

CURRENT AFFAIRS

WEEKLY

WEEK: 2
DECEMBER
2022

MAINS

GS-II

- INDIA TO BE 'VOICE OF GLOBAL SOUTH'
- INDIA'S CENTRAL ASIA DISCUSSION ON SECURITY ISSUES
- INDIAN AND CHINESE SOLDIERS CLASH NEAR THE ARUNACHAL BORDER
- BILL SEEKS SETTING UP OF COMMISSION TO CURB MEDICAL COSTS
- MULTI-STATE COOPERATIVE SOCIETIES (AMENDMENT) BILL, 2022
- FOREIGN-FUNDED RELIGIOUS CONVERSIONS IN INDIA
- PRADHAN MANTRI ADI ADARSH GRAM YOJNA

GS-III

- CALL FOR ACTION AGAINST PHARMA POLLUTION
- ENERGY CONSERVATION BILL 2022 INTRODUCED IN RAJYA SABHA
- END-TO-END ENCRYPTION
- BREAKTHROUGH IN NUCLEAR FUSION ENERGY ANNOUNCED
- INDIA INEQUALITY REPORT 2022
- REVIEW OF BLUE REVOLUTION (FISHERIES SECTOR IN INDIA)

PRELIMS

ART & CULTURE

- India restoring Angkor Wat temple complex

POLITY & GOVERNANCE

- Process to appoint ad hoc judges must be less cumbersome: SC
- Centre introduces Bills to modify ST list in four States
- Recognition as national and state political party
- National Telemedicine Service

ENVIRONMENT

- Three Himalayan medicinal plants enter IUCN Red List

SCIENCE & TECHNOLOGY

- Focus on NavIC, ISRO's future satellites to get additional frequency
- Benefits of policy on rare diseases not reaching patients
- SIAM organizes technical demonstration on "Ethanol Adoption – Flex Fuel Vehicles in India"
- First urea, now DAP: High use of subsidised fertilisers raises crop yield fears
- Hot test of the scramjet engine was conducted successfully

ECONOMY

- Digital Lending Apps

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- Sri Aurobindo at 150
- Indian Navy allows women to join elite special force Marcos
- Over 1.1 cr passengers flew in 6 yrs under UDAN scheme: Aviation Ministry
- Indore Municipal Corporation files for retail green bonds
- RBI removes informal NDF restrictions on banks
- Carboplatin
- NASA's Mars Perseverance rover collects its first dust samples
- World's first cell-editing treatment
- 'Invisibility cloak' that hides human body from security cameras made in China
- Kerala's Forest department launches 'Vanikaran' project to restore natural vegetation
- Greenland was once as green as its name, oldest DNA discovery reveals
- India secures 11th position in WorldSkills Competition 2022

SPECIAL

- Wild Life (Protection) Amendment Bill, 2022

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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

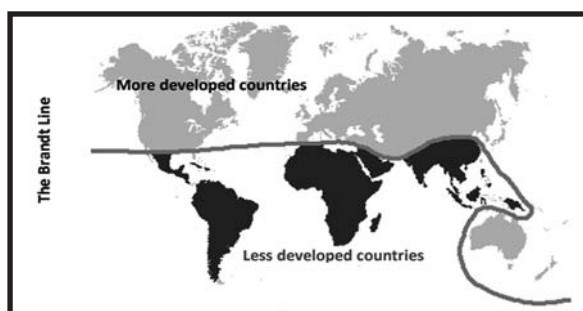
INDIA TO BE 'VOICE OF GLOBAL SOUTH'

CONTEXT:

Recently, the External Affairs Minister of India iterated the country's role as the "voice of the Global South", which is otherwise under-represented in global forums.

The Global North-South Divide

- In the 1980s, the **Brandt Line** was developed as a way of showing how the world was geographically split into relatively richer and poorer nations. According to this model:
 - Richer countries are almost all located in the Northern Hemisphere, except for Australia and New Zealand.
 - Poorer countries are mostly located in tropical regions and the Southern Hemisphere.



- Global North refers loosely to countries like the US, Canada, Europe, Russia, Australia, and New Zealand. Global South includes countries in Asia, Africa, and South America.
- Some the South countries like China and India have emerged economically, in the last few decades.
- The progress achieved by many Asian countries is also seen as challenging the idea that the North is the ideal.

Other categorizations:

- **First World, Second World, and Third World Countries:**
 - First, Second, and Third Worlds countries refer to countries associated with the Cold war-era alliances of the US, the USSR, and non-aligned countries, respectively.
 - The idea of the "third" world underlined that it was not only different from the "first" capitalist West but also the second socialist "East".

World Systems Approach:

- It emphasizes an interconnected perspective of looking at world politics. There are three major zones of production: core, peripheral and semi-peripheral.
- The **core zones** reap profits, being the owners of cutting-edge technologies – countries like the US or Japan.
- **Peripheral zones**, on the other hand, engage in less sophisticated production that is more labor-intensive.
- **Semi-peripheral zone** is in the middle including countries like India and Brazil.
- **Eastern and Western Countries:**
 - Western countries generally signify greater levels of economic development and prosperity among their people.
 - Eastern countries are considered as being in the process of that transition.

Factors that position India as the "Voice of the global south":

- **India harmonizes various interests** that are ingrained deeply in India's history and culture.
- Countries in Asia, Africa, and Latin America **trust India** to speak up for them.
- India has been at the forefront of expressing its concerns about fuel, food, and fertilizers.
- India acknowledges the fact, that sustainable development climate action and climate justice could be side-tracked due to more dominant issues.
- **Global order today is not truly reflective of the state of the world.** India has to take the lead in pushing for collective action.
- Institutions and practices created 75 years ago still dominate global decision-making.
 - India supports the idea of introducing changes, not just in the United Nations but in other international institutions as well.

How can India be the Voice of the Global South?

- Championing the Global South today would demand **more active Indian engagement with the messy regional politics within the developing world.**
- India **must also come to terms with the fact that the Global South is not a coherent group and does not have a single shared agenda.** There is much differentiation within the South today in terms of wealth and power, needs and capabilities.

- This demands a **tailored Indian policy for different regions and groups** of the developing world.
- India is eager to become a **bridge between the North and the South** by focusing on practical outcomes rather than returning to old ideological battles. If India can **translate this ambition into effective policy**, there will be **no contradiction between the simultaneous pursuit of universal and particular goals**.
- The meeting also strongly called for the early adoption of the **UN Comprehensive Convention on International Terrorism** to effectively deal with the menace.

INDIA'S CENTRAL ASIA DISCUSSION ON SECURITY ISSUES

CONTEXT:

Addressing the first meeting of the National Security Advisors (NSAs) of India and Central Asian countries, India seeks to focus on the challenge of terrorism, the situation in Afghanistan, and the importance of regional connectivity projects.

About

- **Participants:** The NSAs of India, Kazakhstan, the **Kyrgyz Republic, Tajikistan, and Uzbekistan**
- **Points discussed:**
 - The participants called for reiterating strong support for a **"peaceful, stable, and secure"** Afghanistan.
 - The security officials also emphasized that the **territory of Afghanistan** should not be used for sheltering, training, planning, or financing any terrorist acts.
- **Call for collective action:**
 - The officials agreed that the expansion of terrorist propaganda, recruitment, and fund-raising efforts have serious security implications for the region.
 - The misuse of new and emerging technologies, arms and drugs trafficking, using terrorist proxies for cross-border terrorism, abuse of cyberspace to spread disinformation and unmanned aerial systems present new challenges in counter-terrorism efforts and call for collective action.

Significance of the meet:

- This is the first time that NSAs of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan are in Delhi for a high-level security meeting, which flows from the India-Central Asia virtual summit that took place in January this year.

Central Asia:

- Central Asia is a **landlocked region**, which is located in the heart of Asia.
- Central Asia is composed of the 5 post-soviet countries: **Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, and Tajikistan**.
- The countries are also known as **5 "Stans"** due to the same ending in their names.
- It is bounded in the north by Russia and in the south by Iran, Afghanistan, and China.

Why does Central Asia assume significance for India?

- **Geostrategic location:** Central Asia forms a part of India's extended neighborhood. Its geographical proximity, strategic location, and historical linkages make it an important partner for New Delhi.
- **Energy:** Central Asia is significant for India as it has an abundance of oil and gas deposits.
- **Global power hub:** Strategically, Central Asia is emerging as the next high-stakes competition ground for global powers, hence, it would behoove India to pay closer attention.
- **Significant transportation hub:** Central Asia is a major transportation hub for gas and oil pipelines and multi-modal corridors connecting China, Russia, Europe, and the IOR.

Recent developments:

- **India-Central Asia Dialogue:** As a part of moving India's engagement with the region forward, the first India-Central Asia Dialogue was held in Samarkand, Uzbekistan on 13 January 2019. The participants included India, the five Central Asian republics, and Afghanistan. The second India-Central Asia Dialogue was hosted virtually in October 2020.

Connectivity Initiatives:

- **TAPI Pipeline:** The long-delayed Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline, backed by the Asian Development Bank (ADB), was first proposed in the mid-1990s and all four actors officially signed an intergovernmental agreement in 2010.
- **Chabahar port:** The Chabahar port that was recently made partially operational gives New Delhi direct land access to CA.
- **International North-South Transport Corridor (INSTC):** In the last few years, India has invested

in projects such as the International North–South Transport Corridor (INSTC). India sees the INSTC as an import-export route to Russia, Europe, and Central Asia.

- ▶ Engagement with the region in 2020 saw a clear focus on issues of regional economic development, connectivity, and security — apart from the immediate need of dealing with the pandemic.
- ▶ Among the highlights was the announcement of an additional 1 billion USD Line of Credit extended by India for priority development projects in energy, healthcare, connectivity, IT, agriculture, education, etc.

INDIAN AND CHINESE SOLDIERS CLASH NEAR THE ARUNACHAL BORDER

CONTEXT:

Recently, the Indian and Chinese soldiers were engaged in a face-off along the Line of Actual Control (LAC) in the Tawang sector of Arunachal Pradesh, which again ignited the clashes between India and China over the disputed region in the Arunachal border.

About the issue:

- **Location:** Tawang Sector in India's northeastern territory of Arunachal Pradesh, a remote, inhospitable region that borders southern China.
- **Outcome:** Soldiers from both sides sustained minor injuries in the face-off.
- In certain areas along the LAC in the **Tawang sector**, there are areas of differing perception, wherein both sides patrol the area up to their claim lines. This has been the trend since 2006.
- The clash occurred as a large PLA patrol came across the Indian side in the region.

*China recently complained about India's growing closeness with the United States, including in the realm of military cooperation. This month, the U.S. Army's 11th Airborne Division held exercises with their Indian counterparts in exercises known as **Yudh Abhyas**.*

Marking the India-China border:

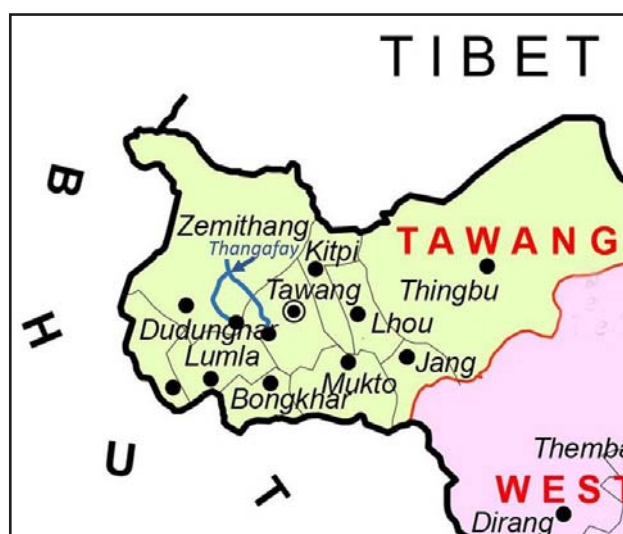
- The border between India and China is not clearly demarcated throughout.
- This district is situated in the westernmost part of Arunachal Pradesh.

- Along certain stretches of its 3,488 km **length**, there is no mutually agreed **Line of Actual Control (LAC)**.
- India, following Independence, believed it had inherited firm boundaries from the British, but this was contrary to China's view.
- China felt the British had left behind a disputed legacy on the boundary between the two newly formed republics.
- The India-China border is divided into **three sectors**:
 - ▶ **Western:** The boundary dispute in the Western Sector pertains to the Johnson Line proposed by the British in the 1860s that extended up to the Kunlun Mountains and put Aksai Chin in the then princely state of Jammu and Kashmir.
 - ▶ **Middle:** In the Middle Sector, the dispute is a minor one. It is the only one where India and China have exchanged maps on which they broadly agree.
 - ▶ **Eastern:** The disputed boundary in the Eastern Sector of the India-China border is over the **McMahon Line**.

The reason behind such face-offs:

- **Overlapping claims:** Face-off and stand-off situations occur along the LAC in areas where India and China have overlapping claim lines.
- **Differing perception:** The LAC has never been demarcated. Differing perceptions are particularly acute in around two dozen spots across the Western (Ladakh), Middle (Himachal Pradesh and Uttarakhand), Sikkim, and **Eastern (Arunachal Pradesh) sectors of the India-China border**.

The Tawang region:



- The area of this district is approximately 2,172 Sq.km, bounded by Tibet (China) to the north, Bhutan to the southwest, and Sela ranges separated from West Kameng district in the east.
- The inhabitants of this district are all of the **Monpa tribe**. The Monpa belongs to the **Mongoloid stock**.
- The **Tawang Monastery** is one of the most important elements in the social and religious life of the Monpa.
- The Monpas are Buddhist by religion and religious beliefs and practices are centered around the Tawang Monastery.

How the two countries are working towards strengthening security?

India	China
<ul style="list-style-type: none"> • Stronger Indian ties with its so-called Quad allies — the US, Japan, and Australia • Major modernization of its armed forces <ul style="list-style-type: none"> ➤ construction of 'modular, temperature-controlled and relocatable habitats' ➤ technical storage facilities for 450 tanks and howitzers ➤ high-tech '3D Printing' construction of permanent defenses • Closer ties with NATO powers 	<ul style="list-style-type: none"> • China has sought to strengthen its ties with Pakistan • China's development of infrastructure close to the disputed LAC

BILL SEEKS SETTING UP OF COMMISSION TO CURB MEDICAL COSTS

CONTEXT:

Amidst the rising cost of medical treatment in India, a private member's bill has been introduced in Rajya Sabha, which seeks to set up a National Commission to control "medical inflation" in the country.

Background

The medical expenditure in India: (The Numbers)

- India's total health expenditure went down from 3.9 per cent of the Gross Domestic Product (GDP) in 2013-14 to 3.2 per cent in 2018-19- *latest national health estimates*
- The Union government's expenditure on healthcare went down to 1.28 per cent of the GDP in 2018-19 from the previous year's figure of 1.35 per cent.

Out-of-pocket expenditure:

- These expenditures are borne directly by a patient where insurance does not cover the full cost of the health good or service.
- They include cost-sharing, self-medication, and other expenditure paid directly by private households.
- The total healthcare expenditure has increased from 29

per cent in 2014-15 to 40.6 per cent in 2018-19.

- India witnessed the highest medical inflation rate of 14 percent **among Asian countries** in the year 2021.
- The cost of medical treatment in India went up by 7.21 per cent- *Ministry of Statistics and Programme Implementation*
- As of now, the out-of-pocket expenditure of an individual for healthcare is **63 per cent** in India.

What is medical Inflation?

- Medical inflation can refer to a situation where there is an increase in the average and unit cost of healthcare services over a period. Alternatively, it can refer to an increase in both unit cost and utilization cost of services.

Causes:

- **Changes in healthcare availability and access (demand and supply)** can be considered one of the primary causes of rising medical inflation.
- Consumer behavior is also a motivating factor for change in the usage of services per person.

The proposal (National Commission for medical inflation)

- **The Directives Principles of the Constitution** mandate the state to **ensure health to all**.
- Also, the **Right to Health** under Article 21, gives backing for the Bill proposed, to set up the National Commission to reduce **out-of-pocket expenditure**.
- The proposed Commission should also be tasked with;

- standardizing the prices of essential medicines,
- medical diagnostic tests,
- pathological tests and all other relevant medical and
- allied services across the country

Why does Public Health matter?

- Public health promotes and protects the health of people and the communities where they live, learn, work and play.
- Public health works to track disease outbreaks, prevent injuries and shed light on why some of us are more likely to suffer from poor health than others.

What are the loopholes in present health insurance coverage in India?

- **Uncovered population, ignored segment**
- **Out of Budget insurance**
- **Affordable goes to BPL:** Affordable contributory products such as ESIC, and Government subsidized insurance including PMJAY are closed products. They are not available to the general population due to the risk of adverse selection.

Health insurance policies in India:

- **PMJAY (Ayushman Bharat: Pradhan Mantri Jan ArogyaYojana):** It was launched as the world's largest health scheme with an aim to serve a population equal to 27-28 European countries.
- **RashtriyaSwasthyaBimaYojana (RSBY):** It provides fully subsidized comprehensive secondary and tertiary healthcare packages with annual coverage of Rs. 5 lakhs per family on a floater basis.
- **Private voluntary health insurance (PVHI) schemes:** PVHI is a contributory and voluntary scheme.
 - These are retail insurance products with coverage for nearly 11.5 crore persons.
 - PVHI are broad of two **types — individual/family or group business**(excluding Government).
 - The former is targeted by individuals and families, as the name suggests, and covers 4.2 crore persons.

CONTEXT:

The government has recently introduced the **Multi-State Cooperative Societies (Amendment) Bill, 2022**, to improve governance and bring transparency & accountability. The Bill aims to amend the **MultiState Cooperative Societies (MSCS) Act, 2002**.

What are multi-state cooperatives?

- **They are societies** that have operations in more than one State, for instance, a farmer producers Organisation that procures grains from farmers from multiple states.
- At present, India has more than 1,500 multi-State cooperative societies, with the highest number being in Maharashtra.
- The MSCS Act 2002 was passed to govern such cooperatives whose members and areas of operation are spread across more than one state.

What are the issues with the cooperative sector?

- **Issues regarding trust:** This has brought MSCSs under multiple controls from the Centre.
- **Monitoring:** Monitoring from much above, takes a top-down approach as opposed to a grassroots one.

What does the Bill seek to change?

- **To plug Loopholes in the MSCS Act:** Bill seeks to amend the 2002 law for more "transparency" and "ease of doing business".
- To **strengthen governance**, reform the electoral process, improve the monitoring mechanism, and ensure ease of doing business in multi-State cooperative societies.
- To **improve the composition of boards** and ensure financial discipline, besides enabling the raising of funds in the multi-State cooperative societies.
- **Creation of a central Cooperative Election Authority:** The Bill provides for the creation of a central Cooperative Election Authority to supervise the electoral functions of the MSCSs.
- Its **composition:**
 - A chairperson
 - vice chairperson
 - up to three members appointed by the Centre
- **Insertion of a new Section** related to the "establishment of the Cooperative Rehabilitation, Reconstruction and Development Fund" for the revival of "sick multi-state cooperative societies".
- **The merger of "any cooperative society"** into an existing multi-state cooperative society.

MULTI-STATE COOPERATIVE SOCIETIES (AMENDMENT) BILL, 2022

Issues in the Bill

- **Misuse of power:** The Bill may lead to "the concentration of power of the Centre", which could impact the "autonomy" of MSCSs and create the potential for "misuse".
- **Encroachment:** Bill's provisions **encroach on the rights of State governments**. It infringed on the cardinal principle of autonomous functioning as provided in Article 43B of the Constitution.

Related Constitutional Provisions:

- **97th Constitutional Amendment Act 2011**
- The right to form cooperative societies is a **fundamental right (Article 19)**.
- New Directive Principle of State Policy on the Promotion of Cooperative Societies (**Article 43-B**).
- A new Part IX-B to the Constitution is titled "**The Co-operative Societies**" (**Articles 243-ZH to 243-ZT**).
- **Creation of a new Ministry of Cooperation** – which gave more acknowledgment to cooperative societies.

Ministry of Cooperation:

- The Union Ministry of Cooperation was formed in 2021, its mandate was looked after by the Ministry of Agriculture before.
- **Objectives of creation of the new ministry:**
 - To realize the vision of "**Sahakar se Samridhi**" (prosperity through cooperation).
 - To streamline processes for "**Ease of doing business**" for co-operatives and enable the development of **Multi-State Co-operatives (MSCS)**
 - To provide a separate administrative, legal, and policy framework for strengthening the cooperative movements in the country.
 - To deepen the cooperative as a true people-based movement reaching up to the grassroots level.

FOREIGN-FUNDED RELIGIOUS CONVERSIONS IN INDIA

CONTEXT:

A PIL filed in the Supreme Court has mentioned that women and children are the main targets of "foreign-funded" religious conversion in India.

About

Key-points highlighted in the Plea

- **Review the rules** made under the **Foreign Contribution Regulation Act (FCRA)** for foreign-funded NGOs and individuals to curb alleged activities related to religious conversions.
- It points at the **legal vacuum on the issue** and how it has led to the deployment of "unethical predatory conversion strategies" to convert socially and economically backward citizens.
- **Take stringent steps to control funding through hawala** and other routes to further religious conversions.

Methods used for fraudulent religious conversion:

- Intimidation
- Threatening
- Deceivingly luring through gifts and monetary benefits
- Superstition (Black Magic' Miracles)

- The center must step to **confiscate 'Benami' properties** and disproportionate assets of persons and institutions involved in "fraudulent religious conversion".
- It also points out that; **women and children are the main targets** of foreign-funded missionaries and conversion groups.
 - The States have not taken appropriate steps to control religious conversion in the spirit of **Article 15(3)**.
 - The situation is alarming as many individuals and organizations are carrying mass conversion of socially and economically **underprivileged SCs-STs**.

What is Religious Conversion?

- Religious conversion is the **adoption of a set of beliefs identified with one particular religious** denomination to the exclusion of others.

Do States have laws on conversions?

- In post-independent India, Odisha became the first State to enact a law restricting religious conversions, which later became a model framework for other states. **Odisha's 1967 Act**
- Later, Madhya Pradesh brought in the Madhya Pradesh Dharma Swatantraya Adhiniyam (1968).
- More than **ten Indian States** have passed laws prohibiting certain means of religious conversions- Arunachal Pradesh (1978), Gujarat (2003) Chhattisgarh

(2000 and 2006), Rajasthan (2006 and 2008), Himachal Pradesh (2006 and 2019), and Tamil Nadu (a law was enacted in 2002, but repealed in 2004), Jharkhand (2017), Uttarakhand (2018), Uttar Pradesh (2021), and Haryana (2022).

What is the Status of Anti-Conversion Laws in India?

- **Constitutional Provision:** The Indian Constitution under **Article 25** guarantees the freedom to profess, propagate, and practice religion, and allows all religious sections to manage their own affairs in matters of religion, subject to public order, morality, and health.
- However, no person shall force their religious beliefs and consequently, no person should be forced to practice any religion against their wishes.

Are there any existing Central laws?

- There has been '**no central legislation**' restricting or regulating **religious conversions**.
- However, since 1954, on multiple occasions, **Private Member Bills** have been introduced in (but never approved by) Parliament, to regulate religious conversions.
- Further, in 2015, the Union Law Ministry stated that Parliament does not have the legislative competence to pass anti-conversion legislation.

Issues Associated with Anti-Conversion Laws:

- **Uncertain and Vague Terminology:** The uncertain and vague terminology like misrepresentation, force, fraud, and allurement presents a serious avenue for misuse.

Supreme Court Judgements on Marriage and Conversion:

- **Hadiya Judgement 2017:** Matters of dress and of food, ideas, ideologies, 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 of 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.
- **S. Puttaswamy or 'privacy' Judgment 2017:** The autonomy of the individual was the ability to make decisions in vital matters of concern to life.
- **Antithetical to Minorities:** Another issue is that the present anti-conversion laws focus more on the prohibition of conversion to achieve religious freedom.
- **Antithetical to Secularism:** These laws may pose a threat to the secular fabric of India and the international perception of our society's intrinsic values and legal system.

PRADHAN MANTRI ADI ADARSH GRAM YOJNA

CONTEXT:

Recently, the Ministry of Tribal Affairs has revamped the existing Scheme of 'Special Central Assistance to Tribal Sub-Scheme (SCA to TSS)' with the nomenclature '**Pradhan Mantri Adi Adarsh Gram Yojna (PMAAGY)**', for implementation during 2021-22 to 2025-26.

About PMAAGY:

- **Aim:**
 - To transform villages with significant tribal populations into '**model villages (Adarsh Gram)**' covering about the population of 4.22 crore (About 40% of the total Tribal Population).
 - To achieve integrated **socio-economic development** of selected villages through a convergence approach.
 - It is envisaged to cover 36,428 villages having at least **50% tribal population** and 500 STs across States / UTs with notified STs.
- **Key provisions:**
 - **Planning:** It includes preparing **Village Development Plan** based on the needs, potential, and aspirations.
 - **Focus group:** It also includes maximizing the coverage of individual/family benefit schemes of the Central / State Governments and improving the infrastructure in vital sectors like health, education, connectivity, and livelihood.
 - **Sectors covered:** It will mitigate gaps prominently in **8 sectors of development** Road connectivity (Internal and Intervillage /block), Telecom connectivity (Mobile /internet), Schools, Anganwadi Centres, Health Sub-Centre, Drinking water facility, Drainage, and solid waste management.
 - **Fund allocation:** A sum of Rs20.38 lakh per village as '**Gap-filling**' has been provisioned for approved activities including administrative expenses under PMAAGY.
 - Besides States / UTs are encouraged for convergence of resources as **Central / State Scheduled Tribe Component (STC) funds** and other financial resources available with them for saturation of gaps in the villages identified under PMAAGY.

Special Central Assistance to Tribal Sub-Scheme (SCA to TSS):

- Special Central Assistance to Tribal Sub Scheme (SCA to TSS) is part of the **Umbrella Scheme** for Development of Scheduled Tribes which is now a '**Core of the Core Scheme**.'
- ▶ The core of the core scheme includes the '**umbrella scheme for development of scheduled castes, umbrella scheme for development of minorities, and the Mahatma Gandhi National Rural Employment Generation Scheme.**'
- **Objective:** It supplements the efforts of State Governments for the development and welfare of tribal people by extending Special Central Assistance as an additive to the **State Tribal Sub-Plan (TSP)**.

Other Government Initiatives for Tribals:

- **Van Bandhu Kalyan Yojana (VKY)** aims at creating enabling environment for the need-based and outcome-oriented holistic development of the tribal people.
- **Van Dhan Scheme:** The scheme will be implemented through the Ministry of Tribal Affairs and TRIFED as Nodal Agency at the National Level.
- At the State level, the State Nodal Agency for MFPs and the District collectors are envisaged to play a pivot role in scheme implementation at the grassroots level.
- Locally the Kendras are proposed to be managed by a Managing Committee (an SHG) consisting of representatives of Van Dhan SHGs in the cluster.

CALL FOR ACTION AGAINST PHARMA POLLUTION

CONTEXT:

According to a research paper, **Pharmaceutical Pollution** is an overlooked but urgent issue that needs coordinated action from across the pharmaceutical, healthcare, and environmental sectors.

Details:

- The research paper highlighting the important issues of Pharmaceutical Pollution was published in the journal The Lancet Planetary Health.
- Almost half or 43% of the world's rivers are contaminated with **Active Pharmaceutical (API) Ingredients** in concentrations that can have disastrous ramifications on health.

Active Pharmaceutical (API) Ingredients:

- **Active ingredients** are the substances in drugs that are responsible for the beneficial health effects experienced by consumers.
- The active ingredient in a pharmaceutical drug is called an **active pharmaceutical ingredient (API)**.
- The active ingredient in a biological drug is called a **bulk process intermediate (BPI)**.

What is Pharmaceutical Pollution?

- It is mainly a form of water pollution, caused by pharmaceutical drugs and their molecules which reach the aquatic environment (groundwater, rivers, lakes, and oceans) through wastewater.

Factors resulting in pharmaceutical Pollution	Impact of Pharmaceutical Pollution
<ul style="list-style-type: none"> • Drug Usage Behaviour (Ingested and Expelled) • Effluents from pharmaceutical manufacturing • Aging infrastructure (such as water treatment plants which cannot filter out too small molecules) • Sewage overflows (drugs in urine and excreta) • Agricultural runoff (antibiotic use in livestock) 	<ul style="list-style-type: none"> • Effects on Fish and Aquatic Life • Disruption in Sewage Treatment Processes • Effect on Drinking Water • Long-term Effects on the Environment • Effects on Wildlife • Antibiotic Resistance

About the status of pharmaceutical pollution in India:

- **Bulk Drug Capital of India:** In India, the dominant pharma industries are located in the city of Hyderabad (known as the 'Bulk Drug Capital of India').
 - ▶ Every third of the antibiotic manufacturing industries examined by the Himachal Pradesh Pollution Control Board violate the discharge limits prescribed for **Common Effluent Treatment Plants (CETP)**.
 - ▶ The groundwater is highly contaminated in the regions where industries are situated.
- **World's Third-Largest Producer:** India is the world's third-largest producer of pharmaceuticals, in which about 3000 drug companies and about 10500 manufacturing units are involved.
 - ▶ Pharmaceutical production has been considered one of the most polluting industries in various parts of India.

- **Multi-Drug Resistance Infections:** It has been estimated that about 60000 newborns die annually in India because of multidrug-resistance infections, where pharmaceutical water pollution with antimicrobial drugs is responsible for that.

Solutions:

- Investment in public education on the proper disposal of drugs
- Tougher Regulations to limit large-scale medicine flushing in hospitals
- Additional research to assess the potential human effects of pharmaceutical pollution.
- Limiting bulk purchases will ensure only the required amount is supplied
- Proper trashing must be preferred over flushing

Government Initiatives:

- **National Action Plan for Antimicrobial Resistance 2017:** It was proposed to tackle the problem related to limits on antibiotics in industrial waste.
- **Zero Liquid Discharge Policy:** Central Pollution Control Board (CPCB) has introduced guidelines to various pharma industries to achieve zero liquid discharge.
- **Continuous Monitoring of Effluents:** The Ministry of Environment, Forest, and Climate Change (MoEFCC) has also announced that industries must install devices to monitor the effluent continuously.

ENERGY CONSERVATION BILL 2022 INTRODUCED IN RAJYA SABHA

CONTEXT:

In order to address the transition from fossil fuel to non-fossil fuel capacity in India, the Energy Conservation (Amendment) Bill, 2022 has been introduced in Rajya Sabha.

Key Highlights of the Bill:

- The Bill amends the **Energy Conservation Act, 2001** to empower the central government to specify a carbon credit trading scheme.
- Designated consumers may be required to meet a proportion of their energy needs from non-fossil sources.
- The Energy Conservation Code for buildings will also apply to office and residential buildings with a connected load of 100 kilowatts or above.
- Energy consumption standards may be specified for vehicles and ships.

Need for the Bill:

- **For Action against Climate change:** Efforts towards energy conservation and efficiency gains are among the key instruments envisaged for climate change mitigation.
- **To reduces, greenhouse gas emissions:** Efforts on these fronts lower the energy generation requirement, and thereby reduce greenhouse gas emissions.

Key Features:

- **Carbon credit trading:** The Bill empowers the central government to specify a carbon credit trading scheme.
 - ▶ Carbon credit implies a tradeable permit to produce a specified amount of carbon dioxide or other greenhouse emissions.
 - ▶ The central government or any authorised agency may issue carbon credit certificates to entities registered and compliant with the scheme.
- **Obligation to use non-fossil sources of energy:** The Act empowers the central government to specify energy consumption standards.
 - ▶ The Bill adds that the government may require designated consumers to meet a minimum share of energy consumption from non-fossil sources.

Designated consumers include:

- Industries such as mining, steel, cement, textile, chemicals, and petrochemicals,
- Transport sector including Railways, and
- Commercial buildings, as specified in the schedule.
- **Energy conservation code for buildings:** The Act empowers the central government to specify Energy Conservation Code for buildings.
- The code prescribes energy consumption standards in terms of area.
- The Bill amends this to provide for an 'Energy Conservation and Sustainable Building Code'.
- **Standards for vehicles and vessels:**
- Under the Act, energy consumption standards may be specified for equipment and appliances which consume, generate, transmit, or supply energy.
- The Bill expands the scope to include vehicles (as defined under the Motor Vehicles Act, 1988), and vessels (including ships and boats).
- **Composition of the governing council of BEE:** The Act provides for the setting up of the Bureau of Energy Efficiency (BEE).
- **These include:**
 - ▶ Secretaries of six departments,
 - ▶ Representatives of regulatory authorities such as the Central Electricity Authority, the Bureau of Indian Standards, and

- Up to four members representing industries and consumers.

Key Issues:

- **Lack of proper classification:** The Ministry of Power does not have the expertise to regulate carbon trading schemes.
- **Lack of Inclusion of market regulators:** A further question is whether the market regulator for carbon credit trading should be specified in the Act.
- **The flexibility of carbon certificates:** The Bill does not specify whether these certificates will be interchangeable.
- **Fails to address stakeholders' needs:** Designated consumers must meet certain non-fossil energy use obligations. Given the limited competition among discoms in any area, consumers may not have a choice in the energy mix.

END-TO-END ENCRYPTION

CONTEXT:

Recently, Apple has announced, that it will be increasing the number of data points protected by End-to-End Encryption (E2EE) on iCloud from 14 to 23 categories.

What is end-to-end encryption?

- **End-to-end encryption (E2EE)** is a secure communication process that prevents third parties from accessing data transferred from one endpoint to another.
- The communication cannot be read or altered while in transit by an internet service provider (ISP), an application service provider, a hacker, or any other person, group, or service.
- Only the intended recipient can decrypt the data in an E2EE transaction since it is encrypted on the sending system or device.
- **Data encryption** is the process of using an algorithm that transforms standard text characters into an unreadable format.

Usage of end-to-end encryption

- **Secure communications:** Messaging apps like Signal WhatsApp, iMessage, and Google messages use end-to-end encryption to keep conversations between their users private.
- **Password management:** Password managing service providers use E2EE to protect a user's passwords.
- **Data storage:** Storage devices often provide E2EE at rest. However, service providers can also offer E2EE in transit in a cloud storage setting, safeguarding users' data from anyone, including the **cloud service provider**.

Mechanism:

- The cryptographic keys **used to encrypt and decrypt the messages** are stored on the endpoints.
- The process of end-to-end encryption uses an algorithm that transforms standard text into **an unreadable format**.
- This format can only be unscrambled and read by those **with the decryption keys, which are only stored on endpoints and not with any third parties** including companies providing the service.

Benefits of End-to-End Encryption	Disadvantages of E2EE
<ul style="list-style-type: none"> • Security in Transit • Tamper-Proof • Industries are bound by regulatory compliance laws that require encryption-level data security. • Safety from Third Parties 	<ul style="list-style-type: none"> • Law Enforcement and Surveillance Concerns • No Protection to Metadata • Complexity in Defining the Endpoints • Not future-proof • Ledger is Still Available

BREAKTHROUGH IN NUCLEAR FUSION ENERGY ANNOUNCED

CONTEXT:

Researchers at the Lawrence Livermore National Laboratory in the U.S. have announced a major advance in the long-running quest to harness energy from nuclear fusion.

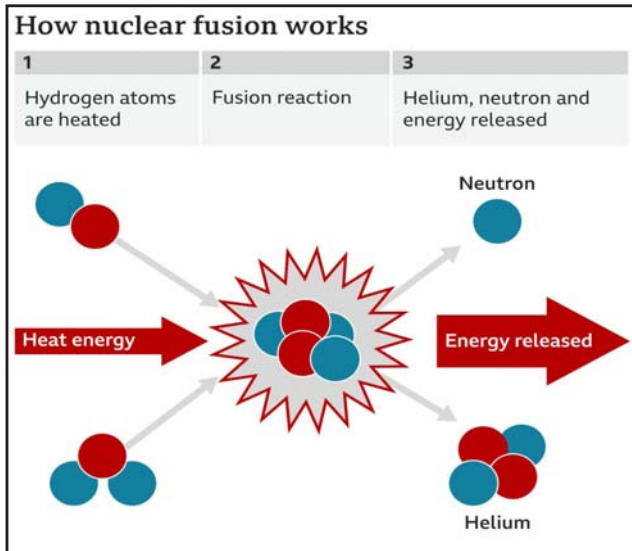
Details:

- The researchers have for the first time produced more energy in a fusion reaction than was used to ignite it.
- They are referring to it as something called **net energy gain**.
- The researchers have used **lasers to produce temperatures** multiple times hotter than the center of the sun to **create an extremely brief fusion reaction**.

What is Nuclear Fusion?

- Nuclear fusion is the process whereby nuclei join together into one nucleus. The fusion of two atomic nuclei into one nucleus is **not possible under standard temperature and pressure**.

- It results in a subsequent **release of huge amounts of energy**.



- The **net energy gain** is of immense importance because **fusion happens at such high temperatures and pressures that it is incredibly difficult to control**.
 - The fuel does not want to stay hot -- it wants to leak out and get cold.
 - Containing it is an incredible challenge.
- Related Initiatives:**
- **International Thermonuclear Experimental Reactor (ITER) Assembly:** It aims to build the world's largest tokamak to prove the feasibility of fusion as a large-scale and carbon-free source of energy. It is based in France.
 - **China's Artificial Sun: The Experimental Advanced Superconducting Tokamak (EAST)** device designed by China replicates the nuclear fusion process carried out by the sun.
 - **ITER-India** is a special project under Institute for Plasma Research. It is governed by the Empowered Board, which is chaired by the Secretary of, the **Department of Atomic Energy (DAE)**.

INDIA INEQUALITY REPORT 2022

CONTEXT:

The report titled '*India Inequality Report 2022: Digital Divide*' released by Oxfam India shows that the **growing inequalities based on caste, religion, gender, class, and geographic location are being replicated in the digital space in India.**

Key Highlights of the report:

- **Rural-Urban Divide:**
 - Only 31 percent of the rural population uses the Internet compared to 67 percent of their urban counterparts
 - Maharashtra has the highest internet penetration, while Bihar has the lowest.
- **Religion and Caste wise Divide:**
 - Sikhs have the highest likelihood of having a computer followed by Christians, Hindus, and lastly Muslims.
 - The tendency to use formal financial services is lowest for ST households, followed by SC households and OBC households.
- **Gender Divide:**
 - Women constitute only one-third of internet users in India

Significance of the development

Advantages of Nuclear Fusion

- Abundant energy
 - Sustainability
 - No emission of CO₂
 - No long-lived radioactive waste
 - Limited risk of proliferation
 - No risk of meltdown
- In the future it may **produce nearly limitless, carbon-free energy**, displacing fossil fuels and other traditional energy sources.
 - Fusion energy systems may help to **tackle climate change and energy security**.

- 61% of men-owned mobile phones compared to just 31 % of women in 2021
- ◉ **Indian Women internet users:**
 - Indian women are 15 percent less likely to own a mobile phone and 33 percent less likely to use mobile internet services than men.
 - Women constitute only one-third of internet users in India.
 - **India's position globally:** In Asia-Pacific, India fares the worst with the widest gender gap of 40.4 percent.
- ◉ **Division because of poverty:**
 - The chances of having a computer are higher with higher levels of education as well as income.
 - The likelihood of a digital payment by the richest 60 per cent is four times more than the poorest 40 per cent in India.

Determinants of the Digital Divide

- Low literacy and income levels
- Geographical restrictions
- Lack of motivation to use technology
- Lack of access to technology
- Digital illiteracy

What is Digital Divide?

- ◉ The digital divide refers to the **gap between demographics and regions** that have access to **modern information and communications technology**, and those that don't or have restricted access.

Challenges associated with the Digital divide in India:

- ◉ **Geographical Diversity:** Rural India is still deprived of the facilities of urban India because of its geographical location.
- ◉ **Illiteracy and Poverty:** A large part of the population is fighting for its daily basic needs. They do not bother about high-speed devices and digitization. They are more worried about food and shelter.
- ◉ **Population:** It is a challenge for a developing country to serve a population of 1.30 billion uniformly.
- ◉ **Lack of Participation:** It is observed that often the rural people are not very much attracted to web-based E-Governance services for various reasons.

Recommendations in the Report:

- ◉ Bridge India's current income inequality by **improving the income of the poor**.

Government Initiatives to bridge digital divide:

- Digital India Initiative
- Digital Payments
- Jan-Dhan-Aadhaar-Mobile (JAM) trinity:
- Bharat Net
- PM e-VIDYA
- Optical Fibre Network (NOF-N)
- Digital Mobile Library

- ◉ The most basic step toward bridging the digital divide is **ensuring the availability of the internet**.
- ◉ To ensure **universal access** to internet connectivity, it has to be **affordable for the masses**.
- ◉ Conduct **Digital Literacy camps**.
- ◉ Establish a responsive and accountable **grievance redressal mechanism**.
- ◉ Governments also need to consider **low- or no-tech solutions**.

REVIEW OF BLUE REVOLUTION (FISHERIES SECTOR IN INDIA)

CONTEXT:

India has made tremendous progress in the fisheries sector which was traditionally seen to support the daily nutrition and livelihood of the fishers. It is now acknowledged as one of the game changers in the Indian economy.

What is Blue Revolution?

- ◉ Blue Revolution means the adoption of a package programme to increase the production of fish and marine products.
- ◉ Blue Revolution, the **Neel Kranti Mission** has the vision to achieve economic prosperity for the country and the fishers and fish farmers.
- ◉ It also aims to contribute towards food and nutritional security through the full potential utilization of water resources for fisheries development in a sustainable manner.

Objectives

- ◉ To **increase the overall fish production** responsibly and sustainably for economic prosperity

- To **modernize the fisheries** with a special focus on new technologies
 - To **ensure food and nutritional security**
 - To **generate employment** and **export earnings**
 - To **ensure inclusive development** and empower fishers and aquaculture farmers

India's fisheries sector:

- The importance and the role of the fisheries sector were officially recognized in India, through the enactment of the '**Indian Fisheries Act**' in 1897.
- The **first Five-year plan (1951—56)** of the Government of India, drew the canvas of the Fisheries sector (both Marine and Inland Fisheries sector).
- It was followed by the creation of an **independent Ministry of Fisheries, Animal Husbandry & Dairying** in 2019.

Highlights of the Fisheries Sector:

- The culture of **Pangassius and mono-sex Tilapia**, native catfishes, and freshwater prawns are picking up due to culture-based production being adopted at a faster pace.
- **Three Major Carp (IMC) species**- Catla, Rohu, and Mrigal together contribute a lion's share in production.
- In the shrimp segment, most of the production comes from *L. vannamei*
- Rainbow trout culture and rehabilitation of **native Mahaseer** in cold waters of the Himalayan corridor are promising ventures.

Growth in inland Fisheries and Aquaculture:

- In 2021-22, the country's **fish production has reached an all-time high** of 162.48 lakh tons, showing 10.34 percent growth.

Total production in Inland fisheries and aquaculture	
Year	Production
1950-51	2.18 lakh tons
2013-14	61.36 lakh tons
2021-22	121.21 lakh tons

- It **took 63 years to increase** the total inland and aquaculture fish production to the tune of 59.18 lakh tons.
- But the increase in production was phenomenal **to 59.85 lakh tons in just eight years**.
- It also demonstrates the **growing interest of youth in the fisheries** and aquaculture sector as a source of employment, income, and entrepreneurship.

Financial support by the Government:

- Pradhan Mantri Matsya Sampada Yojana (PMMSY)
 - PMMSY is a flagship scheme for focused and sustainable development of the fisheries sector in the country as a part of the Aatmanirbhar Bharat Abhiyan.
 - Under PMMSY, over a span of five years (FY 2020-25), an investment worth Rs 20,050 crore has been envisaged for the fisheries sector.
 - PMMSY puts special emphasis on employment generation for SC, ST communities, and women.
- **Livelihood and nutritional support** have been provided for 13.99 lakh (FY 2020 to date) **socio-economically backward active traditional fishers' families** during the seasonal fishing ban/lean period.
 - For safety net, 31.89 lakh fishers have been insured under the Group Accidental Insurance Scheme (GAIS).
 - The insurance premium under GAIS is 100 percent borne by central and state governments.

Employment Generation: Till now (FY 2020-21, 2021-22, and till November 2022-23), projects to the tune of Rs 11,029.36 crore have been sanctioned to generate lakhs of employment opportunities in the sector.

Contribution to the national economy:

- The sector has **achieved all-time high marine product export** of Rs 57,586 crore (US \$ 7.76 billion) in 2021-22.
- The **consistent growth in exports** is exhibited by a 90.6 per cent increase in marine product exports from 2013-14 to 2021-22.

Key Policy Decisions:

- Blue Revolution Scheme
- Creation of a new Ministry of Fisheries, Animal Husbandry & Dairying
- Separate Department of Fisheries with the independent administrative structure
- launch of the Fisheries and Aquaculture Infrastructure Development Fund (FIDF)
- Pradhan Mantri Matsya Sampada Yojana (PMMSY)
- Sagar Parikrama
- PM Gati Shakti Master Plan



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Section: B

(SPECIALS)

CURRENT AFFAIRS

WILD LIFE (PROTECTION) AMENDMENT BILL, 2022

CONTEXT:

The Wildlife (Protection) Amendment Bill, 2022, which seeks to strengthen the protection of endangered species and enhance punishment for illegal wildlife trade, has been passed in Rajya Sabha by a voice vote.

Background

Wildlife Protection Act 1972:

Schedules in WPA, 1972:

It has six schedules which give varying degrees of protection.

- **Schedule I and part II of Schedule II:** Absolute protection – offenses under these are prescribed the highest penalties.
- **Schedule III and Schedule IV:** Species are protected, but the penalties are much lower.
- **Schedule V:** Animals (e.g. common crows, fruit bats, rats, and mice), are legally considered vermin and may be hunted freely.
- **Schedule VI:** Specified endemic plants are prohibited from cultivation and planting.

- The Wildlife (Protection) Amendment Bill, attempts to amend the Wildlife (Protection) Act (WLPA), 1972.

- Wildlife Act 1972 preserves the country's wild animals, birds, and plants in order to ensure ecological and environmental security.
- This act has laid down restrictions on hunting various kinds of animal species.
- It also includes provisions related to harvesting and various other ancillary matters connected thereto.

What is the need for Amendment?

- **Threat of blacklisting:** India has been blacklisted by CITES once before, and if a second blacklisting were to happen — then India will no longer be able to trade in important plant specimens. This would affect the livelihood of a large section of Indian society that relies heavily on this trade.
- **Ambiguous listing:** The rationalization needed to be done because there were many discrepancies in the schedules and they were also ambiguous.
- **Non-uniform listing:** Some species were listed under English names, others under scientific names, some under families, and others under orders.
- **Issues in implementation:** Such a categorization was very confusing for wildlife and forest officials on the ground to implement.
- **Constant threats to wildlife**
 - Illegal Wildlife Trade
 - Habitat Destruction
 - Human-animal conflict
 - Invasive Species
 - Climate Change, Pollution

Key provisions of the new Bill:

There were 50 amendments to the Act proposed in the Bill.



- The words “**protection of wild animals, birds, and plants**”, mentioned under the Wild Life (Protection) Act, 1972 have been substituted with the words “**conservation, protection and management of wildlife**”.
- **Rationalising schedules:**
 - Currently, the Act has six schedules for specially protected plants (one), specially protected animals (four), and vermin species (one).
 - **Bill reduces it to four by:**
 - Reducing the number of schedules for specially protected animals to two (one for greater protection level)
 - Removes the schedule for vermin species
 - Inserts a new schedule for specimens listed in the Appendices under CITES (scheduled specimens).
- **Obligations under CITES:** The Bill authorizes the central government to designate
 - **Management Authority:** which grants export or import permits for the trade of specimens, and
 - **Scientific Authority:** This gives advice on aspects related to the impact on the survival of the specimens being traded.
 - It prohibits any person from modifying or removing the identification mark of the specimen.
 - Every person possessing live specimens of scheduled animals must obtain a registration certificate from the Management Authority.
- **Invasive alien species:**
 - It empowers the central government to regulate or prohibit the import, trade, possession, or proliferation of invasive alien species.
- **Control of sanctuaries:** The Present Act entrusts the Chief Wildlife Warden to control, manage and maintain all sanctuaries in a state.
 - The Chief Wildlife Warden has been appointed by the state government.
 - The Bill specifies that the actions of the Chief Warden must be in accordance with the management plans for the sanctuary.
 - These plans will be prepared as per the guidelines of the central government, and as approved by the Chief Warden.
- **Conservation reserves:**
 - Under the Act, state governments may declare areas adjacent to national parks and sanctuaries as a conservation reserve, for protecting flora and fauna, and their habitat.
 - The Bill empowers the central government to also notify a conservation reserve.
- **Surrender of captive animals:**
 - The Bill provides for any person to voluntarily surrender any captive animals or animal products to the Chief Wildlife Warden.
 - No compensation will be paid to the person for surrendering such items. The surrendered items become the property of the state government.
 - **Penalties:** Bill has increased the fines for violating the provisions of the Act.

Section: C

(PRELIMS

CURRENT AFFAIRS

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INDIA RESTORING ANGKOR WAT TEMPLE COMPLEX

CONTEXT:

Addressing the Kashi Tamil Sangamam on the subject 'contribution of temples in society and nation building' External Affairs Minister S Jaishankar stated that the Angkor Wat temple complex in Cambodia is being restored by India because our civilisation is not limited to India, but is spread across countries.

Other important Hindu Temples outside India

- Pashupatinath Temple, Nepal
- Tanah Lot Temple, Indonesia
- Sri Subramaniam Swamy Devasthanam, Malaysia
- Shri Kali Temple, Burma
- Murugan Temple, Sydney, Australia
- Prambanan (Java, Indonesia)
- BAPS Shri Swaminarayan Mandir, London (Neasden Temple), United States

About Angkor Wat

- Angkor Wat, temple complex at Angkor, Cambodia, is a vast religious complex comprising more than a thousand buildings.
- **Built by:** King Suryavarman II (reigned 1113–c. 1150) in the 12th century
- **Type:** Buddhist temple complex
 - It was originally dedicated to the Hindu god Vishnu before becoming a Buddhist temple by the end of the 12th century.



- **Architecture:** Angkor Wat is the world's largest religious structure, covering some 400 acres (160 hectares), and marks the high point of Khmer architecture.
 - **Stylistic elements:** the ogival, lotus bud-shaped towers, half-galleries, axial galleries, connecting enclosures and cruciform terraces.

- In 1992 the temple complex was named a UNESCO World Heritage site.
- Representation: Angkor Wat is said to represent Mount Meru, the home of the gods, according to both Hindu and Buddhist faiths
- The city of Angkor, home to Angkor Wat, was the capital of the Khmer Empire and thrived between the 9th and 15th centuries.
 - **Other famous temple:** Angkor Thom, Bayon Temple and Ta Prohm

Kashi Tamil Sangamam

- The Kashi Tamil Sangamam is a month long celebration being held in Varanasi.
- It celebrates the many aspects of the historical and civilisational connection between India's North and South.
- This program is a part of the **Ek Bharat Sreshtha Bharat initiative**.

REJUVENATION OF INDIA'S CIVILISATIONAL HERITAGE

CONTEXT:

India boasts of a rich culture, tradition and legacy while celebrating diversity and embracing plurality. While the focus of the government is on building "Brand India" the emphasis falls upon Spiritual Tourism too.

Important Projects

- **Somnath temple:** The Somnath temple is one of the most sacred 12 jyotirlingas that means 'Lord of Moon'. Somanath is located at the confluence of the Saraswati, Hiranya and Kapila rivers which is called the Triveni Sangam. It is the first of the jyotirlingas and known to be a place where Lord Shiva manifested.
- **Kashi Vishwanath Corridor:** The Kashi Vishwanath Temple Corridor project in Varanasi connects the iconic Kashi Vishwanath temple and the ghats along the river Ganga.
- **Char Dham Pariyojana:** Having started in December 2016, it aims to widen 900 km of highways and links all four Dhams – Gangotri, Yamunotri, Badrinath and Kedarnath.
- **PRASAD (Pilgrimage Rejuvenation and Spiritual Augmentation Drive) project:** It is a cluster of six projects aimed at spiritually linking the major pilgrimage sites and temples in the Northeast.
- **The ancient Tirtha-Kshetra of Kamakhya temple** in Assam is receiving an enormous facelift.

- **Swadesh Darshan scheme:** The scheme aims to thoroughly reboot our tourism infrastructure spread over 76 projects across India, and 50 projects have already been completed this year. These include theme-based trains for pilgrims among other things – the Ramayana circuit train comes to mind.
- **Harappan site of Dholavira:** On the academic level, the **ancient Harappan site of Dholavira** has been included in the **UNESCO World Heritage Sites list**.
- **Statues:** The installation of the statues of **Sardar Vallabhbhai Patel, Nadaprabhu Kempe Gowda I and Ramanujacharya, 108-foot statue of Lord Hanuman in Morbi, Gujarat, Netaji Subhash Chandra Bose Hologram statue.**



- **Mahakal Lok Corridor project in Ujjain, MP:** The corridor is more than 900-metre-long and is one of the largest such corridors in the country. It's built around famous Hindu temple of Mahakaleshwar Temple, one of the 12 'jyotirlingas' in India. It spreads around the old Rudrasagar Lake which has also been revived as part of the redevelopment project.
- **Triveni Museum, Ujjain:** It is a newly-constructed museum that exhibits various artifacts that were discovered during the excavations. There are several artifacts that date back to the period between 6th-9th centuries and a majority of them belongs to the Hindu religious figurines like Lord Shiva & Lord Vishnu.
- The reconstruction of the **grand Ram temple in Ayodhya.**

PROCESS TO APPOINT AD HOC JUDGES MUST BE LESS CUMBERSOME: SC

CONTEXT:

The Supreme Court told the Centre that the objective of reducing pendency of cases in the high courts should not get defeated by the "cumbersome" procedure to appoint retired judges as ad-hoc judges to high courts.

Who are ad hoc Judges of High Court?

- A judge ad hoc is a judge appointed by a **special procedure** for a specific case, or period only.
- Ad-hoc judges should generally have **tenure of 2-3 years**.
- Depending on the strength of the High Court and the problems it faces, they may appoint **2-5**.

Constitutional Provisions:

- The appointment of retired judges was provided for in the Constitution under **Article 224A** (appointment of retired judges at sittings of High Courts).
- CJI gives recommendations for judges to be appointed on an ad hoc basis in High Courts.

Difference between ad hoc judges and acting judges:

- In case of absence of main judge, additional judge can act at the place of main judge.
- But **ad hoc judge is temporary**; he acts only at certain occasion in the absence of main judge.

Need to appoint ad hoc judges:

- Faster delivery of justice.
- For reducing pendency of cases in High Courts.
- As number of cases is far more in high court than in Supreme Court, hence to reduce the workload.
- To use experience of the senior judges.

CENTRE INTRODUCES BILLS TO MODIFY ST LIST IN FOUR STATES

CONTEXT:

The GOI has introduced four Bills that seek to modify the Scheduled Tribes list in the four States of Tamil Nadu, Karnataka, Himachal Pradesh and Chhattisgarh in the Lok Sabha, via amendments proposed in the Constitution (Scheduled Tribes) Order, 1950.

About the Bills introduced:

- There were four bills being introduced in the parliament for providing ST status and to add more tribes to the existing status in the States.
- The bill accordingly contains:

- To add the **Narikoravan and Kuruvikkaran** hill tribes to the ST list of Tamil Nadu.
- To introduce Betta-Kuruba as a synonym for the already categorised Kadukuruba in the ST list of Karnataka.
- To add a number of synonyms in Devnagri script for the already categorised BhariyaBhumia tribe in the ST list of Chhattisgarh.
- The Hattee community of Sirmaur district's Trans-Giri region was added to the ST list of Himachal Pradesh

The Schedule Tribe (ST) Order, 1950:

Important Constitutional Provisions:

- **Article 46** provides that the State shall promote with special care the educational and economic interests of the weaker sections of the society and in particular, of the Scheduled Castes and Scheduled Tribes and shall protect them from social injustice and all forms of exploitation.
- **Article 164(1)**, provides that in the States of Chhattisgarh, Jharkhand, Madhya Pradesh and Odisha there shall be a Minister in charge of tribal welfare who may in addition be in charge of the welfare of the Scheduled Castes and backward classes or any other work.
- The Constitution (Scheduled Tribes) Order, 1950, **specifies the tribal and tribal communities which are deemed to be Scheduled Tribes.**
- **The President** has notified the Scheduled Castes in the order called 'Constitution (Scheduled Castes) Order-1950' and the Scheduled Castes and Scheduled Tribes List (Modification) Order-1956.

How a community is added or removed from ST lists?

- The process begins at the level of a State or Union Territory, with the concerned government or administration seeking the addition or exclusion of a particular community from the ST list.
- The final decision rests with the President's office issuing a notification specifying the changes under powers vested in it from Articles 342.
- The inclusion or exclusion of any community in the Scheduled Tribes or Scheduled Castes list comes into effect only after the President assents to a Bill that amends the Constitution (Scheduled Castes) Order, 1950 and the **Constitution (Scheduled Tribes) Order, 1950**, as is appropriate after it is passed by both the Lok Sabha and Rajya Sabha.
- A State government may choose to recommend certain communities for addition or subtraction from the list of SCs/STs based on its discretion.

RECOGNITION AS NATIONAL AND STATE POLITICAL PARTY

CONTEXT:

Recently, the Aam Aadmi Party became the **9th National Party of India** after the result of Gujarat elections where it gained almost 13% of the vote share.

- At the time of the **first General Elections (1952)**, there were **14 national parties in India.**

Note:

- The **Election Commission of India (ECI)** registers political parties for the purpose of elections and grants them **recognition as national or state parties** on the basis of their poll performance.
- The other parties are simply declared as **registered-unrecognised parties.**
- As per the **Representation of People Act 1951**, registered political parties, in course of time, can get recognition as 'State Party' or National Party'.

What is a National Party?

- **About:** As the name suggests, it has a **nationwide presence** as opposed to a regional party that is restricted to only a particular state or region.
 - A certain stature is sometimes associated with being a national party, but this **does not necessarily translate into having a lot of national political influence.**
- **Conditions for Declaring a Party 'National':**

Declaration as a State Party

- A party is recognised as a state party in a state **if any of the following conditions is fulfilled:**
- If it **secures 6% of the valid votes** polled in the state at a general election to the respective state legislative assembly (state LA) and **also, it wins 2 seats in the same state LA.**
- If it **secures 6% of the total valid votes in the state** at a general election to the LS; and **also, it wins 1 seat in the LS from the same state.**
- If it wins **3% of seats in the LA** at a general election to the legislative assembly of the state concerned or **3 seats in the assembly (whichever is more).**

- If it wins **1 seat in the LS for every 25 seats** or any fraction thereof allotted to the state at a general election to the LS from the state concerned.
- As per the ECI's **Political Parties and Election Symbols, 2019 handbook**, a political party would be considered a national party if:
 - It is '**recognised**' in **four or more states**; or
- If its **candidates have secured at least 6% of total valid votes in** at least 4 states (in latest **Lok Sabha** or Assembly elections) and the **party has at least 4 MPs in the last LS polls**; or
- If it has **won at least 2% of the total seats in the LS** from at least 3 states.

What is the Significance of Being Declared a National/State Party?

- A recognised party (national or state) has the **right to certain privileges like allocation of the party symbols**, provision of time for **political broadcasts on the state-owned television** and radio stations and **access to electoral rolls**.
- These parties are allowed to have **40 "star campaigners"** during the time of elections (the **registered-unrecognised parties are allowed to have 20 "star campaigners"**).
- Every **national party is allotted a symbol exclusively reserved** for its use throughout the country. **Even in the states where it is not contesting elections.**
 - For a state party, the allotted symbol is exclusively reserved for its use in the state/s in which it is so recognised.

NATIONAL TELEMEDICINE SERVICE

CONTEXT:

In a significant achievement, eSanjeevani, Govt. of India's free telemedicine service, has crossed another astounding milestone by clocking 8 crore teleconsultations.

eSanjeevani is a cohesive part Ayushman Bharat Digital Health Mission (ABDM), and more than **45,000 ABHA IDs** have been generated via eSanjeevani application.

About the initiative:

- An e-health initiative of Union Ministry of Health and Family Welfare, eSanjeevani is a national telemedicine service that strives to provide an **alternative to the**

conventional physical consultations via digital platform.

- It consists of **two verticals** that cater to patients across all states and UTs successfully making its presence felt in the innermost regions of the nation.
 - The first vertical is '**eSanjeevani AB-HWC**', endeavors to bridge rural-urban digital health divide by providing assisted teleconsultations, and ensuring that e beneficiaries of Ayushman Bharat Scheme are able to avail of the benefits they are entitled to.
 - This vertical operates on a Hub-and-Spoke model wherein the '**Ayushman Bharat-Health and Wellness Centers**' (HWCs) are set up at state level, which are mapped with the hub (comprising MBBS/ Specialty/Super-Specialty doctors) at zonal level.
 - '**eSanjeevaniOPD**' is the another vertical which caters to citizens in **both rural and urban** alike.
 - It leverages technology via **smartphones, tablets, and laptops** enabling doctor consultations to be accessible from the patient's residence regardless of location.

THREE HIMALAYAN MEDICINAL PLANTS ENTER IUCN RED LIST

CONTEXT:

In a recent assessment, three medicinal plant species found in the Himalayas have been added to the IUCN 'Red List' of Threatened Species, providing them conservation status.

About the species:

- **Species listed:**
 - *Meizotropis pellita* as '**critically endangered**,
 - *Fritillaria cirrhosa* as '**vulnerable**'
 - *Dactylorhiza hatagirea* as '**endangered**'.
- **Found in:** the Himalayan region spread across Nepal, India, China, Sikkim, Afghanistan, and Pakistan.
- **Threats:** Deforestation, habitat loss, forest fires, illegal trade, and climate change.

Significance of the species:

- *Meizotropis pellita*, commonly known as 'Patwa', is a **perennial shrub** with a restricted distribution that is endemic to Uttarakhand.



- ▶ The species is listed as 'critically endangered' based on its limited area of occupancy (less than 10 sq. km).
- ▶ The essential oil extracted from the leaves of the species possesses strong antioxidants and can be a promising natural substitute for synthetic antioxidants in pharmaceutical industries.
- *Fritillaria cirrhosa* (**Himalayan fritillary**), used for the treatment of bronchial disorders and pneumonia. The plant is also a strong cough suppressant and a source of expectorant drugs in traditional Chinese medicine.



- *Dactylorhiza hatagirea* (**Salampanja**), is extensively used in Ayurveda, Siddha, Unani, and other alternative systems of medicine to cure dysentery, gastritis, chronic fever, cough, and stomach aches.



- It is a perennial **tuberous species endemic** to the Hindu Kush and Himalayan ranges of Afghanistan, Bhutan, China, India, Nepal, and Pakistan.

International Union for Conservation of Nature (IUCN)

- IUCN is an international organization (**NGO**) working in the field of **nature conservation** and **sustainable use of natural resources**.
- The organization is best known for compiling and publishing the **IUCN Red List**, which assesses the conservation status of species worldwide. Its headquarters are in **Gland, Switzerland**.
 - ▶ The IUCN Red List of Threatened Species, founded in 1964, is the world's most comprehensive inventory of the global conservation status of biological species.
- When discussing the IUCN Red List, the official term "**threatened**" is a grouping of three categories:
 - ▶ **Critically Endangered**
 - ▶ **Endangered**
 - ▶ **Vulnerable**

The **pink pages** in IUCN document include the **critically endangered species**. As the status of the species changes, new pages are sent to the subscribers.

- **Green pages** are used for those species that were **formerly endangered but have now recovered to a point where they are no longer threatened**.

FOCUS ON NAVIC, ISRO'S FUTURE SATELLITES TO GET ADDITIONAL FREQUENCY

CONTEXT:

With an aim to promote the civilian use of NAVigation with the Indian Constellation (NavIC), the regional navigation satellite system developed by the Indian Space Research Organisation (ISRO) is introducing the L1 frequency in all its future satellites.

About the L1 technology:

- The L1 frequency is one of the most commonly used frequencies in the **Global Positioning System (GPS)**.
- It aims to increase the use of the **regional navigation system** in wearable devices and personal trackers that use low-power, **single-frequency chips**.
- At present, the satellites operate on two frequencies — **L5 and S bands**.

Navigation through L1, L5, and S bands:

- Satellites are a common way to enable **location-based services (LBS)**. IRNSS/NavIC has two signals: one co-located with GPS L5 at 1176.75 MHz and the other at 2492.028 MHz
- This latter signal (in S-band) is currently unique among positioning systems.
- Receivers can use the **L5 signal** — along with **GPS, GALILEO, BDS, or GLONASS** signals in the L1 band — to provide the benefits of the **dual-frequency operation**.
- Both signals can be used independently to provide a single-frequency position.
- The NavIC system also plans to transmit ionospheric correction data for the coverage region, providing improved accuracy.

The Need for the initiative:

- The Navigation with Indian Constellation (NavIC) uses **seven satellites** to provide real-time positioning and timing services in India and an area extending up to **1,500 km** from the country's borders.
- However, several satellites of the constellation are over-utilized and outlived their lives and **the Indian Space Research Organisation (ISRO)** now plans to replace **at least five** of these with the improved L-Band, which would enable it to offer better **global positioning services** to the public.
- This will be achieved by using the other **five satellites** which are in production and as they have to be launched periodically to replace the existing **defunct satellites**. The new satellites will have **L-1, L-5, and S Bands**.

Significance:

- The new satellites **NVS-01 introduced USING L1 technologies** are meant to replace these satellites and can be used by devices that run on **low power, single-frequency chips such as smart watches and security systems**.

The **NVS-01 satellite**, according to annual reports of the Department of Space, is set to replace one of ISRO's **seven navigational satellites** currently in space.

- The satellites placed directly over India also ensure better availability of signals in varied geographical regions compared to GPS, which India receives at an angle making it difficult to access in dense forests or valleys.

Uses:

NavIC finds utilisation in national projects like;

- public vehicle safety,
- power grid synchronisation, and
- real-time train information system and
- Fishermen safety.

Upcoming Developments:

- Two of these satellites — **IRNSS-1B and IRNSS-1C** — will complete their 10-year mission life in 2024.
- Other upcoming initiatives (such as) common alert protocol-based emergency warning, time dissemination, geodetic network and unmanned aerial vehicles are in the process of adopting NavIC system.

BENEFITS OF POLICY ON RARE DISEASES NOT REACHING PATIENTS

CONTEXT:

Recently a Rajya Sabha MP has raised concerns over the benefits of the National Policy of Rare Diseases (NPRD) not reaching any patient with rare diseases.

Issues Raised by the MP:

- Unending delay and lack of urgency have claimed several lives.
- It is endangering the survival prospects of patients, largely children, diagnosed with rare diseases.
- The majority of these patients have been diagnosed with Gaucher disease, for which therapy approved by the Drug Controller General of India is available for many years.

About National Policy of Rare Diseases (NPRD)

- The National Policy of Rare Diseases (NPRD) was notified in March 2021.
- **Aim:**
 - To increase focus on indigenous research and local production of medicines.
 - To lower the cost of treatment of rare diseases.
 - To screen and detect rare diseases early at early stages, which will in turn help in their prevention.
- **Categorization: The policy has categorized rare diseases into three groups:**
 - **Group 1:** Disorders amenable to one-time curative treatment.
 - **Group 2:** Those requiring long-term or lifelong treatment.
 - **Group 3:** Diseases for which definitive treatment is available but challenges are to make an optimal patient selection for benefit, very high cost, and lifelong therapy.
- **Financial Support:**
 - Provision for financial support of up to Rs.50 lakhs to the patients suffering from any category of Rare Diseases and for treatment in any of the Centre of Excellence (CoE) mentioned in NPRD-2021, outside the Umbrella Scheme of **Rashtriya Arogya Nidhi**.

Rashtriya Arogya Nidhi: The Scheme provides **financial assistance to patients, living below the poverty line (BPL)** and who are suffering from major life-threatening diseases, **to receive medical treatment at any of the super speciality Government hospitals/institutes.**

- **Centres of Excellence:** The policy aims to strengthen tertiary health care facilities for the prevention and treatment of rare diseases through designating eight health facilities as '**Centres of Excellence**' and these will also be **provided one-time financial support of up to Rs. 5 crores** for the upgradation of diagnostics facilities.

What are 'rare diseases'?

- These are often serious, chronic, and life-threatening conditions.
- WHO defines a rare disease as an often debilitating lifelong disease or disorder with a prevalence of 1 or less, per 1000 population.
- However, different countries have their own definitions.

- A disease or disorder is defined as rare in India when it affects less than 1 in 2500 individuals.
- There may be as many as 7,000 rare diseases, individual diseases may be rare, and the total number of people with a rare disease is large.
- **Examples:** Lysosomal Storage Disorders (LSD), Gaucher disease, Pompe disease, cystic fibrosis, muscular dystrophy, spina bifida, haemophilia, MPS 1 and 2, and Fabry disease

SIAM ORGANIZES TECHNICAL DEMONSTRATION ON "ETHANOL ADOPTION – FLEX FUEL VEHICLES IN INDIA"

CONTEXT:

The Society of Indian Automobile Manufacturers (SIAM) organized a technology demonstration on 'Ethanol Adoption-Flex Fuel Vehicles in India' at India Habitat Centre in New Delhi in order to promote the ethanol blended petrol usage in the country.

Highlights of the event:

- **Aim:** To demonstrate the readiness of automobile manufacturers for ethanol adoption through multiple segments of FFVs slated to be launched, particularly in the four-wheeler and two-wheeler segments.

The Society of Indian Automobile Manufacturers (SIAM): The Centre has mandated SIAM to promote ethanol as a transportation fuel.

- The vehicle features and technological developments were showcased to emphasize the use of FFVs and future possibilities.

How flex fuel vehicles work?

- Flex fuel vehicles have one fuel system, and most components are the same as those found in a conventional petrol-only car.
- Some special ethanol-compatible components are required to adjust to the different chemical properties and energy content in ethanol or methanol, such as modifications to the fuel pump and fuel injection system.
- The ECM is also calibrated to accommodate the higher oxygen content of ethanol.

The Flex-fuel technology:

- A **flex fuel, or flexible fuel**, vehicle has an internal combustion engine (ICE), but unlike a regular petrol or diesel vehicle, this can run on more than one type of fuel, or even a mixture of fuels.
- The most common versions use a blend of petrol and ethanol or methanol, but these engines are also equipped to run on **100 per cent petrol or ethanol as well**.
- This is made possible by equipping the engine with a fuel mix sensor and an **engine control module (ECM) programming** that senses and automatically adjusts for any ratio of designated fuels

India's ethanol blended petrol programme:

- The Ethanol Blended Petrol Programme was launched in 2003 with an aim to promote the use of renewable and environmentally friendly fuels and reduce India's import dependence for energy security.
- Starting with 5% blending, the government has set a target of 10% ethanol blending by 2022 and 20% blending (E20) by 2030.
- The programme is implemented in accordance with the National Policy on Biofuels.
- Under this programme, oil marketing companies (OMCs) will procure ethanol from domestic sources at prices fixed by the government.
- Till 2018, only sugarcane was used to derive ethanol. Now, the government has extended the ambit of the scheme to include foodgrains like maize, bajra, fruit and vegetable waste, etc. to produce ethanol.
- This move helps farmers gain additional income by selling the extra produce and also broadens the base for ethanol production in the country.

Ethanol is an organic chemical compound. It is a simple alcohol with the chemical formula C_2H_6O . It is used as a chemical solvent and in the synthesis of organic compounds.

- Ethanol is a **fuel source**. Ethanol also can be **dehydrated and to make ethylene**, an important chemical feedstock.

FIRST UREA, NOW DAP: HIGH USE OF SUBSIDISED FERTILISERS RAISES CROP YIELD FEARS

CONTEXT:

According to data from the Ministry of Chemicals and Fertilisers, the sale of urea and di-ammonium

phosphate (DAP) increased by 3.7% and 16.9%, respectively, from April-October 2022 over the previous year.

Background:

- Two ambitious schemes of the Government of India – **Soil Health Card and mandatory neem-coating of urea**, were supposed to promote the balanced use of fertilisers.
- However, the annual consumption of urea (30 to 35 MT in the last 5 years) and DAP have grown over the years.
- This means, **instead of providing a balanced mix** of plant nutrients based on soil testing and crop requirements, **Indian farmers are applying only urea and DAP** – both containing 46% N and P, respectively.

SALE OF FERTILISERS IN LAKH TONNES			
	APR-OCT 2021	APR-OCT 2022	% GROWTH
Urea	186.273	193.112	3.67
DAP	55.612	65.032	16.94
MOP*	16.877	8.792	-47.91
NPKS	71.875	57.553	-19.93
SSP	34.815	31.678	-9.01

*For direct application

About Di-ammonium Phosphate (DAP):

- It is a very popular fertilizer because of its excellent physical properties and nutrient content.
- It is free flowing, dust-free and does not normally give any storage problem.
- DAP is almost water-soluble and ultimately leaves acid effect on soils because of ammonia (NH_4) it contains.
- DAP on incorporation into soil, reacts with water and gets converted into HPO_4 and NH_4 .
 - Ammonium (NH_4) follows the same routes as in case of urea.
 - Phosphorus in DAP is present in best available form (HPO_4).
- Depending upon the soil reaction (pH), phosphorus exists in 3 forms which can be absorbed by plant roots.
- These are HPO_4 , H_2PO_4 and PO_4 . Phosphorus, which is immobile in soil, is not subjected to leaching losses.

Reasons behind increased consumption of urea and DAP:

- **High subsidy on urea:** The government has fixed the maximum retail price (MRP) of urea at Rs.5,628 per tonne, while the MRPs of other fertilisers are technically decontrolled.

- **DAP – a cheaper substitute:** Companies have been told not to charge more than Rs.27,000/tonne for DAP (Rs.29,000-31,000/ tonne for NPKS complexes), which has 46% P and 18% N.
- Thus, the **choice of fertilisers is primarily a function of prices** and not of NPKS complexes or other macro and micronutrients in the fertilisers.

Issues:

Over-use of fertilisers: India's fertiliser sector has been riddled with distortions from excessive use of urea. The di-ammonium phosphate or DAP is seeing a similar phenomenon of over-application due to underpricing.

The effects of overconsumption of urea and DAP:

- The current NPK ratio of **13:5:1**, as against the ideal **4:2:1**, would adversely affect **crop yields**
- It will adversely affect the **health of plants and humans**, due to the unavailability of a balanced nutrient mix.

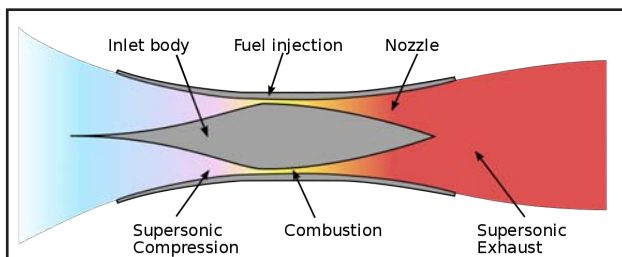
HOT TEST OF THE SCRAMJET ENGINE WAS CONDUCTED SUCCESSFULLY

CONTEXT:

In a quest to launch satellites in predetermined orbits at a low cost, India has crossed a key milestone by successfully conducting a hot test for its scramjet's engine.

Details:

- ISRO has conducted a hot test for its air-breathing scramjet engine.
 - A hot test system is a 100% production test used to check all the engine operating parameters as they would function in real time.



- The test was conducted at its **Propulsion Research Complex** at Mahendragiri in the Tirunelveli district of Tamil Nadu.
- The test lasted for 11 seconds.

What is a scramjet engine?

- A scramjet engine is an improvement over the ramjet engine.
- India is the fourth country to demonstrate the flight testing of a Scramjet Engine.
- Thus, it is known as Supersonic Combustion Ramjet or Scramjet.
- In scramjet engines, the combustion takes place in supersonic airflow.
- Such engines use oxygen from the atmosphere in the combustion of fuel.

The scramjet advantages:

- **Scramjet engine draws oxygen from the atmosphere:**
 - It results in significant savings in terms of the weight of the oxidizer that does not have to be carried onboard.
 - These savings directly translate to **higher payload capacity**, and/or **extended flight range** for the vehicle.
- **Vehicles can be cruised in a controlled manner:**
 - Scramjets allow for a certain level of **on-demand acceleration** and deceleration by regulating the fuel burn rate, **enabling improved control**.
- **Difficult to intercept:** Enhanced level of manoeuvrability of a scramjet-powered hypersonic vehicle **adds to the degree of unpredictability of its flight path**, making interception much harder than for a ballistic missile.

The main types of Jet engines based on how air is compressed in the engine are:

- **Turbo Jet:** Turbo jet engine is an air-breathing jet engine. This is one of the most common types of jet engines. It is still widely used in aeroplanes.
- **Ramjet:** High-speed forward motion is used to compress the air (no compressor). Fuel is injected into the combustion chamber where it mixes with the hot compressed air and ignites.
 - The average speed of a Ramjet is 3-6 Mach.
 - But the ramjet efficiency starts to drop when the vehicle reaches hypersonic speeds.
 - Missiles and other flight systems designed for supersonic speeds (above Mach 1 and below Mach 5) commonly use a ramjet engine.
- **Scramjet:** Here also, the high-speed forward motion is used to compress the air (no compressor).
 - It is an improvement over the ramjet engine as it efficiently operates at hypersonic speeds and **allows supersonic combustion**.
 - Speed is greater than 6 Mach (Six times the speed of Sound).

DIGITAL LENDING APPS

CONTEXT:

Recently, the Reserve Bank of India (RBI) received as many as 13,000 complaints against banks and non-banking financial institutions (NBFCs) regarding digital lending apps and recovery agents harassing customers.

- The users can register complaints against banks and NBFCs via the **Reserve Bank-Integrated Ombudsman Scheme, 2021**.

What are Digital lending apps (DLAs)?

- They are Mobile and web-based applications with user interface that facilitate digital lending services.

The Reserve Bank-Integrated Ombudsman Scheme, 2021:

- Under the scheme, the RBI would be able to award up to **INR 20 Lakh** for any losses suffered by the customer, along with **INR 1 Lakh to compensate** for the waste of the customer's time, expenses incurred and/or mental anguish suffered.

- Speaking on digital lending and the menace of illegal digital apps, the Department of Supervision, RBI, has formed a **nodal department** to handle the complaints against such unauthorised lending apps.
- Also, RBI has established a portal named as "**Sachet**" under State Level Coordination Committee mechanism for registering complaints by the public.
 - The Sachet portal registers complaints against lending apps which are promoted by unregulated entities.

- DLAs will include apps of the Regulated Entities (REs) as well as those operated by Lending Service Providers (LSPs) engaged by REs for extending any credit facilitation services in conformity with extant outsourcing guidelines issued by the Reserve Bank.

Issues associated:

- They attract borrowers with promise of loans in a quick and hassle-free manner.
- But, Excessive rates of interest and additional hidden charges are demanded from borrowers.
- Such platforms adopt unacceptable and high-handed recovery methods.
- They misuse agreements to access data on the mobile phones of the borrowers.

CASE STUDY

Ramesh Kumar was promoted to the position of senior superintendent of police (SSP), in the West Bengal division, seeing his work and dedication. After working for a few months, he came to know that there are several districts of West Bengal bordering Bangladesh, involved in the Trafficking of poor girls/women for surrogacy from India to Bangladesh. As the recent laws in India for surrogacy got stringent, the cross-border trafficking for surrogacy increased. He also comes across the information that medical officers and doctors in the districts are also involved in the crime. After these instances, he started searching for data on surrogacy and related crimes in his area of jurisdiction. He later found that Women when comes back to India, suffers from nutrition deficiencies and health related issues. After being indulge in Trafficking, they face exploitation from local middlemen who use them for their illegal activities by threatening them of life. Due to lack of literacy among women and job opportunities in the area, they are forced into the vicious cycle of poverty. Ramesh found that due to porous borders, it gets difficult for administration to identify the culprits. Further, the patriarchal society dominant in most parts of the region makes the surrogate women exposed to future challenges like societal stigma, being considered not fit for marriage, and other biases.

DISCUSS THE FOLLOWING WITH REFERENCE TO THIS CASE:

- Ethical issues involved as an administrator to address the problems associated with women in the area.
- What should be the steps taken by Ramesh to curb the illegal activities prevalent in the region and help women against exploitation?

Section: D

(NEWS IN SHORT)

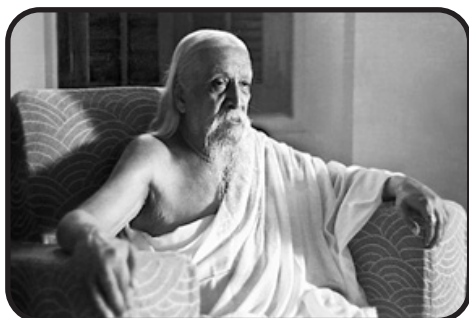


Geographical Indication tag sought for Beyapore Uru

The District Tourism Promotion Council, Kozhikode has applied for a Geographical Indication (GI) tag for the famous Beyapore Uru (boat).

About Beyapore Uru (boat):

- It is a **wooden dhow** (ship / sailing boat / sailing vessel) handcrafted by skilled artisans and carpenters in Beyapore, Kerala.
- The **Beyapore Uru**s are **purely made of premium wood**, without using any modern techniques.
- The Beyapore Uru's are a symbol of Kerala's trade relations and friendship with the Gulf countries.



Sri Aurobindo at 150

PM Modi participated in a programme commemorating Sri Aurobindo's 150th birth anniversary, held in **Kamban Kalai Sangam, Puducherry**, under the aegis of **Azadi Ka Amrit Mahotsav**. He also released a commemorative coin and postal stamp in honour of **Sri Aurobindo**.

About:

- Sri Aurobindo, born on 15th August 1872, was a visionary who made lasting contributions to India's freedom struggle.
- His father sent him to England for education at the age of seven.
- Sri Aurobindo returned to India in 1893.
- At the partition of Bengal in 1905, Sri Aurobindo went to Calcutta to direct the newly awakened spirit of nationalism.
- He could remain in the political field only for four years but even during this short period, he revolutionized the political thought in the country through his writing, speeches and famous journals like **Bande Matram, Karma Yogin and Dharma**.
- In 1915, he quitted all political activities and retired to Pondicherry for peace and spiritual advancement.
- There he built an Ashram known as Aurobindo Ashram, where he spent the rest of his life doing Yoga Sadhna, meditation for spiritual growth and development.
- He spent his entire life in the Ashram and died in 1950



Indian Navy allows women to join elite special force Marcos

In a historic move, the Indian Navy has decided to allow women to be part of its elite special forces the **Marine Commandos (Marcos)**.

Who are the Marcos?

- The Indian Navy raised the Marcos in 1987.
- Initially, they were named the Indian Marine Special Forces (IMSF).
- However, in 1991, the Navy changed the name to "sabotage forces of the marines" – Marine Commando Force (MCF), who are also known as Marcos in short.

- The Marcos are trained to carry out intense operations in the sea, air and on land.

Important Operations:

- Operation Tasha in 1991
- 1999 Kargil War
- Operation Rahat in 2015 in Yemen



Over 1.1 cr passengers flew in 6 yrs under UDAN scheme: Aviation Ministry

- Ude Desh ka Aam nagrik scheme, also known as UDAN Scheme was launched in 2016.
- It is basically a part of a regional connectivity scheme for upgrading the under-served air routes.
- Through this scheme, air travel will be made affordable and widespread.
- It is basically a part of a regional connectivity scheme for upgrading the under-served air routes. Through this scheme, air travel will be made affordable and widespread.



Indore Municipal Corporation files for retail green bonds

- Indore Municipal Corporation plans to issue green municipal bonds with an aim to raise up to Rs 244 crore to partly fund a solar power project in the city.
- This would be the first time a municipal body is targeting individual investors.

About Municipal bond:

- A municipal bond is a debt instrument issued by corporations under municipal laws with the permission of the respective state governments.
- The funds raised are used to finance projects for socioeconomic development such as building bridges, schools and hospitals.



RBI removes informal NDF restrictions on banks

India's central bank has lifted informal restrictions placed on banks for trading in the non-deliverable forward market (NDF).

About NDF

- An NDF is a **short-term, cash-settled forwards contract** that investors use to trade in currencies in an **offshore market**.
- The two involved parties create a settlement between the **contracted NDF rate** and the leading spot price when both parties agree on a notional amount.
- NDFs in the **non-deliverable forward market** are always settled in cash and are non-deliverable, meaning the trader cannot take the delivery of the currencies.

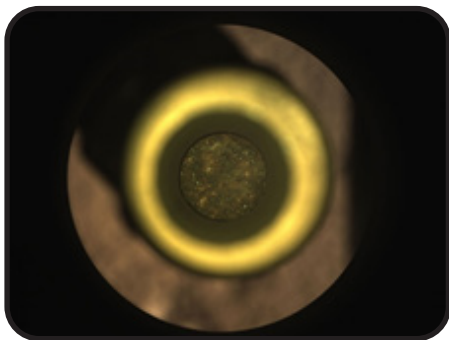


Carboplatin

- Carboplatin increases cure rate, survival of triple negative breast cancer: Study

About

- Carboplatin belongs to the group of medicines known as alkylating agents.
- It is used to treat cancer of the ovaries



NASA's Mars Perseverance rover collects its first dust samples

- NASA's Perseverance rover has collected its first samples of regolith (broken rocks and dust) from the Martian surface.
- Regolith can affect everything from spacesuits to solar panels and studying these samples will help engineers design future Mars missions.
- Scientists will also use the samples to know about geological processes on Mars.



World's first cell-editing treatment

- A 13-year-old girl suffering from an aggressive form of leukaemia became the world's first person to receive a base-edited T-cells treatment in London and went into remission.

About

- **T-cell acute lymphoblastic leukemia (T-ALL)** is an aggressive malignant neoplasm of the bone marrow.
- It is a type of blood cancer that begins in the bone marrow and can spread to other organs.
- It is one of two forms of **acute lymphoblastic leukemia (ALL)**, the most common childhood cancer.



'Invisibility cloak' that hides human body from security cameras made in China

- Chinese students have claimed to develop an **"invisibility cloak"** that can hide the human body from AI-monitored security cameras during the day or night.

About

- Dubbed **'InvisDefense'**, the coat uses customised prints to effectively escape detection from the cameras during the day.
- Meanwhile, it emits **unusual heat signals** to confuse cameras which identify humans through **infrared thermal imaging** at night.



Kerala's Forest department launches 'Vanikaran' project to restore natural vegetation

Kerala's Forest department has launched the 'Vanikaran' (afforestation) project to root out invasive plants and restore natural forests.

- **Location:** Sulthan Bathery forest range of the Wayanad Wildlife Sanctuary.
- **Major exotic invasive plants:** *Senna spectabilis*, *Eupatorium*, *Mikania micrantha*, and *Lantana camara*.

About Wayanad Wildlife Sanctuary:

- The area was declared a sanctuary in 1973.
- **Wayanad Wildlife Sanctuary** is made up of two discontinuous pockets – **Muthanga and Tholpetty**.
- Cocooned in the **Nilgiri Biosphere**, **Muthanga** lies adjacent to **Bandipur Tiger Reserve** in Karnataka and **Mudumalai Wildlife Sanctuary** in Tamil Nadu.
- It also borders **Sulthan Bathery** and **Kurichiat Ranges** within Kerala and is known for its rich biodiversity.
- Tholpetty also lies adjacent to **Nagarhole Range of Karnataka**.



Greenland was once as green as its name, oldest DNA discovery reveals

World's Oldest DNA Discovered:

- The oldest DNA ever recovered has revealed a remarkable **two-million-year-old ecosystem in Greenland**.
- **Exact location:** The DNA is found locked in sediments in a region called **Peary Land** called **Kap København** at the farthest northern reaches of Greenland.
- **Technique:** The researchers reconstructed ancient Peary Land using disembodied fragments of DNA.
- **Temperature:** Two million years ago, North Greenland was much warmer than it is now. The average annual temperatures were about 11-19C hotter.
- **Species of that time:** Genetic traces of elephant-like **mastodons**, **reindeer and geese** and **poplar trees**, and of marine life including **horseshoe crabs and algae**.
- **Present condition of Greenland:** Today the area in North Greenland is a polar desert.

The previous record holder:

- Until now, the oldest DNA ever recovered came from a **million-year-old mammoth tooth**.
- The oldest DNA ever found in the environment—rather than in a fossil specimen—was also a million years old and came from marine sediments in Antarctica.



India secures 11th position in WorldSkills Competition 2022

India secured 11th position in WorldSkills Competition 2022 (WSC 2022), with two silver medals, three bronze medals and 13 Medallions of Excellence.

About WorldSkills Competition:

- WorldSkills Competition is a global hunt known for raising the profile and recognition of skilled people.
- In India, candidates are selected by the National Skill Development Corporation (NSDC) through IndiaSkills Competition.

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