

CURRENT AFFAIRS

WEEKLY

WEEK: 5
NOVEMBER
2022

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- ▣ TRANSFERS UNEXPLAINED: ON THE TRANSFER OF HIGH COURT JUDGES

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- ▣ OUT OF 110 NATIONS, INDIA TOPS THE GLOBAL MINORITY INDEX
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- ▣ Concerns around 5G interference with flight operations

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- ▣ India going towards depopulation

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— **Disclaimer** —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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SECTION: A

(MAINS)

**CURRENT
AFFAIRS**

SUPREME COURT SEEKS RESPONSE TO LEGALISE SAME-SEX MARRIAGES

CONTEXT:

The Supreme Court sought the government's response to pleas allowing the solemnisation of same-sex marriage under the Special Marriage Act.

What is the issue?

- The Supreme Court has held that criminalisation of private consensual sexual conduct between adults of the same sex under **Section 377** of the Indian Penal Code was **unconstitutional**.
- Hence, decriminalized same-sex relationships in India in 2018.
- However, decriminalizing homosexuality does not ensure equality and the rights must extend to all spheres of life, including the home, the workplace, and public places, etc.

How LGBTQ+ is defined in India?

- LGBTQ+ citizens form **7% to 8%** of the population of the country.
- LGBTQ+ is an acronym for **Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, and Asexual, among others**.
- They are the people who don't identify with **cisgender heterosexual ideals**.
- The community includes specific social groups referred to as the **Third Gender**.

Provisions Prohibiting Same-sex marriages:

- Section 292 of the IPC relates to obscenity, with plenty of room to encompass homosexuality under its ambit.
- Section 294 of IPC, which punishes "obscene behavior in public," is also applicable and used to discriminate against gay men.
 - ▶ It is crucial to highlight that the **Protection of Children from Sexual Offences Act, 2012** removed the penalty for homosexual behavior involving consensual sex in England, however in India; consent is largely irrelevant for creating an offense as described under this provision.
- **The Transgender Persons (Protection of Rights) Act, 2019:** It exposes individuals to institutionalized tyranny and dehumanizes their bodies and identities.

The Special Marriage Act, 1954:

- It provides for registration of a "**special form of marriage in certain cases**" which includes the marriage by which a person can be taken advantage of by any person in India and all Indian nationals in foreign countries irrespective of the faith which either party to the marriage may profess.
- Thus, the Act includes not only to citizens of India but applies to all persons from all walks of life whether Indian or not, atheist or agnostic, gay or straight, bisexual or bi-curious, homophobic or homogenous.
- **Sections 4 to 14** of Chapter II of the Act deals with "**Solemnization of Special Marriages**".
- Section 4 sets out the Conditions relating to solemnization of special marriages. As per the law a marriage between "**any two persons**" may be solemnized under this Act" on fulfilling certain conditions, one of which is that "**the male** has completed 21 years of age and **the female** has completed 18 years of age."
 - ▶ The use of the words "two persons" indicates that the section is **gender-neutral** and not gender-specific or binary.
- Further, **Section 4 (c)** sets out the age of marriage using the article "**the**" before male and female and not the article "**a**", where the used to refer to one or more people or things already mentioned or easily understood.
- The only place in which the words "**wife**" or "**husband**" are used is in the provision to **Section 12(2)**.
- This states that a marriage will not be complete and binding on the parties unless each party says to the other in the presence of the Marriage Officer and the three witnesses and in any language understood by the parties,

– I, (A), take thee (B), to be my lawful wife (or husband).

- Further, the use of the word “wife” or husband” hardly matters. The terms are generically used and in a same-sex marriage, gender roles are not specifically assigned.

Concerns associated:

- **Health issues:** LGBT individuals experience a range of significant health disparities and a disproportionate rate of negative health outcomes.
- **Likely to attempt more suicides:** Adolescents with same-sex attraction are more than twice as likely as their peers to attempt suicide.
- **Lack of social security for the future:** Elderly LGBT people are more likely to experience social isolation and face barriers to accessing needed care.

TRANSFERS UNEXPLAINED: ON THE TRANSFER OF HIGH COURT JUDGES

CONTEXT:

The Supreme Court Collegium headed by Chief Justice of India **DY Chandrachud** recommended the transfer of 7 judges of High Courts which have drawn arguments against its ‘Opaque procedure’.

◎ ABOUT

Process of selection and transfer:

- The selection and transfer of Judges of the Supreme Court and High Court are done by **President** in consultation with the **collegium system**.
- In the case of selection and **transfer of HC judges**, the collegiums consisting of the CJI, 2 senior-most judges of the SC, and the CJ of the concerned High Courts.

Note: The proposal of NJAC to replace the collegium system was struck down by SC and after that, the executive is working on a New Memorandum of Procedures to reform the collegium system

- The initiation of the proposal for the transfer of a Judge should be made by the Chief Justice of India (CJI).
- The opinion of the CJI “is **determinative**”.
- CJI is expected to take into account the views of the **Chief Justice of the High Court** from which the Judge is to be transferred and the Chief Justice of the High Court to which the transfer is to be affected.
- The views of one or more **Supreme Court Judges** who are in a position to offer his/their views are also taken into account.
- In the case of the transfer of a Chief Justice, only the views of **one or more knowledgeable Supreme Court Judges** need to be taken into account.
- The views on the proposed **transfer of a Judge or a Chief Justice of the High Court** should be expressed in writing and should be considered by the CJI and the **four senior-most Judges** of the Supreme Court.
- The proposal once referred to the Government, the Union Minister of Law, Justice and Company Affairs would

Constitutional Provisions:

- **Article 222** of the Constitution makes provision for the **transfer of a Judge** (including the Chief Justice) from one High Court to any other High Court.

submit a recommendation to the Prime Minister who will then advise the President as to the transfer of the Judge concerned.

- After the President approves the transfer, the notification will be gazetted and the judge remains transferred.

Issues associated:

- Lack of Transparency in the section on names for transfer of Judges.
- Political motive involved
- Judges have been transferred as a punishment for working against the Government in the State or either as a threatening act.

Criteria for transfer:

The transfer of judges is done in cases like:

- When a judge is appointed as Chief Justice he is generally transferred to another HC.
- In cases when a lawyer from the bar is appointed as Judge or when a judge is promoted to HC. These transfers are done to avoid instances of favoritism.
- Also in instances of any complaint of corruption or any other charge which does not lead to his impeachment, the judge is transferred to another High Court. These are called punishment transferring.

OUT OF 110 NATIONS, INDIA TOPS THE GLOBAL MINORITY INDEX

CONTEXT:

A Patna-based research institute, the **Centre for Policy Analysis (CPA)** has put India on top of the 'global minority index' in its Global Minority Report tabulating 110 countries.

Key Findings of the Report:

- India remains **on top** of the index, followed by **South Korea, Japan, Panama, and the US**.
- Maldives, Afghanistan, and Somalia** figured at the bottom of the list.
- The UK is **ranked 54**, and the **UAE 61**.
- The ranking approach has been mathematical and the grading of countries was done based on the approach of the **State towards minority religions**, and the **extent of their inclusiveness**.
- This report only takes into account '**macro parameters**' to analyse the status of religious minorities in a country, and the approach of a state towards them.
- The parameters that have been taken into account to assess the status of religious minorities include;
 - Constitutional provisions,
 - Policies of a government, and
 - Broader indicators, such as the laws of the land.

Minority community in India:

- In 1993, the **first Statutory National Commission** was set up and **five religious communities viz. Muslims, Christians, Sikhs, Buddhists, and Zoroastrians (Parsis)** were notified as minority communities under Section 2 (c) of the **National Commission for Minorities Act, 1992**.
- In 2014, **Jains** were also notified as a minority community.
- The population of **Muslims is 14.2%; Christians 2.3%; Sikhs 1.7%, Buddhists 0.7%, Jain 0.4%, and Parsis 0.006%**.
- As per the Census 2011, the percentage of minorities in the country is about **19.3% of the total population** of the country.

Defining properties of Minorities in India include;

Subordination in some way to the majority, Distinguishable from the majority based on physical or cultural features, collectively being regarded and treated as different and inferior and Excluded from full participation in the life of the society.

What does the Constitution say about minorities?

The expression "minorities" appears in some Articles of the Constitution but is not defined anywhere.

Article 29:

- It provides that any section of the citizens residing in any part of India having a distinct **language, script, or culture of its own, shall have the right to conserve** the same.
- It grants protection to both religious minorities as well as linguistic minorities.
- However, the SC held that the scope of this article is not necessarily restricted to minorities only, as the use of the word '**section of citizens**' in the Article includes minorities as well as the majority.

Other important minority rights

- **Article 15** prohibits discrimination on grounds of religion race cast sex or place of birth.
- **Article 17** prohibits untouchability.
- **Articles 25 to 30** preserve the right of minorities on grounds of religion.
- **Article 26** allows religious institutions to be opened.
- **Article 27** provides that no person shall be forced to pay any taxes which are not mandatory.
- **Article 28** provides that there shall be no religious instruction to be followed in any particular educational institution.

Article 30:

- All minorities shall have the right to establish and administer educational institutions of their choice.
- The protection under **Article 30** is confined only to minorities (religious or linguistic) and does not extend to any section of citizens (as under Article 29).

Article 350-B:

- The **7th Constitutional (Amendment) Act 1956** inserted this article which provides for a **Special Officer** for Linguistic Minorities appointed by the President of India.
- It would be the duty of the **Special Officer to investigate** all matters relating to the safeguards provided for linguistic minorities under the Constitution.

PUBLIC SECTOR BANKS: GROWTH AND CONCERNS

CONTEXT:

The **Public sector banks (PSBs)** have reported remarkable growth in the July-September quarter of the year 2022.

KEY POINTS:

- **Profits increased:** The asset quality of PSBs has improved, their profits have increased and they have recorded an impressive pace of **credit growth** in the July-September quarter.
- **Better stock market performance:** The performance of PSBs is also getting reflected in the **stock market performance** of banks.
- **Improved Asset quality:** It is measured as **Gross Non-Performing Assets** as a percentage of total advances (GNPA ratio) have seen a sustained improvement.
 - As an example, **Canara Bank's GNPA ratio** has fallen from 7.80 percent in December 2021, to 6.37 percent in September 2022.

September 2022.

- Reduction in GNPA's can be explained by **better recoveries**.
- ◉ **Better Borrowing rates:** Borrowers who availed of the **Emergency Credit Line Guarantee Scheme (ECLGS)** — a scheme to help borrowers tide over the challenges posed by the pandemic by providing a **100 percent guarantee to lenders** have exhibited good repayment behavior.

NET PROFIT (Y-O-Y %)

PSU BANKS	Dec 2021	Mar 2022	Jun 2022	Sep 2022
Bank of Baroda	107.05		79.39	58.70
Bank of India	90.02	142.32	-22.02	-8.66
Bank of Maharashtra	110.70	115.19	117.25	102.93
Canara Bank	115.80	64.83	71.73	89.51
Central Bank of India Ltd	68.62		14.20	27.26
Indian Bank	34.11	-42.40	2.69	12.49
Indian Overseas Bank	113.33	57.93	20.06	33.19
Punjab & Sind Bank		115.24	17.75	27.41
Punjab National Bank	122.67	-65.62	-69.86	-62.79
State Bank of India	62.27	41.28	-6.70	73.93
UCO Bank	775.82	290.08	21.41	145.64
Union Bank of India	49.33	8.26	31.96	21.07

Source: Banks' websites and various analyst presentations



What are the reasons for public sector banks making Profits?

- ◉ Due to the rise in loans including **housing and corporate loans**.
- ◉ **Interest income**, which includes **interest on advances** and **interest on investment**, has seen a sharp growth.
- ◉ While banks have been able to pass on **higher rates to borrowers**. This has boosted the net **interest margins** of banks.
- ◉ Clean-up of **stressed assets**, **better regulation**, **pick-up in loans**, and an improvement in corporate credit demand are driving the **profitability of public sector banks**.

Impacts:

On Customers	On Banks
<ul style="list-style-type: none"> • Ease in loan availing norms. • Better Interest rates • More regulations to identify defaulters • Security and safety of Public Money 	<ul style="list-style-type: none"> • As the stock of non-performing assets shrinks, and fresh slippages from standard to non-performing assets are curtailed, banks do not need to set aside as many funds. • The extended regulatory forbearance post the global financial crisis led to the evergreening of loans and hid the banking sector's vulnerability.

Concerns associated:

- ◉ The exploitation of customers by Banks using more **market demand** of their banks.
- ◉ An increase in loans by customers can increase the risk of more defaults in the future due to economic downfalls and other situations like the Pandemic.
- ◉ Lack of market stabilisation strategy by banks can lead to future reductions in the funds of banks.

INDIA INVITES BANGLADESH AS A GUEST COUNTRY DURING ITS G-20 PRESIDENCY

CONTEXT:

Out of all of India's neighbours, the Indian government has invited **only Bangladesh** as one of the 10 guest countries during its Presidency of the G20.

The message in the invitation

- The Invitation shows the growing importance of Bangladesh as one of the world's fastest-growing economies.
- Bangladesh is going to share its experience with other member states on climate change.
- On Import of Russian Crude: Russian crude is not suitable for Bangladesh refineries. So, they are going to discuss importing refined products and Russian LNG.

About Bangladesh Economy:

- Bangladesh is the 41st largest economy.
- It is going to be the 32nd largest by 2030.
- Bangladesh to grow 6.9% in 2022-23: World Bank
- UN approved Bangladesh to graduate from Least Developed Country (LDC) status by 2026.

India's Relation with Bangladesh:

- **Economic Ties:** Bangladesh is the 6th largest trade partner of India.
 - India has provided duty-free quota-free access to Bangladesh on all tariff lines except tobacco and alcohol under the South Asian Free Trade Area (SAFTA) since 2011.
- **Sharing of River Waters:** Both nations share 54 common rivers. 1996, the Ganga Waters Treaty was signed.
 - Most recently, the **Kushiyara Pact** was signed.
- **Connectivity:** India and Bangladesh share 4096.7 Km. of the border, which touches Assam, Tripura, Mizoram, Meghalaya, and West Bengal.
 - The Bandhan Express was the second train to be flagged off after the introduction of the **Maitree Express** between Kolkata and Dhaka Cantonment in April 2008.
- **Power and Energy Sector Cooperation:** Energy sector cooperation between India and Bangladesh has also seen considerable progress in the last few years.
 - **High-speed diesel (HSD) pipeline:** The Indo-Bangladesh friendship pipeline carrying High-Speed Diesel from the Numaligarh refinery in India to Bangladesh is expected to be completed soon.
 - **Rooppur nuclear power:** India is funding the project under a LOC (Line of Credit) for the distribution, of the transmission lines, alongside Bangladesh's funding.
 - **Godda Power Project** in Jharkhand state will provide a dedicated transmission line for the exports
- **Tourism:** Bangladesh accounted for the largest share of foreign tourist arrivals in India in 2020, including tens of thousands of people who come to the country for medical treatment.
- **Defense and Security:** The militaries of the two countries will conduct joint exercises and training, **Exercise Sampriti** and **Navy (Exercise Milan)**.

International Forums where India and Bangladesh are Common Members

- South Asian Association for Regional Cooperation (SAARC)
- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)
- Indian Ocean Rim Association for Regional Cooperation (IORA)

Significance of Bangladesh for India**Major Issues Between India and Bangladesh:**

<ul style="list-style-type: none"> • Strategic location • Connectivity to East Asia • Countering China • Trade- Bangladesh is currently India's biggest trade partner in the South Asian region. 	<ul style="list-style-type: none"> • Teesta River Water Dispute • illegal Migration • Drug Smuggling & Trafficking • Terrorism, rising radicalization • Rohingya Issus • Increasing Chinese footprint
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Defining characteristics of Bangladesh's Economy:

- **Growing consumer demand:** The increase in spending, which reflects the growing consumer demand comes from the middle and affluent classes.
- **Ninth-largest domestic consumer market:** Bangladesh is set to become the ninth-largest consumer market in the world.
- **Outpacing major Asian peers:** With an average annual economic growth of 6.4 percent between 2016 and 2021, Bangladesh, has outpaced major Asian peers such as India, Indonesia, Vietnam, the Philippines, and Thailand.
- **High Consumer optimism:** This vital optimism kicked off the virtuous cycle of high growth which Bangladesh has experienced over the last decade.
- **Higher GDP per capita:** Despite graduating five years later to Low- and Middle-Income Countries (LMIC) status versus India, the GDP per capita is already higher than its regional peer.

What went right for Bangladesh?

- **Played to its strength:** It relied on global low-skill exports-readymade garments-in line with its share of working-age people among poor countries.
 - ▶ If we draw a relative comparison with India, we notice that India went for high-skilled software, business process outsourcing, and finance, benefiting a tiny fraction of its 1 billion-person-strong workforce.
- **Employment generation:** Bangladesh generated three times more employment from every 1% of output growth than India between 2010 and 2018.
- **Pulling workers out of subsistence agriculture:** Bangladesh has been nearly twice as successful as India when it comes to pulling people out from engaging in subsistence farming.
 - ▶ While doing the same, India was not able to employ surplus labour in the modern sector with high productivity growth.
- **Women Participation:** Women's participation in its workforce, while still low at 35%, is rising, compared with the abysmal situation in India, where it's 21% and falling.
 - This has been reflected in the Gender Gap Report 2022. Bangladesh secured the 71st position in the overall tally of the report.
- **Micro-Credit programmes Operations:** The world's most successful and pioneering microfinance organizations like Grameen and BRAC have aided small businesses in the country.
 - ▶ *Grameen Bank* won the *Nobel Peace prize* along with its founder *Muhammad Yunus* in 2006 for their efforts to create economic and social development.

WHY IS INDIA'S TEA INDUSTRY IN CRISIS?

CONTEXT:

During the **Annual general meeting of the Indian Tea Association (ITA)** in Kolkata, the Tea Board of India sought a special financial package of Rs. 1,000 crores from the Centre for the tea Industry over five years.

This package is allocated for the industry to make the tea crisis sustainable for small and marginal tea estate owners.

◎ ABOUT

India's Tea industry:

- In India, tea is cultivated in almost **15 states**, of which **Assam, West Bengal, Tamil Nadu, and Kerala** are the major tea-growing states, accounting for nearly **98% of the total production**.
- India is also known for producing some of the finest teas in the world, like **the Darjeeling, Assam, Sikkim, Nilgiris, and Kangra tea varieties**.
- However, India's tea exports declined marginally to around **196 million kg** in 2021 from **210 million kg** in 2020.
- **Small tea growers (STGs) and industry stakeholders** fear the news of the tea consignments being rejected in the international market may further hit the Indian tea sector.
 - ▶ According to available data, about **52% of tea** in the country is produced by STGs.

Darjeeling Tea, called the '**Champagne of Teas**', was the first Indian product to get the **GI (Geographical Identification) tag** in 2004 for its distinctive aroma and flavour.

The Reasons for the decline in Tea Industry:

- **Drop in Production of Tea per Hectare:** The average yield per hectare of Darjeeling Tea, according to ITA, is about 350 kg at present which was about 542 kg in 2000.
 - ▶ The yield per hectare in the foothills, particularly the **Dooars region**, is about **four times** higher than the Darjeeling tea gardens.
- **Monopoly of Big Tea Estates:** Industry experts point out that an average tea garden in Darjeeling is about 150 hectares whereas those in the foothills vary from 400 to 500 hectares.
- **Less Price in Auctions:** Planters have also been complaining about the stagnant prices of the auction of Darjeeling Tea, which in 2021 was on average pegged at ₹365.45 per kg.
- **Reduced growth rate:** According to the ITA, prices of Darjeeling Tea in the last six years have grown at a CAGR (cumulative annual growth rate) of only 1.7% against an increasing cost of input between 10% and 12% CAGR.
- **Reduction in Demand for Indian Tea:** Global factors like the decline in demand from European markets in the wake of the Russia-Ukraine war have compounded the problem.

Other emerging Issues:

- **Lack of Quality checks mechanism**
- **Duty-free imports from neighboring estates like Nepal**
- **Competitive markets** (In 2020 alone, Sri Lanka exported \$1.27 billion worth of tea and remained the world's top five exporters of the commodity)

Suggestive Measures:

- The **Standing Committee of Parliament** has recommended that the Government **review and revisit** the **Indo-Nepal Treaty** for incorporating stringent requirements for a certificate of origin on tea imports from Nepal.
- The committee suggested that **Small Tea Growers (STGs)** should also be recognized as GI-registered producers on a par with the **87 tea estates** which produce Darjeeling Tea to ensure better price premiums.
- Industry experts called for raising the **domestic consumption of tea in India**, particularly when exports are not picking up.

REINVENTING INDIAN AGRICULTURE THROUGH IOT AND AI

CONTEXT:

Cutting-edge technologies in **AI** and **IoT** are enabling the agricultural sector to overcome the challenges of productivity, quality, and carbon emission with enhanced profitability.

Performance of Indian agriculture

- **Record Production of Foodgrains:** During the last decade India has achieved record production of food grains and oilseeds.
- **Diversification towards Horticulture Crops:** The yield-driven growth in foodgrain production in the aftermath of the green revolution made diversification of area towards high-value horticultural crops.
- **Growing Importance of Allied Activities:** The allied sector has steadily gained importance in the last decade led by strong growth in animal husbandry and fish production.
- **Changing Dynamics of Agriculture Trade:** India has recorded the highest ever agricultural product export in 2021-22.

Reforms and government initiatives

- **National Agriculture Market (eNAM):** A pan-India electronic trading platform.
- **India Digital Ecosystem of Agriculture (IDEA):** An Agri-stack system to realize higher income and better profitability for farmers.
- **National Mission for Sustainable Agriculture (NMSA):** Aimed at increasing Agri output by integrating sustainable technologies)
- **National e-Governance Plan in Agriculture (NeGP-A):** for funding modern technologies including AI, ML, drones, and Blockchain).

Emergence of the Agri-tech segment

- **Rapid Transformation:** Indian Agri ecosystem has gone through a rapid transformation, with the emergence of the Agri-tech segment.
 - It has resulted in production increasing and logistics turning efficient.
- **Surge of start-ups:** The Agri-tech segment, has attracted several start-ups that are offering technology-based solutions, thereby increasing operational efficiencies.
- **Digital Agriculture:** India's Budget 2022-23 also contains provisions to support 'digital agriculture'.
 - This will integrate public sector research with private agritech players within the agricultural value chain.
- **Surge in funding:** India has received a total funding of \$1.6 billion in Agri-tech startups till 2021, making it the third largest in the world with regard to such funding.
- **Creating investment opportunities:** Private equity investments in agri-tech startups between 2017 and 2020 amounted to ₹66 billion, with a growth rate of over 50 percent.
 - Private Equity Investment is a type of alternative investment in which the investors' purchases shares in privately-held businesses (not a part of the stock exchange).

Major digital technologies

- **Internet of things (IoT):** IoT is used in intelligent farming with various sensors for light, humidity, soil moisture, temperature, crop health monitoring, etc.
- **Geographic Information System (GIS):** Used to analyze complex spatial data like rainfall, topography, soil elevation, slope aspect, wind direction, flooding, and erosion.
- **Artificial Intelligence (AI)/Machine Learning (ML) and data science:** These technologies contribute towards and benefit the farmers by proven data analysis and predictions, Crucial agricultural data collected by IoT devices and ML algorithms are processed and channelized with data science.
- **Blockchain:** Helps farmers ensure the safety of their crops, preventing theft and fraud, efficiently managing the supply chain, and balancing the food ecosystem.
- **Automation:** Machine performing agricultural operations acknowledges farm automation/smart farming and eases out the workload on human resources.

Challenges Ahead

- Climate Change
- Agricultural Waste Management (example-Stubble Burning)
- Fragmented Landholdings
- Disguised Unemployment
- Food Inflation and Volatility in Food Prices

Major trends that are paving the way

- **Smart and technology-driven resource management:** Geotagging of assets under the **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) scheme** can be monitored through the **Bhuvan app** for better implementation across the country.
- **Modernization of the Agri supply chain:** To minimize the supply chain losses, efforts are being put to enhance the efficacy of operations by focusing on critical factors such as quality, traceability, logistics, and distribution.
- **Climate risk mitigation strategy:** Several initiatives are being taken to create a climate risk mitigation strategy as India suffers from huge crop losses owing to the erratic weather conditions in the country.
- **Government initiatives in digital farming:** The adoption of innovative technologies is becoming one of the major driving forces for increasing productivity and promoting agricultural development.
- **Prevalence and digitizing farm collectives as FPOs:** FPOs help in creating opportunities for better credit facilities, insurance terms, post-harvest management (PHM) infrastructure for quality management, precision agriculture solutions for better crop management, etc.

INDIA IS ITS OWN WORST ENEMY IN TACKLING POLYMER POLLUTION

CONTEXT:

According to a new report by the Centre for Science and Environment (CSE), the Government has diluted the Plastic Waste Management Rules in 2016 about six times but is still not able to tackle its plastic menace.

Key highlights of the Report:

- The report highlights that the amendments in the **Plastic Management Rules** have been aimed at benefiting major **producers, importers, and brand owners**.
- The entire life cycle of plastic can be broken only when the approach will be from source to disposal.

About Plastic:

- Plastic is a **synthetic polymer** made of gasoline with structures suitable for various uses, including packaging, construction and construction, household and sports equipment, automobiles, electronics, and agriculture. Plastic is cheap, lightweight, strong, and soft.
- More than 300 million tons of plastic are produced annually, half of which are used to design consumer goods, such as shopping bags, cups, and straws.

Disposal: Only 9% of recycled plastic waste and about 12% burned, while 79% accumulated in landfills.

Recent steps by India:

- Currently, the **Plastic Waste Management Regulations, of 2016**, prohibit the manufacture, importation, storage, distribution, sale, and use of handling bags and plastic sheets of less than 50 microns in the country.
- The Prime Minister of India was also awarded the “world champion” award by the **United Nations Environment**

Program (UNEP) in 2018 for promising to eradicate all once-used plastic by 2022.

- India has pledged to take steps to reduce land pollution caused by Single Use Plastics.
- India generated 34 lakh tonnes of plastic waste in 2019-20, of which only 60% has been recycled
- 6 of the top 100 global producers of polymers that produce a large quantity of plastic waste are based in India.
- 22 states in India have announced a ban on single-use plastic but, it had little impact on outcomes.

What are the loopholes in Policy dealing with Plastic management?

- **In terms of policy**- India's environmental policies vary, deliberately good but bad in terms of results
- With regard to government spending in the absence of a strong will from national governments to replace municipal contracts.
- **Regarding recycling**- due to the lack of partition, most plastic waste cannot be recycled
- **Cold regulation** - This has led to a ban on the movement of plastic waste to other provinces with recycling.

Government Initiatives:

- **GloLitter Partnerships Project:** Launched by the International Maritime Organization (IMO) and the Food and Agriculture Organization of the United Nations (FAO) as well.
 - ▶ **Purpose:** To prevent and reduce marine plastic waste from shipping and fisheries.
 - ▶ It will also assist developing countries in reducing marine waste, including plastic waste, from the maritime and fisheries sector, and reducing the use of plastic in these industries.
 - ▶ Also, help identify potential **recycling and recycling of plastics**.
 - ▶ Thirty countries including India have joined this global marine pollution program.
- **World Environment Day**, 2018 is held in India; world leaders promise "**Beat Pollution**" and end its use completely.
- **Specifically, in India:** The Plastic Waste Management Regulations, 2016 states that every local organization must be responsible for establishing infrastructure for sorting, collecting, processing, and disposing of plastic waste.
- **Plastic Waste Management Regulations (Amendments):** The 2018 Regulations introduce the concept of Extra Manufacturer Responsibility (EPR).
- **Prohibit Single Use Plastics** with the aim of liberating India of once-used plastics by 2022.

THE CRYOSPHERE RAISES A 'RED FLAG'

CONTEXT:

A broad coalition of **18 governments** led by the two polar and mountain nations of **Chile and Iceland** joined together at COP27 to create a new high-level group named '**Ambition on Melting Ice on Sea-level Rise and Mountain Water Resources**' (AMI).

About the Coalition:

- **Objective:** The '**AMI**' group aims to ensure impacts of cryosphere loss are understood by political leaders and the public, not only within the mountain and Polar Regions but throughout the planet.

KEY POINTS:

- They indicated that Ice sheet loss in Greenland and parts of Antarctica is gathering pace and is largely irreversible. The resulting acceleration in sea level rise is a major threat to billions of people in coastal regions.
- Glacier retreat in high mountain areas brings the risk of long-term water scarcity in densely populated parts of the world.

- Impacts from cryosphere loss cause widespread impacts at higher levels of global warming.
- **Need of the Initiative:**
 - ▶ In the face of mounting threats, greater international coordination is needed to develop plausible scenarios for future changes and their impacts.
 - ▶ It also translates global scientific knowledge into localized information that supports adaptation strategies for people and regions most at risk.
 - ▶ Climate change already has caused dramatic changes in the global cryosphere, and Earth's snow and ice regions.
 - ▶ Severe impacts are already occurring in relation to water shortages from shrinking glaciers and snowpack; global sea-level rise due to loss of ice from ice sheets, glaciers, and ocean warming; and landslides triggered by permafrost thaw.
 - ▶ Lives and livelihoods are threatened by, and some already lost from, these changes

The Cryosphere Loss:

- The cryosphere is the part of the Earth's climate system that includes **solid precipitation, snow, sea ice, lake and river ice, icebergs, glaciers, ice caps, ice sheets, ice shelves, permafrost, and seasonally frozen ground.**
- The term "cryosphere" traces its origins to the Greek word 'kryos' for frost or ice cold.
- The cryosphere extends globally, existing seasonally or perennially at most latitudes, not just in the Arctic, Antarctic, and mountain regions, and in approximately one hundred countries.
- The largest continental ice sheets are found in **Antarctica.**
- Approximately **70% of the Earth's freshwater** exists as snow or ice.

Effect on Arctic and Antarctica:

- Indigenous peoples in both the **Arctic and mountain regions** have been among the earliest affected.
- Much of this acceleration is due to the melting of the ice sheets, rather than the thermal expansion of water, according to WMO's provisional **State of the Global Climate 2022 report.**
- **Arctic sea-ice extent** was below the long-term (1981-2010) average for most of the year.
 - ▶ The September 2022 extent was 4.87 million km² or 1.54 million km² below the long-term mean extent.
- **Antarctic sea-ice extent dropped** to 1.92 million km² on 25 February, the lowest level on record and almost 1 million km² below the long-term average.

Threats:

- **To Small islands:** Due to the frequent instances of ice melting and Sea-level rise have increased the risk of immersion of Small islands in the oceans near both Arctic and Antarctica.
- **To Eastern Antarctica Ice sheets:** In Antarctica, the ice loss is currently largely confined to the West Antarctic ice sheet.
 - ▶ Due to warming more rapidly than the global average can accelerate sea level rise in East Antarctica which is by far the world's biggest ice sheet, containing water that is the equivalent of around 50 meters.

WHAT IS BLUEBUGGING, AND HOW IS IT USED TO HACK BLUETOOTH-ENABLED DEVICES?

CONTEXT:

Cybersecurity experts have noted that specific apps that let users connect smartphones or laptops to wireless earplugs can record conversations, through a process called bluebugging.

About Bluebugging:

- **Background:** Independent security researcher *Martin Herfurt* blogged about the threat of bluebugging as early as 2004.
- Bluebugging is a technique that allows skilled hackers to access mobile commands on Bluetooth-enabled devices that are in discoverable mode.
- Bluebugging is similar to phone eavesdropping, or bugging.
- Once a connection is established, hackers can use "**brute force attacks**" to bypass authentication. It uses trial-and-error to guess login info, and encryption keys, or find a hidden web page.

Who are Vulnerable to bluebugging?

- **Devices on discoverable mode:** Because discoverable mode is a default setting, most Bluetooth-enabled mobile phones and devices are automatically vulnerable to bluebugging attacks.
 - ▶ Bluebugging can happen whenever a Bluetooth-enabled device is within a **10-meter radius** of the hacker.
 - ▶ Hackers can use **booster antennas** to widen the attack range.
- **Devices not in discoverable mode:** Certain tools - such as **RedFang** and **BlueSniff** - allow hackers to infiltrate Bluetooth-enabled devices that are not in discoverable mode.

How does bluebugging hack devices?

- The hackers first try to pair with the device via Bluetooth.
- Once a connection is established, hackers can use brute force attacks to bypass authentication.
 - ▶ A **brute force attack** uses trial-and-error to guess login info, and encryption keys, or find a hidden web page.
- They can later install the malware in the compromised device to **gain unauthorized access** to it.

Ways to prevent:

- Turning off Bluetooth and disconnecting paired Bluetooth devices when not in use
- Updating the device's system software to the latest version
- Limiting the use of public Wi-Fi
- Using VPN as an additional security measure
- Monitor sudden spikes in data usage

Do you know?

- **Japan, Australia, and India** were the most-attacked countries in Asia.
- According to an **IBM Security study**, the cost of a data breach averaged Rs.17.6 crore in India in 2022, 6.6% higher as compared to Rs.16.5 crore last year.

Instances of Cyber-attack in India:

- The number of cyberattacks on the Indian healthcare industry was the second highest globally in the segment.
- 7.7 percent of the attacks on healthcare being witnessed in the country in 2021, according to cyber security intelligence firm **CloudSEK**.
- **CloudSEK** is among the entities that provide cyber threat intelligence to the Indian cybersecurity watchdog CERT-In.
- The recent **AIIMS cyberattack** exposes the vulnerability of Indian healthcare.
 - ▶ The cyberattack not only froze everyday work at AIIMS but also put the patients' credentials in danger.

Challenges to tackle the menace:

- **Dependence on outdated or legacy infrastructure**
- **Accelerated digital adoption, over a short span of time**
- **Limited understanding of cyber security**
- **Fragmented and unorganized cyber security infrastructure**
- **Increasing instances of Social Engineering attacks**
- **Attacks using emerging technology:** Machine learning poisoning is one of the most prevalent methods used

to attack ML (Machine Learning) systems. **AI fuzzing** is another tool primarily used to detect, identify and fix cyber-attack vulnerabilities.

Initiatives are taken by the Indian Government for Cyber Security:

- **Indian National Security Council:** To shape the ecosystem related to cyber policy.
- **Computer Emergency Response Team (CERT-In):** For alerts regarding Cybersecurity breaches and issues.
- **Indian Cyber Crime Coordination Centre (I4C):** To handle several issues regarding cybercrime in a comprehensive and coordinated manner.
- **Cyber Swachhta Kendra:** To create a secure cyberspace by detecting botnet infections in India
- **National Critical Information Infrastructure Protection Center (NCIIPC):** To protect critical information about our country, this has an enormous impact on national security, economic growth, and public health care.
- **Personal Data Protection Bill 2022:** The Bill offers significant concessions on cross-border data flows, in a departure from the previous Bill's contentious requirement of local storage of data within India's geography.
- **National Cyber Security Policy, 2013:** The Policy's goal is to create safe and resilient cyberspace for citizens, businesses, and the Government.

WHY IS MEDICAL RESEARCH ETHICS IMPORTANT FOR THE MODERN WORLD?

CONTEXT:

The Cells of Henrietta Lacks, an **African American** woman who died of **Cervical Cancer in 1951** have been used by the researchers of that time to develop the **Polio vaccine** and other medicines, without **taking consent** from the family before or after her death. This arises a question about Doctors and researchers against following medical research ethics.

What does Medical Ethics mean?

- Ethics is an understanding of the nature of conflicts arising from moral imperatives and how best we may deal with them.
- Ethics in medical research deals with conflicts of interest across various levels. Guidelines have been proposed for standardized ethical practice throughout the globe.
- Medical ethics also deals with the choices made by society, **the distribution of resources, access to health care**, and the **dilemmas arising** from them.

Why is Medical research Ethics important?

- The four fundamental principles of Medical research ethics which are being underscored are;
 - Autonomy
 - Non-maleficence
 - Beneficence
 - Justice
- It is suggested that though the value of published guidelines and the help that may be available from research ethics committees is quite great, the primary responsibility for maintaining high standards of practice in research rests with the research workers themselves.

Efforts so far:

- **Following International code for ethics in clinical research:** It laid down **10 clear principles** to be followed by researchers and;

- ▶ made voluntary consent essential,
- ▶ allowed subjects to withdraw from the experimentation at any time,
- ▶ banned experiments that could result in major injury or death of the subjects, and
- ▶ Made mandatory to have preclinical data before experimenting on humans.
- A set of guidelines was adopted by the **18th World Medical Association (WMA) General Assembly**, which was called the **Declaration of Helsinki**.
 - ▶ It contained **32 principles**, which stress on informed **consent**, **the confidentiality of data**, **vulnerable populations**, and **the requirement of a protocol, including the scientific reasons for the study**, to be reviewed by the ethics committee.
 - ▶ Though the Declaration of Helsinki had created a stir in the medical community, medical atrocities continued.
- The Council for International Organizations of Medical Sciences (CIOMS) in association with the World Health Organization (WHO) developed "International Ethical Guidelines for Biomedical Research Involving Human Subjects" in 1982.

Ethical Issues that persist:

- **Lack of Individual or Peer Consent:**

- ▶ The samples being collected by the Researchers remain under darkness and are not revealed to common people. It sometimes includes family members of the patient and the patient himself/herself.

- **Avoid Justice:**

- ▶ The lack of awareness and trust for doctors among the common people makes researchers do injustice to the patient or his/her family by using the samples for future developments but no benefit or recognition is given to the individual or family.

- **Used for Monetary benefits:**

- ▶ Today the medical world has engulfed under the power of money and benefits generated for doctors and researchers.
- ▶ This makes the real aim remain unaddressed i.e. Helping patients.

How can they be solved?

- Making a set of rules for medical Practitioners and a regulating body
- Involving common people in research-related activity
- To Biological generate awareness in the community

Section: B

(SPECIALS)

CURRENT AFFAIRS

INDIA GOING TOWARDS DEPOPULATION

CONTEXT:

As the World Population has **reached 8 billion**, India's contribution is considered to be significant. But, the numbers estimated for India outpaced the emerging challenges of depopulating the country's young ones without any preparedness against it.

◎ ABOUT

India's Population estimates Paradox:

- India is the **second most populous** country with over 1.35 billion people.
- Approximately 17.85% of the world's population are Indians, which means **1 in every 6 people** on Earth lives in India.

Is India's Population really increasing?

- Yes, India's population is increasing with the world accordingly; however, there is an element of **skewed growth** within the nation.
- India's population is expected to grow for another 40 years.
- United Nations estimates:** India's population will begin to decline only in 2063.
- The overall growth rate of India's population will remain stagnant in the upcoming decades. The evidences can be drawn from:
 - ▶ **A Replacement fertility rate of 2.1** has been achieved for most of the States in India.
 - ▶ **Emerging Health challenges** and Pandemics.
 - ▶ Awareness and **Family planning Technique** Adoptions.
 - ▶ **Gender-equal norms** are prevalent as a sign of social transformation.
 - ▶ **Lack of affordability** among most middle-income families for more number of children.

Expected growth/decline:

- Growth:** India's population is expected to grow by 25%, with reference to 2011, to 1.52 billion by 2036.
- Decline:** India's population growth rate **is expected to decline** to its lowest since its Independence in the **2011-2021 decade**, with a decadal growth rate of 12.5%.
- By **current United Nations estimates**, India's population will begin to decline only in 2063, by which time it will be just shy of 1.7 billion with the **world's population expected to grow until 2086**.
- China:** China's population has begun to decline, while India's population is expected to grow for another **40 years**.

Factors contributing to Overpopulation:

- The Decline in the Death Rate:** At the root of overpopulation is the difference between the overall birth rate and death rate in populations.
- Agricultural Advancements:** Agricultural advancements in the 20th century have allowed humans to increase food production using fertilizers, herbicides, and pesticides and yields further.
- Better Medical Facilities:** Illnesses that had claimed thousands of lives until now were cured because of the invention of vaccines. Combining the increase in food supply with fewer means of mortality tipped the balance and became the starting point of overpopulation.
- More Hands to Overcome Poverty:** Poverty is considered as the leading cause of overpopulation. In the absence of educational resources, coupled with high death rates, which resulted in higher birth rates, is why impoverished areas are seeing large booms in population.
- Child Labour:** The children being seen as a source of income by impoverished families begin work too young and also lose the educational opportunities reflected, particularly when it comes to birth control.
- Technological Advancement in Fertility Treatment:** Today there are effective medicines that can increase the chance of conception and lead to a rise in the birth rate. Moreover, due to modern techniques, pregnancies today are far safer.
- Immigration:** Many people prefer to move to developed countries like the **US, UK, Canada, and Australia**,

where the best facilities are available in terms of medical, education, security, and employment. The result is that those people settle over there, eventually making those places overcrowded.

- **Lack of Family Planning:** Most developing nations have a large number of illiterate people, live below the poverty line, and have little or no knowledge about family planning. Besides, getting their children married at an early age increases the chances of producing more kids.
- **Poor Contraceptives Use:** A study by the **World Health Organization (WHO)** shows that women aged between 16 and 49 used at least one form of contraceptive is 43% in underdeveloped countries, which leads to higher birth rates.

Should India focus on Population control policies?

- More than the Population control policies, there is a need for the government to prepare for fewer population challenges as seen in most of the developed countries like Europe, the US, and Japan.

Emerging Issues:

A depopulating future poses at least three unique challenges to India:

- First, a **skewed sex ratio** remains a danger.
 - The latest round of the NFHS shows that, families with at least one son are less likely to want more children than families with just one daughter.
- The stark differences between **northern and southern States** in terms of basic literacy as well as enrolment in higher education, including in technical fields.
 - It will mean that workers from the southern States are not automatically replaceable.
- **Seeing Population through a communal lens:** Sharp anti-Muslim tone in the conversation has remained even though fertility between Hindus and Muslims is converging.
- **Increase in the elderly population:** Societal aging can affect economic growth, patterns of work and retirement, the way that families function.

Section: C

(PRELIMS

CURRENT AFFAIRS

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TIPU SULTAN AND THE CONTROVERSY AROUND HIS CONTRIBUTIONS

- © **CONTEXT:** Tipu Sultan became a symbol of resistance against British rule, with emphasis on aspects of his persona which suited the nationalist narrative. Today, there has been increased spotlight on his autocratic tendencies and brutal repression in annexed territories, with an increased emphasis on his religion.

Who was Tipu Sultan?

- Tipu Sultan was born **Sultan Fateh Ali Sahab Tipu**, (1751 –1799), also known as the **Tiger of Mysore**, was the **ruler of the Kingdom of Mysore based in South India**.
- Father:** Hyder Ali
 - Hyder Ali was the military officer who served the kingdom of Mysore and then became the **de facto ruler** of the province in 1761.
- Tipu Sultan was handed over the command to important military and diplomatic missions when he was just **17 years of age**.
- Tipu Sultan was the **right-hand man of his father** in the wars and this helped Hyder Ali capture the thrones of southern India.
- Tipu Sultan died defending his **fortress of Srirangapatna** against British forces in the Fourth Anglo Mysore War in 1799.
- His forces were heavily outnumbered and his **French allies** had not been able to come to his aid.



Tipu Sultan as an Administrator:

- He started **Navy as a department** for wars in ocean for the first time.
- With highly **productive agriculture and textile manufacturing**, Mysore overtook **Bengal Subah** as India's dominant economic force during his reign.
- Construction of Dams:** On the Kaveri River, Tipu Sultan laid the base for the Kannambadi dam (Krishna Raja Sagara or KRS dam).
- During Tipu Sultan's reign, a new land revenue system was developed which initiated the growth of the **Mysore silk industry** for the first time.
- Tipu Sultan was a moral administrator. **Liquor use and prostitution** were strictly banned during his rule. Psychedelics, **such as Cannabis**, were also banned from use and cultivation.
- Tipu Sultan introduced a **new coinage system** and **calendar**.

His Struggle against British:

First Anglo-Mysore War (1767-69):

- Tipu Sultan fought alongside his father against the British in the **First Anglo-Mysore War** in 1766 when he was **15 years old**.
- At the age of 16, he led a cavalry corps in the conquest of **Carnatic in 1767**.
- He also made a name for himself during the **First Anglo-Maratha War**, which lasted from 1775 to 1779.

Second Anglo-Mysore War (1780-84):	<ul style="list-style-type: none"> The British seized the French-controlled port of Mahe in 1779, which Tipu had protected by supplying troops for its defence. Hyder Ali launched an invasion of the Carnatic in response, with the aim of driving the British out of driving the British out of Madras. Tipu Sultan successfully reclaimed Chittur from the British in December 1781. Tipu Sultan recognised the British as a new form of threat to India. By the time Hyder Ali died (December 6, 1782), Tipu Sultan had acquired sufficient military experience. The Treaty of Mangalore put an end to the Second Mysore War in 1784.
Third Anglo-Mysore War (1790-92):	<ul style="list-style-type: none"> On 28th December 1789, Tipu Sultan gathered troops in Coimbatore and launched an assault on Travancore's lines, knowing that Travancore was a British East India Company ally (according to the Treaty of Mangalore). Lord Cornwallis mobilised company and British military powers, as well as forming alliances with the Marathas and the Nizam of Hyderabad <ul style="list-style-type: none"> The company forces advanced in 1790, capturing a large portion of the Coimbatore district. Tipu launched a counter-offensive, retaking most of the territory, though the British retained control of Coimbatore. In 1791, his adversaries made gains on all fronts, with Cornwallis' main British force capturing Bengaluru and threatening Srirangapatna. Tipu Sultan harassed British supply and communication lines and implemented a scorched earth strategy of refusing the invaders local resources. Cornwallis was successful in this last attempt, as a shortage of provisions forced him to retreat to Bengaluru rather than attempt a siege of Srirangapatna.
Fourth Anglo-Mysore War and Death of Tipu Sultan: (1799)	<ul style="list-style-type: none"> In 1799, three armies marched into Mysore: one from Bombay and two from the United Kingdom, one of which included Arthur Wellesley. During the Fourth Mysore War, they besieged Srirangapatna, the capital. The British East India Company had over 26,000 troops, while Tipu Sultan's forces numbered 30,000. Tipu Sultan was killed at the Srirangapatna Fort. He was buried at the Gumbaz, next to his father's grave.

EL NINO YEAR OR NEUTRAL PHASE LIKELY IN 2023

◎ **CONTEXT:** The La Niña weather phenomenon, which entered its third year in September 2022, is unlikely to continue through 2023 as per the experts of Columbia Climate School Research Institute for Climate and Society.

◎ **ABOUT:** The La Nina Event:

- La Niña involves the **large-scale cooling of the ocean surface temperatures** in the **central and eastern equatorial Pacific Ocean** coupled with changes in the tropical atmospheric circulation (winds), pressure, and rainfall.
 - It usually has the opposite impact on weather and climate as **El Niño**.
- La Niña is characterized by **lower-than-normal air pressure** over the **western Pacific**. These low-pressure zones contribute to increased rainfall.
- La Niña years are associated with **above-average trade winds**, pushing the warmer waters towards Asia and drawing in cooler than normal water temps to the equatorial pacific.

Effects:

- Rainfall patterns
- Atmospheric pressure
- Global atmospheric circulation

- **Causes:** La Niña is caused by a build-up of **cooler-than-normal waters** in the tropical Pacific, the area of the Pacific Ocean between the Tropic of Cancer and the Tropic of Capricorn.
- Unusually **strong, eastward-moving trade winds and ocean currents bring this cold water to the surface, a process known as upwelling.**

Triple La Niña

- A **triple La Niña** or a 'triple dip' La Niña is a rare occurrence, lasting for three years in a row. It has happened only twice since 1950.
- On the contrary, the occurrence of two consecutive La Niña winters in the Northern Hemisphere is common.

Why the La Nina has continued for so long?

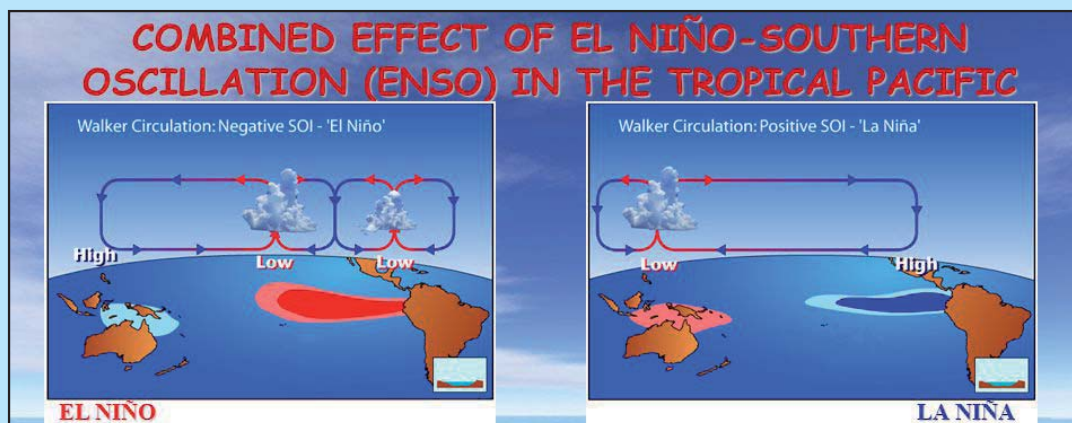
- Human induced climate change amplifies the impacts of naturally occurring events like La Niña.

Impacts on India:

- **Monsoon:** India may experience an extended monsoon lasting up to October due to La Niña.
- **Agriculture:** La Nina could have negative impacts on Indian agriculture.
 - Farmers will be at risk of losing their standing Kharif crops if it rains during this period.
 - The harvesting of the Kharif crops begins in September-end or early October. And any rain just before that would prove detrimental to the standing crops.

The El Nino-Southern Oscillation (ENSO) Mechanism:

- The combined phases of **La Nina** and **El Nino** are termed **El Nino-Southern Oscillation (ENSO)**.
- The phenomenon affects rainfall patterns, global atmospheric circulation, and atmospheric pressure across the planet.
- In the neutral state (neither El Niño nor La Niña) **trade winds** blow **east to west** across the surface of **the tropical Pacific Ocean**, bringing warm moist air and warmer surface waters towards the western Pacific and keeping the central Pacific Ocean relatively cool.



INDIA, IRAN ON DEVELOPMENT OF CHABAHAR PORT

- **CONTEXT:** Recently, Tehran's Deputy Foreign Minister for Political Affairs Ali Bagheri Kani visited India for foreign level talks on various issues.

◎ ABOUT:

- During the delegation level talks, the two sides reiterated their commitment to continue cooperation for development of the **Shahid Beheshti terminal of the Chabahar Port**.

The Chabahar Port:

- The Chabahar Port is a **key pillar of India's India-Pacific vision** to connect Eurasia with the Indian Ocean Region.
- The **Chabahar Port located in Iran** is the commercial transit centre for the region and especially Central Asia.
- Significance:**
 - The port will also be **part International North-South Transport Corridor network** connecting India.
 - Notably, the **first rail transit cargo from Russia to India** entered Iran recently through the **Sarakhs border crossing**, marking the official launch of the eastern section of the North-South railway corridor.



International North-South Transport Corridor (INSTC):

- INSTC** is India's vision and initiative to reduce the time taken for **EXIM shipments** to reach Russia, Europe, and enter the central Asian markets.
- This route connects **India and Russia through Iran and Azerbaijan**.

Why Central Asia assumes significance for India?

- Geo-strategic location, global power hub, leader in Eurasia**
- Energy hub:** Central Asia has an abundance of oil and gas deposits. The region contains vast hydrocarbon fields both on-shore and off-shore in the **Caspian Sea** which homes around **4 percent** of the world's natural gas reserves and approximately **3 percent** of oil reserves.
 - Gas** (Turkmenistan)
 - Oil, gas and uranium** (Kazakhstan)
 - Uranium and gas** (Uzbekistan)
 - Hydropower** (Tajikistan and Kyrgyzstan)
- Significant transportation hub:** The region is a major transportation hub for gas and oil pipelines and multi-modal corridors connecting China, Russia, Europe, and the IOR.

CHINA HOLDS FIRST CHINA-INDIAN OCEAN REGION FORUM

- CONTEXT:** The China International Development Cooperation Agency (CIDCA) held a meeting of the China-Indian Ocean Region Forum on Development Cooperation on November 21, 2022.

◎ ABOUT THE MEETING:

- China holds its first meeting with **19 countries** in Indian Ocean region **excluding India**.
- Theme of the meeting:** "Shared Development: Theory and Practice from the Perspective of the Blue Economy".
- Objective:** The Chinese forum is aimed at countering **India's strong influence** in the Indian Ocean region where India-backed organisations like the Indian Ocean Rim Association, (IORA), which has a membership of 23 countries have taken strong roots.

• Key Points discussed:

- ▶ China has proposed to establish a **marine disaster prevention and mitigation cooperation** mechanism between China and countries in the Indian Ocean region.
- ▶ China is ready to provide necessary **financial, material, and technical** support to countries in need.
- ▶ It will also aim for strategic Indian Ocean region with substantial investments in **ports and infrastructure** in several countries, including Pakistan and Sri Lanka.

China's trying to influence Indian Ocean region:

- China has established a full-fledged naval base in Djibouti, its first outside the country.
- It has also acquired the Hambantota port in Sri Lanka on a 99-year lease.
- Built the port at Pakistan's Gwadar in the Arabian Sea opposite India's western coast besides infrastructure investments in the Maldives.
- China is a dialogue partner in the Indian Ocean Rim Association formed in 1997.

Importance of Indian Ocean for India:

- **Influence global Trade:** The Indian Ocean region transports 75% of the world's maritime trade and 50% of daily global oil consumption.
- **Long Maritime Boundary:** With a coastline of over 7,500 km, India has a natural interest in enhancing maritime security.
- **Securing Sea lanes of Communication:** In the Indian Ocean, three major Sea Lanes Of Communication (SLOCs) play a crucial role in the energy security and economic prosperity:
- **Connectivity to the Asian Island Countries:** SLOC connecting the Persian Gulf to the Indian Ocean through the Strait of Hormuz (transporting the bulk of energy exports to major import destinations like India, ASEAN, and East Asia),
- SLOC connecting the Indian and Pacific Oceans through the **Straits of Malacca** (integral to the smooth flow of trade with ASEAN, East Asia, Russia's Far East and the US).

CENTRE'S PLEA AGAINST FORCED CONVERSION IN INDIA

- ◎ **CONTEXT:** The Ministry of Home Affairs has added that "the Right to freedom of religion does not include a fundamental right to convert people to a particular religion".

Right to Freedom of religion in India:

- The Indian Constitution allows individuals the freedom to live by their religious beliefs and practices as they interpret these.
- In keeping with this idea of religious freedom for all, India also adopted a strategy of separating the power of religion and the power of the State

• Constitutional Provisions:

- ▶ **Article 25:** Freedom of conscience and free profession, practice, and propagation of religion
- ▶ **Article 26:** Freedom to manage religious affairs
- ▶ **Article 27:** Freedom to pay taxes for the promotion of any particular religion
- ▶ **Article 28:** Freedom to attend religious instruction or worship in certain educational institutions.

What motivates people to convert?

- Conversion based on Marriage
- Conversion to uplift social status
- Conversion for monetary benefits
- Conversion to promote Illegal activities like Terrorism
- Conversion for Jobs

Issues

- Threats of forceful conversion.
- The problem of Inducement or allurement.
 - ▶ **Vulnerable Groups:** Tribals, adolescents, women, unaware people especially in Rural areas

Supreme Court Judgements on Marriage and Conversion:

- **Hadiya Judgement 2017:**
 - ▶ Matters of dress and of food, of ideas and ideologies, of love and partnership, are within the central aspects of identity.
 - ▶ Neither the State nor the law can dictate a choice of partners or limit the free ability every person to decide on these matters.
 - ▶ The principle that the right to marry a person of one's choice is integral to Article 21.
- The Supreme Court of India, in both the **Lily Thomas and Sarla Mudgal cases**, has confirmed that religious conversions carried out without a *bona fide* belief and for the sole purpose of deriving some legal benefits do not hold water.
- **Salamat Ansari-Priyanka Kharwar case of Allahabad High Court 2020:** The right to choose a partner or live with a person of choice was part of a citizen's fundamental **right to life and liberty (Article 21)**.
- **S. Puttaswamy or 'privacy' Judgment 2017:** Autonomy of the individual was the ability to make decisions in vital matters of concern to life.

Freedom of Religion laws' is currently in force in 8 states:

- Arunachal Pradesh
- Odisha
- Madhya Pradesh
- Chhattisgarh
- Gujarat
- Himachal Pradesh
- Jharkhand
- Uttarakhand

DIFFICULTY IN SETTLING THE LANGUAGE FOR COOPERATIVE FEDERALISM

- ◎ **CONTEXT:** With the recent announcement regarding the adoption of Hindi and local languages as a medium of Instruction in Educational Institutions, it still remains a subject of debate as India is a country with many languages and ethnicities in a similar State.

Let us analyse this idea with a dual perspective.

The Language status in India:

- As per the **8th schedule** of Indian constitution, there are **22 official languages** that are given official acknowledgement and support.
- **Article 343** of the Constitution of India stated that the official language of the **Union is Hindi in Devanagari script**, with official **use of English** to continue **for 15 years from 1947**.
- Later, a constitutional amendment, **The Official Languages Act, 1963**, allowed for the continuation of English alongside Hindi in the Indian government indefinitely until legislation decided to change it.

Over **700 languages** are spoken in India. However, India has **no national language**.

The Official Language of a State:

- **Part XVII** of the Indian Constitution deals with the official language in **Articles 343 to 351**.
- **Article 345** of the Constitution says "the Legislature of a State may by law adopt any one or more of the languages in use in the State or Hindi as the language or languages to be used for all or any of the official purposes of that State".

Current Provision for States on Official language:

- The Centre on its recommendation for issuing **use of Hindi** as a language of offices and working in **Non-Hindi Speaking States** has mentioned regarding **Article 344(3)**, which stipulates that 'the just claims and interests of persons belonging to the non-Hindi speaking areas in regard to the public services' shall be considered by the President.
- Though, it is **not binding** for the Non-Hindi speaking States.

Constitutional Provisions for Language in India:

- The Constitutional provisions relating to the **Eighth Schedule** occur in **Article 344 (1) and 351** of the Constitution.

Languages listed under Eighth Schedule

• Assamese	• Malayalam	• Sindhi
• Bengali	• Manipuri	• Tamil
• Gujarati	• Marathi	• Telugu
• Hindi	• Nepali	• Urdu
• Kannada	• Oriya	• Bodo
• Kashmiri	• Punjabi	• Santhali
• Konkani	• Sanskrit	• Maithili
		• Dogri

Need for a single Official language:

- To ensure Cooperative Federalism in the country.
- To make the working among the departments easier.
- To Strengthen Centre-State relations.
- To maintain law and order.

Recent Developments:

- **SWAYAM**, an open online courses platform of the Central government, has been offering some popular courses in Indian languages too.

Ten States have accepted Indian languages such as **Hindi, Kannada, Tamil, Telugu, Marathi, and Bengali** as the medium of instruction for engineering courses.

National Education policy, 2020:

- **To Increase GER to 50 % by 2035:** NEP 2020 aims to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3% (2018) to 50% by 2035. 3.5 Crore new seats will be added to Higher education institutions.
- **Promoting Regional languages in higher education:** NEP provides a framework for the education sector but is not binding on the States.
- Medical Education Minister of Madhya Pradesh has announced that the state government would soon **launch a MBBS** course in **Hindi medium**.

SC SEEKS GOVERNMENT'S RESPONSE ON EVOLVING 'PROJECT GREAT INDIAN BUSTARD' CONSERVATION PROGRAMME

CONTEXT:

The Supreme Court sought the government's response about evolving a 'Project Great Indian Bustard' conservation programme to bring attention to the peril faced by the Species.

Background:

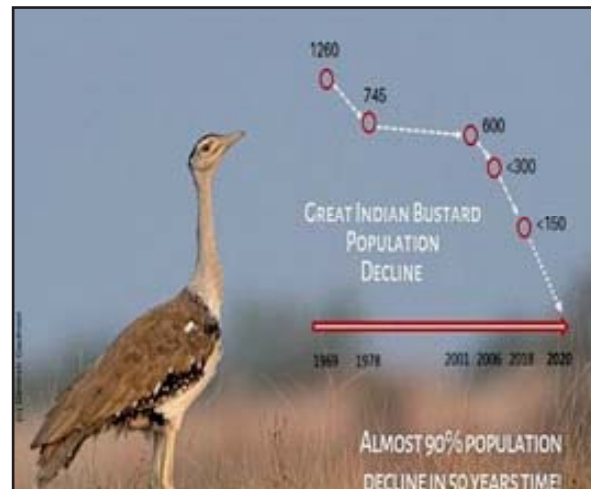
- The Great Indian Bustard (GIB) is considered India's most critically endangered bird and is protected under the Wildlife Protection Act.
- Its population of about **150** in Rajasthan accounts for **95% of its total world population**.
- The **captive breeding of GIBs** was taken up in the Desert National Park through a project executed by the Dehradun-based **Wildlife Institute of India** in 2019.

It is the **State bird of Rajasthan** and has its habitat mostly confined to the region of **Rajasthan, and Gujarat**.

◎ ABOUT

The Great Indian Bustard (GIBs):

- The Great Indian Bustard (*Ardeotis nigriceps*), is a bustard native to the **Indian subcontinent**. Bustards are large **terrestrial birds** found in dry grasslands and steppe regions.
- It is also known as the Indian Bustard; it is among the heaviest flying birds in existence.
- It is the **State bird of Rajasthan** and is considered India's most critically endangered bird.
- It is considered the flagship grassland species, representing the health of the grassland ecology.
- The GIB is now found in a small number only in western Rajasthan, while Gujarat claims to have a few females left in its **Banni Grassland Reserve**.
- **Population:** As per the last count of the GIB in 2018, there were around **127 birds** in the Desert National Park or the DNP in Rajasthan.



Protection Status:

- **International Union for Conservation of Nature Red List:** Critically Endangered
- **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):** Appendix I
- **Convention on Migratory Species (CMS):** Appendix I
- **Wildlife (Protection) Act, 1972:** Schedule 1

Reasons behind the declining population of GIBs:

- As Rajasthan shares the **international border** with Pakistan's **Sindh and Punjab** provinces, it is suspected that the GIBs might have flown across to the neighbouring country's desert.
- The GIBs in the **Thar Desert** has been facing threat to their survival because of intensive agricultural practices, laying of **power lines, and industrialization**.
- Experts have observed that the endangered birds have raised their families within the Desert National Park and outside in the rural pockets, where feed and grassland habitat is available.
- They also move in the crop fields to pick up insects and lizards and like to hide there.

The GIB- Breeding Project: The WII's team has been working on *ex-situ* breeding of GIB for the last three years. They are aiming at preserving the GIBs.

NITI AAYOG PROPOSES DECARBONISING OF INDUSTRIAL EMISSIONS

Context:

A report released by the NITI Aayog, highlights the use of Carbon Capture Utilisation and Storage (CCUS) Technology in promoting the low carbon-hydrogen economy and in removal of the CO₂ stock from the atmosphere.

Key highlight of the proposal:

- **Title:** "Policy framework of the CCUS" prepared by the NITI Aayog
- As per the report, the usage of **CCUS Technology** has a critical role to play for the country to halve CO₂ emissions by 2050.

- **Application:** This technology is used for decarbonising carbon dioxide (CO₂) from high polluting sectors such as **steel, cement, oil, gas, petrochemicals, chemicals and fertilisers.**
- The key to a successful CCUS implementation in India was to enact a policy framework that supported the creation of sustainable and viable markets for CCUS projects.
- **Suggestion:** CCUS policy should be carbon credits or incentives based, to seed and promote the CCUS sector in India through **tax and cash credits.**

Significance of the proposal:

- **Inclusion of Private sector:** The private sector is unlikely to invest in CCUS unless there are sufficient incentives or unless it can benefit from the sale of CO₂ or gain credits for emissions avoided under carbon pricing regimes.
- **Enable to track the major emitters:** Via using the inclusion of various parties, it will become easy to track the major emitter of Carbon-dioxide.

Sources of PM _{2.5} Pollutant	2016-17	2019-20
Transport	16%	30.5%
Industry & Power	36%	18%
Residential (cooking in households and slums, trash burning, cow dung burning, emission from street vendors, wood burning, etc.)	27%	15%
Wind blown Dust	21%	15%
Other sources (municipal solid waste (MSW) plants, MSW open burning, crematories, aviation sector, incense sticks, brick kilns etc)	NA	21.5%

The Carbon Capture Utilisation and Storage (CCUS) Technology:

- The technology is designed to tackle global warming by **capturing CO₂ at power stations, industrial sites or even directly from the air and permanently storing it underground.**
- Carbon sequestration describes **long-term storage of carbon dioxide** or other forms of carbon to either mitigate or defer global warming.
- It has been proposed as a way to slow the atmospheric and marine accumulation of greenhouse gases, which are released by burning fossil fuels.

There are number of technologies for sequestering carbon from the atmosphere. Some of these are:

- **Ocean Sequestration:** Carbon stored in oceans through direct injection or fertilization.
- **Geologic Sequestration:** Natural pore spaces in geologic formations serve as reservoirs for long-term carbon dioxide storage.
- **Terrestrial Sequestration:** A large amount of carbon is stored in soils and vegetation, which are our natural carbon sinks. Increasing carbon fixation through photosynthesis, slowing down or reducing decomposition of organic matter, and changing land use practices can enhance carbon uptake in these natural sinks.

Need to Capture Industrial Carbon emissions:

As the key points suggested by **Emission Gap Report 2022**, there is a dire need to address industrial pollution:

- **Problem statement:** The world is not on track to meet the targets outlined in the **2015 Paris Agreement**.
 - By 2100, the existing policies will cause a 2.8°C increase in temperature. By the end of the century, the temperature increase will only be limited to 2.4 to 2.6°C if present climate promises are implemented.
- **Suggestive Measures:**
 - **Change in system:** An urgent system-wide change and an unprecedented decrease in GHG emissions over the course of the coming years (by 2030).
 - **Emission cut:** To meet the targets set forth in the **Paris Agreement by 2030**, GHG emissions must **be cut by 45 percent.**
 - **Major areas:** The most recent study called for corrective measures in six areas, including the **production of power, the building and transportation industries, and the food and financial systems.**

- **Finance:** It predicts that 4 to 6 trillion USD would be needed to be invested annually for the world to transition to a low-carbon economy.
- **Carbon pricing:** Carbon pricing and the development of a market for low-carbon technologies are the best corrective measures.

Recent Government Interventions:

- **Nationally Determined Contributions (NDCs):** There are three goals:
 - Reducing the emission intensity of GDP, by 33-35% by 2030 from the 2005 level;
 - Achieving about 40% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030; and
 - Creating an additional carbon sink equivalent to 2.5 to 3 billion tonnes of CO₂ through additional forest and tree cover by 2030.
- **Reforms in Transport Sector:** India leapfrogged from **Bharat Stage-IV (BS-IV)** to **Bharat Stage-VI (BS-VI)** emission norms by April 1, 2020, the latter being originally scheduled for adoption in 2024.
- **India's Support to EVs:** India has taken various measures to develop and promote the EV ecosystem:
- The **remodelled Faster Adoption and Manufacturing of Electric Vehicles (FAME II)** scheme
- **Production-Linked Incentive (PLI) scheme** for Advanced Chemistry Cell for the supplier side

- **Energy Conservation Act, 2001**, was targeted at energy security through conservation and efficient energy use, and setting up the Bureau of Energy Efficiency.
- **The National Electricity Policy, 2005**, was aimed at increasing the share of electricity from non-conventional sources, and the **Compensatory Afforestation Fund Act**.

Science and Technology (GS-III)

SOUTH KOREAN LIGHT ARMED HELICOPTER (LAH) IS CHALLENGING INDIA'S LCH 'PRACHAND'

- ◎ **CONTEXT:** India and South Korea are manufacturing similar lines of products (Light Armed Helicopter), which has positioned them as competitors in the global export market.

- **The Competitors:** India's Tejas and South Korea's FA-50 Light Combat Aircraft (LAC)
- **Aim:** to get the Malaysian Light Attack Fighter contract.

Who has the upper hand?

- The South Korean aircraft appears to be having a slight advantage over the Indian LCA.
- South Korea has now also decided to accelerate the production of its Light Armed Helicopter.
- It authorized a 5.75 trillion won (US\$4.3 billion) plan to begin mass production of a homegrown light-armed helicopter (LAH) in the coming months.

India's Light Combat Helicopter (LCH):

- The LCH is the **only attack helicopter in the world** which can land and take off at an altitude of 5,000 meters with a considerable load of weapons and fuel.
- The **helicopter uses radar-absorbing material to lower radar signature** and has a significantly crash-proof structure and landing gear.
- A pressurized cabin offers protection from Nuclear, Biological and Chemical (NBC) contingencies.



- The **helicopter is equipped with a countermeasure dispensing system** that protects it from enemy radars or infrared seekers of enemy missiles.
- LCH is powered by **two French-origin Shakti engines** manufactured by the HAL.

KAI Light Armed Helicopter (LAH) of South Korea:

- **Project Type:** Light-armed helicopter
- **Manufacturer:** Korean Aerospace Industries (KAI)
- **Engine:** The helicopter is powered by two Arriel 2L2 turboshaft engines.
- **First Flight:** July 2019
- **Cruise Distance:** 411 kilometres
- **Operation time:** Two hours and 35 minutes
- **Armament:** The rotorcraft is armed with a chin-mounted 20mm Gatling-type gun.



Comparison:

KAI Light Armed Helicopter (LAH)	Light Combat Helicopter (Prachand)
Weight: 4.9-ton	Weight: 5.8-ton
Maximum speed: 275 kmph	Maximum speed: 243 kmph
Maximum Range: 857 km	Maximum Range: 500 km
Utility: Destroying Tanks; light attacks; close-air support, escort, and troop transport.	Utility: Air-to-air operations; escort operations, support of combat search and rescue operations, and anti-tank and anti-infantry operations.
Equipment: four-axis automatic flight control system (AFCS), a helmet-mounted display, a fire control system (FCS), and an anti-jamming global positioning system (GPS).	Equipment: Electro-Optical Pod consisting of a CCD camera, FLIR, Laser Range Finder (LRF), and Laser Designator (LD)
High Altitude Operations: NO	High Altitude Operations: Yes. It is based on India's unique security considerations, which are different from that of Seoul.

Challenges Related to the Defence Sector in India:

- **High Dependence on Imports:** The defence sector in India relies heavily on imports, and changing geopolitical circumstances cause it to be delayed.
- **Narrow Private Participation:** Private sector participation in the defence sector is constrained by the lack of a conducive financial framework, which means our defence production is unable to benefit from modern design, innovation, and product development.
- **Lack of Critical Technology:** Lack of design capability, inadequate R&D investment, and inability to manufacture major subsystems and components hamper indigenous manufacturing.
- **Lack of Nexus between Stakeholders:** India's defence manufacturing capability is hindered by overlapping jurisdictions between the Ministry of Defence and the Ministry of Industrial Promotion.

AtmaNirbhar India in Defence:

- Establishment of Defence Industrial Corridor
- Modernization with Indigenization
- Defense Manufacturing Ecosystem
- Indigenisation with Private Boom
- Defence Investor Cell
- Inclusion of Defence Entrepreneurs in Policy Making
- Strengthening the Economy with Strategic Independence

Important addition in the Defence Sector:

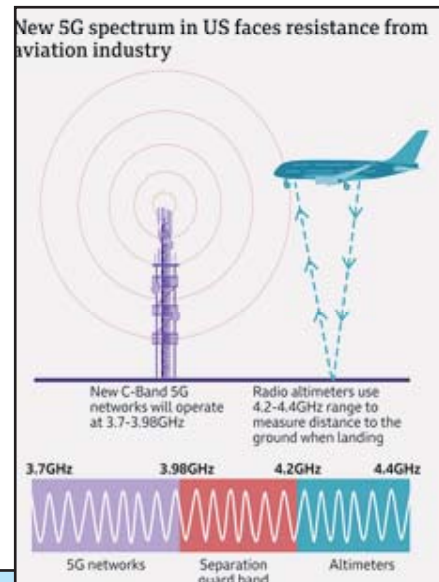
- Defence India Startup Challenge
- INS Vikrant: Aircraft Carrier
- Dhanush: Long-range artillery gun
- Arihant: Nuclear Submarine

CONCERNS AROUND 5G INTERFERENCE WITH FLIGHT OPERATIONS

- ◎ **CONTEXT:** The setting up of 5G airwave infrastructure has raised concerns about safe airline operations due to interference that these signals could cause.

Concerns around 5G interference with flight operations

- Likely interference of **5 G C-Band spectrums** with **aircraft radio altimeters**. These altimeters as well as a part of the 5G telecom services operate in the mid-C-Band frequency range.
 - ▶ A **radio altimeter** is an instrument that provides direct height-above-terrain information to various aircraft systems. **For all airborne vehicles**, an aircraft, spacecraft, or even a missile- an altimeter is crucial to gauge the altitude and the distance covered
 - ▶ For aircraft operations, the use of altimeters in 5G C-Band ensures highly precise measurements of the plane's altitude.
- The **C-Band presents a sweet spot for rolling out 5G services**, ensuring coverage as well as high bandwidth, resulting in faster internet speeds.
 - ▶ The concern is that the signal emitted by the 5G's C-Band will interfere with the signals the altimeter receives about the plane's altitude, which could impact operations during low-visibility landings or landings in bad weather.



What is C-Band?

- C-Band is a portion of the airwave spectrum and is considered the most popular for 5G connectivity. It is wave frequency ranges from about 3.3 to 4.2GHz.
 - ▶ In the US, the 5G C-Band debate is mostly around the 3.7-3.98 GHz range.
- C-Band is deemed a great fit for 5G because it offers a wide spectrum range that can be used for a faster connection than its predecessor 4G.

Department of Telecommunications (DoT) operational guidelines:

- Setting up 5G establishments a bit further away from airports.
- Lowering the power of 5G signals.
- Airline companies will be required to upgrade altimeters.

Has this been an issue globally?

- The deployment of 5G by AT&T and Verizon, in the US, has triggered concern among airlines as the telecom companies are very close to the frequencies used by on-board instruments such as radar altimeters, which operate in the 4.2-4.4 GHz range.
- US aviation authorities have reported about 85 cases of 5G waves impacting flight operations.
 - ▶ Air India had to cancel some of its flights to the US.
- This has resulted in a delay in the rollout of 5G services in the C-Band near airports.

Concerns from other industries:

- The **guard band** between the 5G telecom and broadcast services narrowing sharply.
- Broadcasters have cited **multiple incidents of "disruptions"** amid concerns over possible interference.
- There is a **possibility of potential outages** once full-scale 5G services are launched across the country.

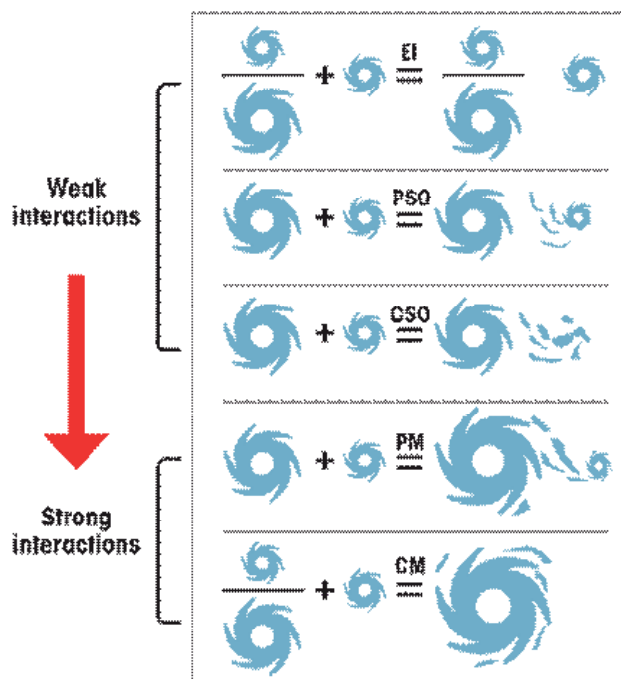
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Fujiwhara Effect

The world is seeing a rise in cyclonic formations and in cases of cyclones merging to form megacyclones, what is known as the Fujiwhara Effect.

- The Fujiwhara Effect is any interaction between tropical storms formed around the same time in the same ocean region with their centres or eyes at a distance of less than 1,400 km, with intensity that could vary between a depression (wind speed under 63 km per hour) and a super typhoon (wind speed over 209 km per hour).

Impact:

- The interaction could lead to changes in the track and intensity of either or both storms systems.
- In rare cases, the two systems could merge, especially when they are of similar size and intensity, to form a bigger storm.

Types:

- Elastic Interaction (EI): Interaction of vortices (storms) of same or different sizes, resulting in changes only in the direction of motion. This is the most commonly seen interaction.
- Partial Straining-Out (PSO): Interaction of vortices of unequal sizes. Part of the smaller vortex lost to the atmosphere.
- Complete Straining-Out (CSO): Interaction of vortices of unequal sizes. The smaller vortex completely lost to the atmosphere.
- Partial Merger (PM): Interaction of vortices of unequal sizes part of the smaller vortex merged to the bigger vortex.
- Complete Merger (CM): Interaction of vortices of same or different sizes, resulting in complete merger of both the storms.



Supreme Court launches online portal for RTI

An online portal for filing Right to Information (RTI) applications about the Supreme Court has been operationalized.

- The online portal will streamline responses of the Supreme Court under the Right to Information Act.
- Earlier, RTI applications with respect to the top court were being filed through post only.

Right to Information

- RTI means that any Indian citizen can request any information (which is supposed to be public knowledge) from the offices and departments of the state or central governments.
- The RTI Act mandates that the said offices and departments must process such requests in a timely manner.



Centre widens ED power

The Government amended a **2006 notification** to add 15 bodies to a list of **entities bound to share information** with the **Enforcement Directorate (ED)** under the **Prevention of Money Laundering Act (PMLA)**.

- **The agencies added to the list are the:**

- National Investigation Agency
- Serious Fraud Investigation Office
- State Police Department
- Regulator
- Director General of Foreign Trade
- Ministry of External Affairs
- Competition Commission of India
- Special Investigation Team
- National Intelligence Grid
- Central Vigilance Commission
- Defence Intelligence Agency
- National Technical Research Organisation
- Military Intelligence
- An inquiry authority
- Wildlife Crime Control Bureau

- Prior to this, only Director (Financial Intelligence Unit), Cabinet Secretariat (Research and Analysis Wing), Ministry of Home Affairs or National Security Council Secretariat or Intelligence Bureau, Economic Offences Wing of Central Bureau of Investigation, Chief Secretaries of State Governments, RBI, Department of Company Affairs, SEBI — were bound to share information with the ED.



Odisha's Kutia Kondh tribe

Kutia Kondh tribals's is now getting into limelight for its contribution to the millet's survival and subsequent mainstreaming.

Kutia Kondh tribe:

- The Kutia Kondhs are particularly vulnerable tribal groups (PVTGs) in Kalahandi district, Odisha.
- They live in Lanjigarh, Thuamul Rampur, Madanpur Rampur and Bhawanipatna blocks.
- The Kondhs worship 'nature' like many other tribal groups in the country.
- Kutia kondh are mostly dependent on shifting cultivation, cultivation of minor agriculture products and collection of NTFP.
- The practice of youth dormitory are though gradually losing its importance but still prevalent among Kutia kondh villages.
- Dhap, Salap baja are the important musical instruments of Kutia Kondhs.



India, France discussion on defence industrial cooperation

During the **4th India-France annual defence dialogue**, both countries discuss defence industrial cooperation with a focus on 'Make in India' and to strengthen maritime cooperation and increase the scope and complexity of bilateral exercises.

Assessing India-France Bilateral Relations:

- France was one of the first countries with which India signed a **"strategic partnership"** after the end of the **Cold War**, in January 1998.
- France was one of the very few countries to support India's decision to test **nuclear weapons** in **19+98**.
- **Defence Cooperation:**
 - Both countries have a defence dialogue at the Ministerial level.
 - The **three services** have regular defence exercises; viz.
 - ❑ Exercise Shakti (Army)
 - ❑ Exercise Varuna (Navy)
 - ❑ Exercise Garuda (Air Force)
- Recently, the Indian Air Force (IAF) has inducted **French Rafale** multi-role combat aircraft.
- There is an Agreement regarding the Provision of **Reciprocal Logistics Support**.
 - This agreement aims to help to facilitate the replenishment of fuel, rations, spares, and berthing and maintenance for the other nations' warships, military aircraft and troops during routine port calls, as well as during **Humanitarian Assistance and Disaster Relief (HADR)**.

Indian Ocean Rim Association (IORA):

IORA is a dynamic inter-governmental organisation aimed at strengthening regional cooperation and sustainable development within the Indian Ocean region through its **23 Member States** and **10 Dialogue Partners**.

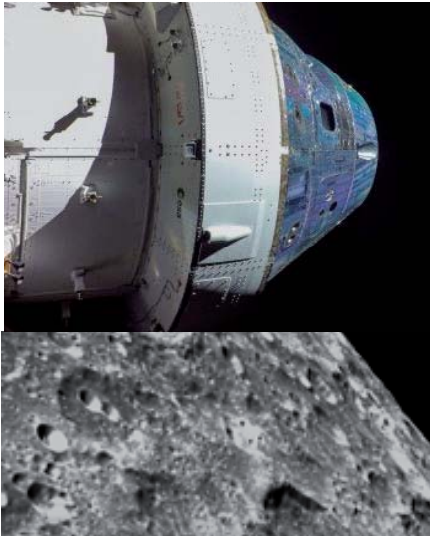



Private equity funds

IRDAI allowed insurers to invest for Private equity funds

What are Private Equity funds?

- Similar to a mutual fund or hedge fund, a private equity fund is a pooled investment vehicle where the adviser pools together the money invested in the fund by all the investors and uses that money to make investments on behalf of the fund.

	<ul style="list-style-type: none"> ➤ Difference: Unlike mutual funds or hedge funds, however, private equity firms often focus on long-term investment opportunities in assets that take time to sell with an investment time horizon typically of 10 or more years. • Although a private equity fund may be advised by an adviser that is registered with the Securities and Exchange Commission (SEC), private equity funds themselves are not registered with the SEC. • As a result, private equity funds are not subject to regular public disclosure requirements. • A private equity fund is typically open only to accredited investors and qualified clients, they include; <ul style="list-style-type: none"> ➤ Institutional investors, such as insurance companies, university endowments and pension funds, and high income and net worth individuals. • The initial investment amount for a private equity investment is often very high.
	<p>A close-up of the Moon</p> <ul style="list-style-type: none"> • NASA's Orion spacecraft has sent back close-up pictures of the Moon as the Artemis 1 mission made its closest approach to the lunar body. • This was the first time that such close images of the Moon were snapped by a "human-rated vessel since Apollo - 80 mi (128 km) above the lunar surface. <ul style="list-style-type: none"> ➤ The Apollo program had ended in 1975. • Orion is part of NASA's Artemis program. • Artemis I is an un-crewed mission and aims to test NASA's Space Launch System rocket and the Orion spacecraft before it sends humans to the Moon in future. <ul style="list-style-type: none"> ➤ If this mission is successful, NASA will then conduct a human trip around the moon in 2024, which will be known as Artemis II.
	<p>WHO renames monkeypox as mpox, citing racist stigma</p> <ul style="list-style-type: none"> • Monkeypox disease now has a new name: 'mpox'. • WHO announced the change, saying the disease's original name plays into "racist and stigmatizing language." • The first human monkeypox case was recorded in 1970. The virus was initially detected years earlier, in captive monkeys. <ul style="list-style-type: none"> ➤ Monkeypox is caused by monkeypox virus, a member of the Orthopoxvirus genus in the family Poxviridae. ➤ Monkeypox is a viral zoonotic disease that occurs primarily in tropical rainforest areas of central and West Africa and is occasionally exported to other regions.



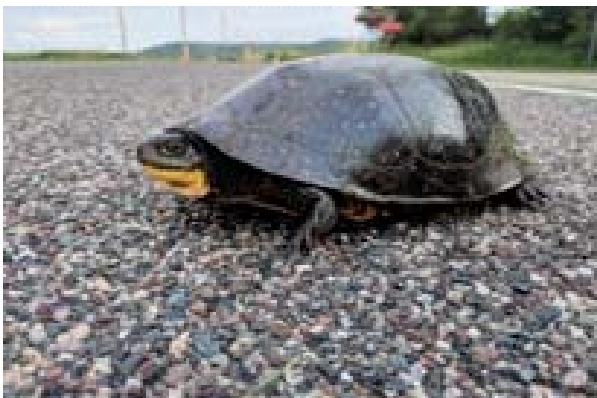
Perennial rice variety- PR23

- Farmers in China are now growing a perennial variety of rice which does not need to be planted every year.
- This cultivar of rice **doesn't have to be replanted each season** and could reap up to eight harvests.
- In 2018, researchers from Yunnan University finally developed a commercial-grade perennial variety of rice called **PR23**.



India's first private space vehicle launchpad

- Chennai-based space tech startup **Agnikul Cosmos** launched India's first private launchpad and mission control centre at the Satish Dhawan Space Centre (SDSC) in Sriharikota.
- **The facility has two parts:—**
 - the Agnikul Launchpad,
 - the Agnikul mission control centre
- It plans to launch its Agnibaan rocket from this launchpad.
 - Agnibaan is a two-stage launch vehicle that is capable of taking payloads of up to **100 kilograms** to a low-earth orbit around 700 kilometres from the surface of the Earth.
- It uses kerosene and super-cold liquid oxygen to propel itself.



India's proposal for enhance protection to Leith's softshell turtle adopted

- CITES adopted India's proposal for enhancing protection status to **Leith's softshell turtle**.
- **Aim:** The transfer of Leith's softshell turtle from **CITES Appendix II** to **Appendix I** would ensure that legal international trade in the species does not take place for commercial purposes.

About

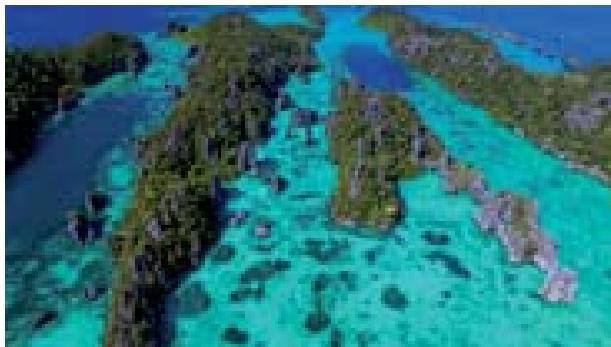
Leith's softshell turtle is a large freshwater soft-shelled turtle which inhabits rivers and reservoirs. It is **endemic to peninsular India**.

Protection Status:

- **Critically endangered** – by IUCN
- The species is listed on Schedule IV of the **Wild Life (Protection) Act, 1972**, which gives it protection from hunting and trade. '

Indonesia puts 100-island archipelago up for auction

- The development rights to an entire Indonesian archipelago with more than 100 tropical islands is set to be auctioned.



- The uninhabited Widi Reserve is based in a marine-protected zone in the "Coral Triangle" area of eastern Indonesia.
- It is spread out over 10,000 hectares (25,000 acres) north-east of Bali.
- It is described as "one of the most intact coral atoll ecosystems left on Earth".
- **Concerns**
 - Impact on local communities
 - Threat to ecosystems (rainforests, mangroves, lagoons, lakes and coral reefs)



CITES COP19 downgrades status of southern white rhino

In a major setback to rhino conservation in Africa, CITES downgrades the status of southern white rhino from Appendix I to Appendix II.

About white rhino:

- The white rhino is the third largest mammal in the world dwarfed only by the **Asian elephant and the African elephant**.
 - There are two subspecies of white rhino. Southern white rhinos and Northern white rhino.
- Southern white rhinos are found in southern Africa, ranging from South Africa to Zambia. They live in the grasslands and savannahs
- **IUCN Status:** Near Threatened



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