically related people. This suggests Avar societies meticulously preserved an ancestral memory.
- ⇒ These findings align with historical and anthropological evidence from societies of the Eurasian steppe.
- ⇒ Our study also revealed a transition in the main line of descent within Rákóczifalva, when one pedigree took over from another.
- ⇒ This occurred together with archaeological and dietary shifts likely linked to political changes in the region.
- ⇒ The transition, though significant, cannot be detected from higher-level genetic studies. Our results show an apparent genetic continuity can mask the replacement of entire communities.
- ⇒ This insight may have far-reaching implications for future archaeological and genetic research.

Future direction of research

- ⇒ Our study, carried out with researchers from the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany and at Eötvös Loránd University in Budapest, Hungary, is part of a larger project called HistoGenes funded by the European Research Council.
- ⇒ This project shows we can use ancient DNA to examine entire communities, rather than just individuals. We think there is a lot more we can learn.
- ⇒ Now we aim to deepen our understanding of ancestral Avar society by expanding our research over a wider geographical area within the Avar realm.
- ⇒ This broader scope will allow us to investigate the origins of the women who married into the communities we have studied. We hope it will also illuminate the connections between communities in greater detail.
- ⇒ Additionally, we plan to study evidence of pathogens and disease among the individuals in this research, to understand more about their health and lives.

Conclusion

- ⇒ Another avenue of research is improving the dating of Avar sites.
- ⇒ We are currently analysing multiple radiocarbon dates from individual burials to reveal a more precise timeline of Avar society.
- ⇒ This detailed chronology will help us pinpoint significant cultural changes and interactions with neighbouring societies.

PEOPLE ARE LOSING CONTROL OVER PHONES



Context

- ⇒ This article is about the evolution of the Internet, the rise of mobile apps, and the ongoing battle between businesses and app store gatekeepers over control and revenue sharing.

Evolution of the Internet:

- ⇒ The Internet was designed to operate in a distributed manner, empowering individual machines to determine service connections without centralized control.
- ⇒ Services like emails, websites, and chats flourished, fostering information sharing and e-commerce due to the Internet's decentralized nature.
- ⇒ Yahoo initially provided website directories, but the proliferation of sites led to the rise of Google's search engine for efficient navigation.

Rise of Mobile Devices:

- ⇒ With the advent of mobile devices, particularly the iPhone, website optimization for handheld screens became imperative.
- ⇒ Apple's App Store, launched in 2008, facilitated the distribution of third-party native apps, offering enhanced user experiences.
- ⇒ However, native apps posed security risks due to direct machine access, prompting Google's Native Client sandbox initiative in 2009.

Web Standards vs. Native Apps:

- ⇒ While native apps offered immersive experiences, they raised concerns about security and user privacy, contrasting with the safer environment provided by web standards.

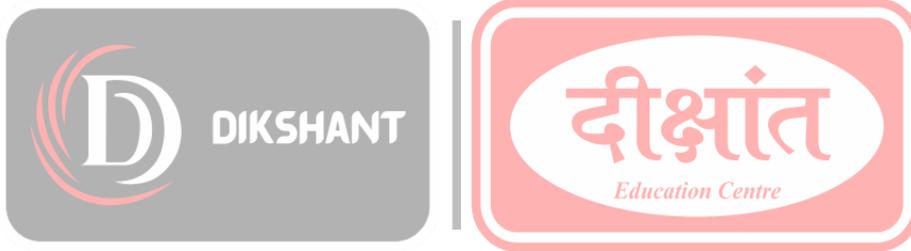
- ⇒ Despite the security benefits of web browsers and JavaScript, businesses favored native apps for greater control and user engagement.
- ⇒ The app store model introduced app taxes, prompting backlash from businesses and anti-trust cases against dominant players like Google and Apple.

Ongoing Battle:

- ⇒ Anti-trust litigation and disputes over app store policies highlight the ongoing struggle between businesses and app store gatekeepers.
- ⇒ Despite legal challenges, app stores remain reluctant to relinquish revenue from app taxes, fueling demands for alternatives such as Indian app stores.
- ⇒ However, users are urged to reconsider the drawbacks of native apps, recognizing the dominance of Apple and Google in the app ecosystem.

Conclusion:

- ⇒ The evolution of the Internet from decentralised connectivity to centralized app ecosystems has sparked debates over security, control, and revenue sharing.
- ⇒ While native apps offer immersive experiences, they come with inherent risks and dependencies on app store gatekeepers.
- ⇒ Ultimately, users must weigh the trade-offs between convenience and security, recognizing the dominance of app store giants in shaping the digital landscape.



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