



# INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION



## **MANGROVE PITTA BIRD**

A census of mangrove pitta birds was conducted in two coastal districts of Odisha, India, where the nearly threatened species is found.

A total of 179 individual mangrove pitta birds were counted, with the highest concentration found in the mangroves near the Mahipura river mouth inside the Bhitarkanika National Park.

17 APRIL - 22 APRIL 2023

## **WEEKLY CURRENT AFFAIRS**

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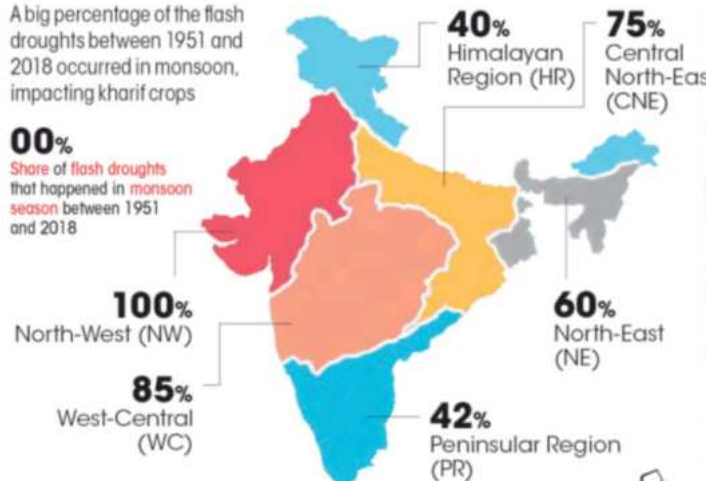
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### AN UNRECOGNISED CRISIS

A big percentage of the flash droughts between 1951 and 2018 occurred in monsoon, impacting kharif crops

00%

Share of flash droughts that happened in monsoon season between 1951 and 2018



### THE WORST FOUR FLASH DROUGHTS

All occurred in monsoon, devastating crop production

**1958**  
affected CNE and NW

**1979**  
affected CNE, NW and WC

**1986**  
spread across WC, CNE, NW and PR

**2001**  
affected WC, CNE and NW

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### Multi-Party Interim Appeal Arbitration Arrangement (MPIA)



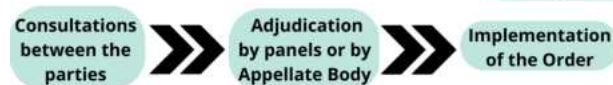
**Context:** Japan has joined the Multi-Party Interim Appeal Arbitration Arrangement, an alternative mechanism for resolving disputes to the World Trade Organization's top appeals bench.

About MPIA

- Formed in 2020
- An alternative system for resolving WTO disputes (in the absence of a functioning WTO Appellate Body)
- Approved by WTO Dispute Settlement body
- Any member can join MPIA by notifying the Dispute Settlement Body
- In a dispute between members, MPIA will supersede the previous appeal processes and also apply to future disputes between members
- India not a member yet



**Issues with the present arbitration system WTO:** It has been idle since 2019 due to holds on appointments by US. The WTO's dispute system's paralysis has resulted in fewer cases being brought to the organization.

WTO's dispute settlement process

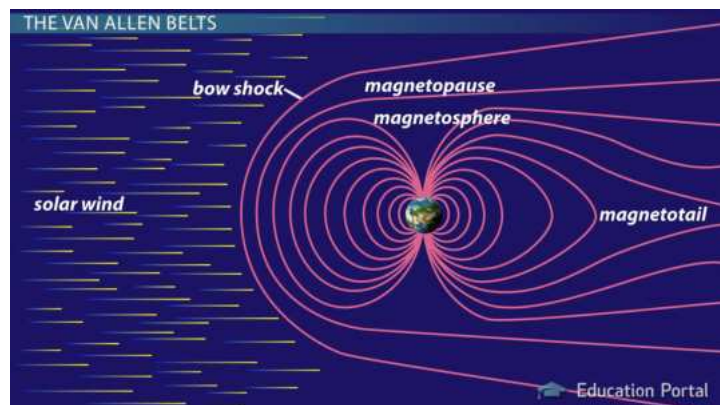
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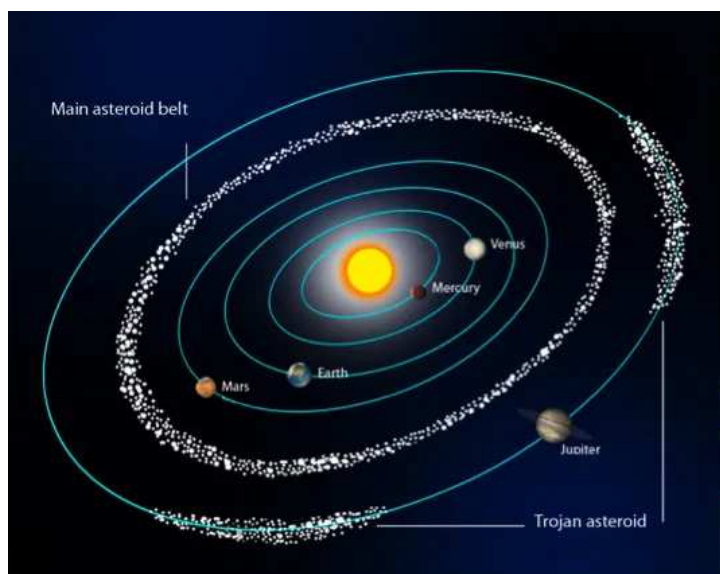
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DISCUSSION	Our teachers will discuss the answers in the class the next day. This will quell your doubts and help you gain conceptual clarity.
REVISION	After the class, students should discuss and revise the day's class for one hour in a group. This will be compulsory.
STUDY GROUPS	Groups will be formed based on common optional subjects.
STUDY	After group discussion, you will proceed to prepare for the next class and tests.
CURRENT AFFAIRS CLASSES	Will be conducted on a weekly basis every Saturday.
SECURE	Value-added material from our Mains Answer-Writing initiative: SECURE will be provided on Saturdays. You will write a minimum of 2 answers from our SECURE initiative daily.
WEEKLY FULL-LENGTH IRPM (INTEGRATED REVISION PRELIMS CUM MAINS) TESTS	The IRPM Full-length Tests will be conducted every week on Sundays.
WEEKLY ESSAY TESTS	Essay FLT's will be conducted on alternate Saturdays.
WEEKLY ETHICS TESTS	Ethics Tests will be conducted on alternate Saturdays.
CURRENT AFFAIRS TESTS	CA FLT's will be conducted after each subject is completed.
STUDY BREAKS	We will give nearly a week's break after each subject is completed. This will enable you to revise the subject fully.



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## GS PAPER 1

### MODERN INDIAN HISTORY

#### 1. DR. B R AMBEDKAR



**Dr B.R. Ambedkar**



**Context:** The 132nd birth anniversary of Dr B.R. Ambedkar was celebrated on April 14th.

#### About Dr B.R. Ambedkar

	Information
<b>About</b>	Bhimrao Ramji Ambedkar (14 April 1891 – 6 December 1956) was a jurist, economist, politician, and social reformer
<b>Role in Independence</b>	Led the <b>Mahad Satyagraha in 1927</b> against Hindus; Participated in <b>all three Round Table Conferences</b> ; Signed the <b>1932 Poona pact</b> with Gandhi to abandon the idea of separate electorates for the depressed classes; Labour member in the <b>Executive Council of Viceroy (1942)</b>
<b>Constitution Making</b>	<b>Chairman of the Drafting Committee</b> for the Indian Constitution; Referred to Article 32 as the “ <b>Soul of the Constitution and very heart of it</b> ”; He supported the <b>parliamentary form of democracy</b>
<b>Post-Independent India</b>	<b>First Law Minister</b> of independent India in 1947; Opposed the <b>special status of J&amp;K (Article 370)</b> ; Supported <b>Uniform Civil Code</b> ; Resigned in frustration in 1951 after the <b>withdrawal of the Hindu Code Bill</b>
<b>Conversion to Buddhism</b>	In 1956, Ambedkar along with 3,65,000 supporters converted to Buddhism. His death is observed as <b>Mahaparinirvan Diwas</b>
<b>Key Writings</b>	<b>The Annihilation of Caste</b> ; Buddha or Kar Marx; <b>The Untouchables</b> ; What Congress and Gandhi have Done to the Untouchables; Pakistan or the Partition of India; The Rise and Fall of Hindu Women; Who were Shudras?
<b>Journals</b>	<b>Mooknayak (1920)</b> ; <b>Bahishkrit Bharat (1927)</b> ; <b>Samatha (1929)</b> ; Janata (1930)
<b>Organizations</b>	Est. <b>Bahishkrit Hitkarini Sabha (1923)</b> ; Founded <b>Independent Labour Party (1936)</b> ; Founded <b>Scheduled Castes Federation (1942)</b>
<b>Awards</b>	Posthumously awarded the <b>Bharat Ratna</b> in 1991

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### His Contributions:

Dimension	Description	Example
<b>Social</b>	Fought against social discrimination and untouchability	Led the Dalit Buddhist Movement and established the SC/ST Federation
<b>Political</b>	Played a key role in drafting the Indian Constitution	Served as the <b>Chairman of the Constitution Drafting Committee</b>
<b>Legal</b>	Worked towards the establishment of the rule of law in India	Advocated for the abolition of the caste system and women's rights
<b>Educational</b>	Advocated for education as a means of empowerment	Founded the <b>People's Education Society</b> to promote education among marginalized communities
<b>Labour</b>	He contributed to the <b>reduction of working hours to 48 hours per week</b> , advocated <b>equal pay for equal work</b> , lifted the ban on the <b>employment of women</b> for underground work in coal mines, and introduced the <b>provisions of overtime, paid leave and minimum wage</b> .	
<b>Economic</b>	Advocated for reservations in education and employment for Dalits; the <b>Reserve Bank of India</b> was based on the idea of Ambedkar, which he had presented to the <b>Hilton Young Commission</b> .  In 1951, Ambedkar established the <b>Finance Commission of India</b> . He opposed income tax for low-income groups  <b>His writings on Economics:</b> "Administration and Finance of the East India Company", "The Evolution of Provincial Finance in British India", "The Problem of the Rupee: Its Origin and Its Solution"	
<b>Anthropology</b>	Ambedkar surveyed the existing data on the different castes in his book "The Untouchables"	

### Differences in the view of [Ambedkar](#) and [Gandhiji](#):

Issue	Ambedkar's Views	Mahatma Gandhi's Views
<b>Caste System</b>	Vocal critic and fought for its abolition	Believed in the notion of varnashrama dharma
<b>Untouchability</b>	A strong advocate for the rights of Dalits and other marginalized communities	Believed in social reform rather than legal means
<b>Political Representation</b>	Essential for empowerment and pushed for reserved seats in government	Reservation would perpetuate the caste system and advocate for education and economic empowerment
<b>Means of Resistance</b>	Power of legal and constitutional means	Non-violent resistance and civil disobedience
<b>Religion</b>	<b>Critical of Hindu religion</b> and later converted to Buddhism	Believed in an <b>inclusive and tolerant form of Hinduism</b>
<b>Approach to Economic Development</b>	Believed in <b>economic development</b> for marginalized communities	Believed in <b>self-sufficient and rural-based economy</b>
<b>Education</b>	Essential for the empowerment and establishment of educational institutions for disadvantaged groups	Saw education as important, but focused more on <b>promoting basic education and literacy</b>
<b>Leadership Style</b>	<b>Strong and decisive</b>	<b>Humble and inclusive</b> with an emphasis on consensus-building
<b>Political Ideology</b>	A strong advocate for democracy	<b>Ambivalent about democracy</b> , saw it as a means to an end
Despite their differences, both Ambedkar and Gandhi were important leaders in the fight for Indian independence and the pursuit of social justice. Their ideas and actions continue to influence and inspire Indian society today.		

### Ambedkar's relevance in the Present times:

- His **ideas and actions for social justice, equality**, and nation-building are still relevant today
- His **vision of a just society and his emphasis** on establishing institutions for the same continue to inspire and guide policy-making and governance in India.
- **Implementation of various pro-poor and people-centric policy measures** (Stand-Up India, PM Awas Scheme, BHIM, Prime Minister's Panch Pran mantra), which align with Ambedkar's vision.



## Panch Teerth

Government will soon start **Ambedkar Circuit** on the lines of Ramayana and Buddhist circuit. It will connect the five sites associated with **Dr. B. R. Ambedkar (father of Indian Constitution)**



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### Ethical values from his life:

- **Equality** (he fought to establish a society based on equal rights and opportunities for all)
- **Justice and fair treatment**
- **Respect for diversity** (every individual had the right to express their unique identity);
- **Courage** (he remained committed to his principles and fought for social justice despite facing prejudice and discrimination)
- **Integrity**

### Conclusion:

Today, India as a nation is facing several socioeconomic, and political challenges. Dr B R Ambedkar, the most forceful champion and icon of the socially deprived, continues to serve as a guiding light.

### Insta Links:

[BR Ambedkar](#)

## SALIENT FEATURES OF INDIAN SOCIETY

### 2. MARRIAGE BREAK-UPS: TRENDS AND IMPLICATIONS

<b>Context:</b>	Many societies worldwide still uphold the belief that 'marriages are made in heaven' and its violation is taken as sacrilege, a social evil.
<b>What is Marriage?</b>	The institution of marriage is a <b>socially and legally recognized union between two people</b> that establishes rights and obligations between them and their families. It is a universal human institution found in almost every culture and society
<b>Global marriage patterns:</b>	
<ul style="list-style-type: none"> <li>The UN recorded a doubling of the proportion of adults (in the 35-39 age group) getting divorced or separated <b>from 2% in the 1970s to 4% in the 2000s.</b> <ul style="list-style-type: none"> <li>This was partly reflective of the <b>changes in expectations within marriages with the women entering the work-force.</b></li> </ul> </li> <li>According to OECD, a <b>mixed trend is witnessed</b> as this proportion has increased in 18 countries (like the US) and reduced in 12.</li> </ul>	
<b>Trends in India:</b>	
<ul style="list-style-type: none"> <li><b>93% of married Indians</b> (among those surveyed in 2018) had 'an arranged marriage', as against the global average of about 55%.</li> <li><b>The annual divorce rate in India</b> is (low) at <b>1.1</b> per 1,000 people annually. This means, of every 1,000 Indian marriages, only 13 result in divorce.</li> </ul>	
<b>What compels Indian women to 'adjust' to bad marriages?</b>	
<ul style="list-style-type: none"> <li><b>Divorce is initiated by men</b>, as prevailing social norms discourage women from exercising this right.</li> <li><b>Indian legal framework</b> is described (by feminists) "as benevolent patriarchal patronage at its best". Hence, <b>women encounter legal hassles and socio-economic isolation.</b></li> <li>The low labour-force participation rate of Indian women translates to <b>high levels of financial dependency.</b></li> <li><b>The vicious cycle of financial dependency:</b> There is clear misogyny in the matrimonial market in India → <b>Employed women received 15% fewer responses.</b></li> </ul>	
<b>Gendered consequences of divorce on socio-economic, domestic, health, and other aspects of life:</b>	
<ul style="list-style-type: none"> <li><b>Women</b> face chronic strains (whereas men face transient impacts) of divorces, as they suffer from           <ul style="list-style-type: none"> <li>Disproportionate losses in household income,</li> <li>Higher risk of losing homeownership,</li> <li>Lower chances of re-partnering and also bearing the greater responsibilities of single parenting.</li> <li><b>This furthers the gender gap in the standard of living.</b></li> </ul> </li> <li><b>Men</b> tend to be more vulnerable to <b>health declines, mortality and emotional damage</b> (often face a challenge in maintaining contact with their children).</li> </ul>	

#### Is the increasing divorce rate a sign of women's social progress and society maturing?

Yes	No
<ul style="list-style-type: none"> <li><b>Loosen the hold of patriarchy</b>, as divorces are considered a challenge to patriarchal power.</li> <li><b>Mauritanian society</b> celebrates a woman's divorce and women lead a new life <b>free of any stigma of a failed relationship.</b> Such a societal attitude <b>indicates a shift in the ideas of family and marriage.</b></li> <li><b>A business opportunity</b> for the increased demand it creates for homes and household products.</li> </ul>	<p><b>A debilitating factor in societal stability</b>, given the adverse economic and socio-psychological fallout on divorced parents and their children.</p>

#### Way ahead:

- UN Women** has urged all nations to adopt **family-friendly policies and workplace regulations** (like Germany) that enable women and men to combine caregiving with paid work.
- The institution of marriage, as a basic social unit, **should be strengthened** for the well-being of families.
  - For this, **the basic education system should foster equal partnership** as a foundational value in marriage.

#### Mains Links:

The life cycle of a joint family depends on economic factors rather than social values. Discuss. (UPSC 2014)



## POPULATION AND ASSOCIATED ISSUES

### 3. UN POPULATION REPORT: INDIA BECOMES WORLD'S MOST POPULOUS NATION

#### Context:

According to the **United Nations Population Fund's (UNFPA) State of World Population (SOWP) report 2023 - '8 Billion Lives, Infinite Possibilities'** - [India is now the most populous country](#) in the world.

#### Highlights of the report:

<b>Total</b>	The population of the world is <b>8,045 million</b> .
<b>The largest share (age)</b>	<ul style="list-style-type: none"> <li>Out of this, <b>the largest share (65%) is of people between the ages of 15 - 64 years</b>, followed by those in the 10-24 years group (24%).</li> <li><b>10% of the population is above 65 years of age.</b></li> </ul>
<b>The largest share (region)</b>	<ul style="list-style-type: none"> <li>The world's two most populous regions are <b>Eastern and South-Eastern Asia</b> [2.3 billion people - 29% of the global population]; and</li> <li>Central and Southern Asia [2.1 billion - 26%].</li> </ul>
<b>The largest share (countries)</b>	<b>China and India</b> accounted for the largest populations in these regions, with more than 1.4 billion each in 2022.
<b>The outlook for population growth</b>	<ul style="list-style-type: none"> <li>While numbers will continue to grow for several decades, the <b>rate of global population growth has fallen</b> (&lt;1% since 2020 compared to 5% in 1950).</li> <li>This is largely due to <b>declining fertility</b> - around two-thirds of people live in areas with a total fertility rate <math>\leq 2.1</math> children per woman → <b>replacement fertility rate/zero-growth fertility rate</b>.</li> <li>It is <b>international migration</b> (due to war, and famines, among other reasons) that is now the driver of growth in many countries, <b>with 281 million people living outside their country of birth in 2020</b>.</li> <li><b>South Asia clocks some of the highest emigration trends</b>, with India seeing an estimated net outflow of 3.5 million between 2010 and 2021 (Pakistan has the highest net flow).</li> </ul>
<b>What contributed to the global population growth?</b>	<b>Increasing life expectancy</b> (among men - 71 years while among women - 76 years). This also means that parts of the world, such as Japan, have a rapidly ageing population.
<b>Projections</b>	<ul style="list-style-type: none"> <li>The global population could grow to around <b>8.5 billion in 2030, 9.7 billion in 2050 and 10.4 billion in 2100</b>.</li> <li><b>Central and Southern Asia</b> is expected to become the most populous region in the world by 2037.</li> <li>More than half of the projected increase in global population up to 2050 will be concentrated in <b>eight countries</b> - Congo (DRC), Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and Tanzania.</li> <li>Once fertility rates drop in high-fertility regions such as sub-Saharan Africa, the <b>global population will start to decline</b>.</li> </ul>

#### India specific findings

- India now has **1,428.6 million people**, outstripping China's population. India's growth rate has dropped to <1% from 2.3% in 1972.
- 68%** of India's population belongs to the 15-64 years category, and **26%** in the 10-24 years group, **making India one of the youngest countries** in the world.
- The total fertility rate** in India has been steadily dropping [NFHS-5 (2019-21)- **2.0**, less than the replacement level of **2.1**].
- Increased use of contraceptive methods, spacing, access to health care, and increasing wealth and education, has contributed to this decline.

- **Life expectancy** for men in India is 71 years (same as global figures), while it is marginally lower for women at 74 years.
- India's large population is a result of the "**population momentum**" from earlier decades, and the country's population is **likely to start its decline closer to 2050**.

Good	Bad	Takeaway for India
<ul style="list-style-type: none"> <li>• <b>Opportunity for India - Demographic dividend.</b></li> <li>• 68% of its population is the youth/working population.</li> <li>• The population in many countries, like Japan and South Korea is on the decline.</li> <li>• India could have one of the largest workforces in the world, <b>giving it a global advantage</b> (skilled labour to countries that will be in dire need), and <b>spurring its economic growth</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Increasing dependency:</b> A declining fertility rate is accompanied by an aging population.</li> <li>• <b>Demographic disaster:</b> If India fails to capitalise on its demographic dividend/fails to educate and skill its youth.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Delays in conducting Census exercises can have adverse consequences.</b></li> <li>• The population estimates in the UNFPA report are higher than India's own.</li> <li>• According to the Census Office, India's population in 2023 was expected to be only 1,388 million (about 139 crores).</li> </ul>

**Insta Links:** [Decoding India's population conundrum](#)

## DISTRIBUTION OF KEY NATURAL RESOURCES ACROSS THE WORLD (INCLUDING SOUTH ASIA AND THE INDIAN SUB-CONTINENT)

### 4. CRITICAL MINERALS: RESILIENT SUPPLY CHAINS

#### Context:

A recent working paper evaluated the **criticality levels of 43 select minerals for India**.

#### Background:

- **Critical minerals** refer to **mineral resources**, both **primary and processed**, that are
  - **Economically important/demand-side factors** (to meet the manufacturing needs of green technologies, high-tech equipment, aviation, and national defence) and
  - **Have high levels of supply risk/supply-side factors** (due to non-availability or unaffordable price spikes).
- To tackle such supply risks, **major global economies periodically evaluate** which minerals are critical for their jurisdiction through a quantitative assessment.
- Minerals such as **antimony, cobalt, gallium, graphite, lithium, nickel, niobium, and strontium** are among the **22** assessed to be critical for **India**.
- India does not have many of these mineral reserves, **necessitating reliance on foreign partners to meet domestic needs**.

Assuring resilient critical minerals supply chains remains a challenge for India	
International front	Domestic front
<ul style="list-style-type: none"> <li>• <a href="#">China, the most dominant player</a> in the critical mineral supply chains, still struggles with Covid-19-related lockdowns.</li> <li>• <b>The war between the two countries:</b> <ul style="list-style-type: none"> <li>• <b>Russia</b> is one of the significant producers of nickel, palladium, titanium sponge metal, and the rare earth element scandium.</li> <li>• <b>Ukraine</b> is one of the major producers of titanium and has reserves of lithium, cobalt, graphite, and rare earth elements, including tantalum, niobium, and beryllium.</li> </ul> </li> <li>• <b>The balance of power shifts across continents and countries:</b>The strategic partnership between <b>China and Russia</b>.</li> <li>• As a result, developed countries have launched the <b>Minerals Security Partnership (MSP)</b> and <b>G7's Sustainable Critical Minerals Alliance</b>. But, <b>developing countries (like India)</b> have missed out.</li> </ul>	<ul style="list-style-type: none"> <li>• While India has a geological potential similar to mining-rich Western Australia, <b>much still needs to be explored</b>, hindering India's emissions reduction and climate change mitigation timeline.</li> <li>• Many critical and strategic minerals constitute part of the list of atomic minerals in the <a href="#">Mines and Minerals (Development and Regulation) (MMDR) Act 1957</a>.</li> <li>• However, the present policy regime <b>reserves these minerals only for public sector undertakings</b>.</li> <li>• <b>Long lead times</b> for setting up new exploration, extraction, and processing activities.</li> </ul>



**Way ahead:**

- There is an imperative need to create a **new list of such minerals in the MMDR Act**. These minerals must be **prospected, explored, and mined on priority**.
- The reconnaissance and exploration of minerals must be encouraged, **with particular attention given to deep-seated minerals**.
  - This will call for a **collective effort** by the government, 'junior' miners, and major mining companies.
- An **innovative regime** must be devised to allocate critical mineral mining assets, which adequately incentivizes private explorers, including 'junior' explorers.
- India needs to determine where and how the **processing** of minerals and **assembly** of critical minerals-embedded equipment will occur.
- India requires a **critical minerals strategy** comprising measures aimed at making the country **AatmaNirbhar** (self-reliant) in critical minerals needed for sustainable economic growth.
- India must actively engage in **bilateral and plurilateral arrangements** for building assured and resilient critical mineral supply chains.
- **The assessment** of critical minerals for India needs to be updated every three years to keep pace with changing domestic and global scenarios.

**Conclusion:**

A national critical minerals strategy for India, underpinned by the minerals identified in this study, can help focus on priority concerns in supply risks, domestic policy regimes, and sustainability.

**Insta Links:** [Rare earth elements and push for inclusion in supply partnership](#)

## IMPORTANT GEOPHYSICAL PHENOMENA

### 5. THE LINK BETWEEN 'FLASH DROUGHTS' AND CLIMATE CHANGE

**Context:**

According to a new study, **flash droughts are becoming more common and faster** to develop around the world, and human-induced climate change is a major reason.

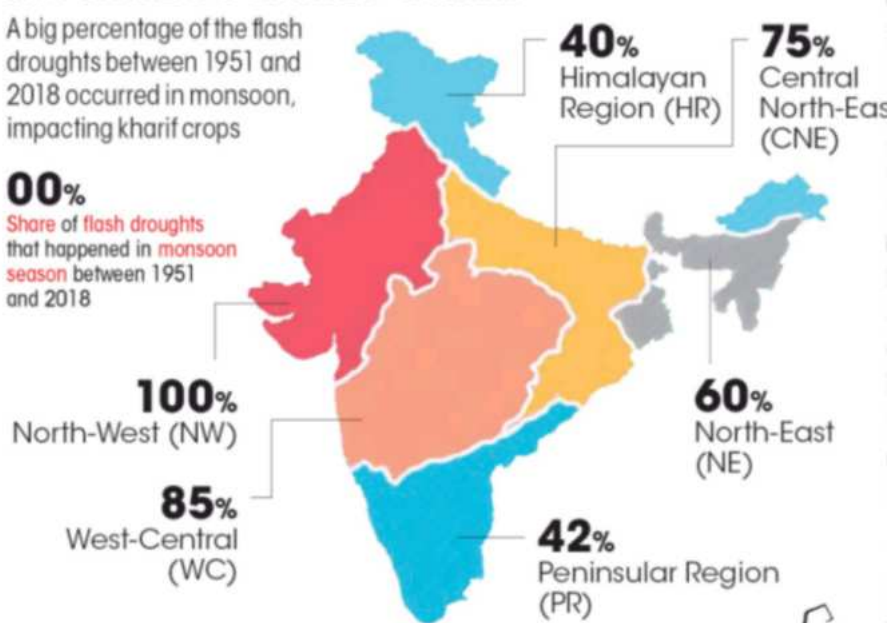
Flash Drought		
<b>Difference between Flash &amp; Conventional Droughts</b>	<b>Flash drought</b> is the rapid onset or intensification of drought. It is set in motion by <b>lower-than-normal rates of precipitation</b> , accompanied by <b>abnormally high temperatures (heat waves), winds and radiation</b> . Typically occurs during <b>warm seasons</b> and tropical/humid places are more vulnerable	<b>Conventional Drought</b> is a <b>slow-onset (natural) disaster</b> characterized by the lack of precipitation, resulting in a water shortage.

**AN UNRECOGNISED CRISIS**

A big percentage of the flash droughts between 1951 and 2018 occurred in monsoon, impacting kharif crops

**00%**

Share of flash droughts that happened in monsoon season between 1951 and 2018

**THE WORST FOUR FLASH DROUGHTS**

All occurred in monsoon, devastating crop production

**1958**

affected CNE and NW

**1979**

affected CNE, NW and WC

**1986**

spread across WC, CNE, NW and PR

**2001**

affected WC, CNE and NW

<b>Causes</b>	<ul style="list-style-type: none"> <li>Higher temperature increases <b>evapotranspiration</b> - the process by which water is transferred from the land to the atmosphere by evaporation from the soil and by transpiration from plants.</li> <li>Flash drought can also be tied to <b>rhythmic climatic patterns</b>, such as <b>El Nino</b> (in Asia) and <b>La Nina</b> (eastern Pacific) events.</li> <li>If not predicted early enough, changes in soil moisture can cause <b>extensive damage to agriculture, economies, and ecosystem goods and services</b>.</li> </ul>
<b>Prediction and Mitigation</b>	<ul style="list-style-type: none"> <li>Changes in the rate of evapotranspiration and soil moisture have been identified as key early warning indicators.</li> <li><b>Vulnerability mapping</b> will help policymakers, and farmers plan accordingly.</li> </ul>

### Highlights of the study:

- Flash droughts occurred more often than slower ones in **tropical/humid places like India**, Southeast Asia, sub-Saharan Africa and the Amazon basin.
- As **global warming** continues, more abrupt dry spells could have grave consequences for the livelihoods of people **dependent on rain-fed agriculture**.

**Insta Links:** [More flash droughts in India by end of the century](#)

### Mains Links:

**Q. The interlinking of rivers can provide viable solutions to the multi-dimensional inter-related problems of droughts, floods, and interrupting navigation. Critically examine. (UPSC 2020)**

## 6. HEAT STROKE

### Context:

13 people died due to heatstroke after they attended a large public gathering in the open in Kharghar, Navi Mumbai.

Heat stroke	
<b>Meaning</b>	Heat stroke/sunstroke/hyperthermia is the result of <b>overheating of the body</b> as a result of <b>exposure to high temperatures and humidity</b> .
<b>Causes</b>	<ul style="list-style-type: none"> <li>The combination of <a href="#">high temperature</a> and high humidity → <b>wet bulb temperature</b> → makes heat waves deadly.</li> <li>High moisture content in the atmosphere <b>makes it difficult for sweat to evaporate and for bodies to cool down</b>.</li> <li>Consequently, the internal body <b>temperature increases sharply</b> → 41 degree Celsius or higher within 10 to 15 minutes.</li> </ul>
<b>Impact</b>	<ul style="list-style-type: none"> <li>Persons suffering from heat exhaustion/dehydration (which is a milder form of heat-related illness) experience <b>fatigue, dizziness, headache, nausea, vomiting, hypotension</b> (low blood pressure) and <b>tachycardia</b> (increased heart rate).</li> <li>Heat stroke can cause <b>permanent disability or death</b> if the person does not receive emergency treatment.</li> </ul>
<b>Dos and don'ts</b>	<b>Stay hydrated</b> , cover yourself well; Use sunglasses, umbrellas or hats; Avoid alcohol, tea, coffee and carbonated soft drinks; Carry ORS and homemade drinks; Avoid high-protein food.
<b>NDMA advisory for political gatherings</b>	<ul style="list-style-type: none"> <li><b>During election campaigning</b>, parties are supposed to ensure that water, ORS packets, medical kits, and mobile ambulances are readily available at all such events.</li> <li><b>During voting</b>, electoral officers were advised to ensure that every polling booth had provisions for drinking water, functional clean toilets, facilities for people to sit, some areas under shade, and essential medical kits.</li> </ul>

### Why did a heat stroke event happen in Maharashtra?

- Two different observatories **recorded 34.1 and 38 degrees Celsius** as the maximum temperatures, which is **normal** during this time of the year.



- No **heat wave** warnings - for coastal stations **maximum temperature departure is 4.5 degrees Celsius or more than normal** - were issued by the IMD.
- Long exposure to heat in the **open ground, physical exertion**, elderly patients, and patients with high cholesterol and cardiac illnesses may have had a role to play.

#### The sharp decline in heat-related deaths in India:

### HEAT-LINKED DEATHS

Year	Deaths
2010	269
2011	12
2012	729
2013	1,433
2014	548
2015	2,040
2016	1,111
2017	384
2018	25
2019	226
2020	4
2021	4
2022	33

*Compiled from Ministry of Earth Sciences, NDMA and Ministry of Health*

- **Monitoring and management** of heatwaves have undergone a big improvement.
- Almost every vulnerable state now has a **heat action plan** (early warning, provision of water/ORS at public places and flexible working hours in offices/ education institutions) **in place**.

#### Challenges ahead:

- An **excessively hot summer** is predicted this year because of the **end of the strong La Nina phase** in the equatorial Pacific Ocean.
- New forecasts suggest that **El Nino is expected to kick in** from the May-July period itself → suppressing of monsoon rainfall → **exacerbating the effects of a hot summer**.
- Heatwaves are predicted to become more intense, prolonged and frequent because of **climate change**.

#### Conclusion:

The local administration needs to be vigilant and proactive and the implementation of NDMA advisories needs to be monitored by higher authorities on a daily basis.

**Insta Links:** [Heat Waves and Climate Change](#)

## GS PAPER-2

### FUNCTIONS AND RESPONSIBILITIES OF THE UNION AND THE STATES, ISSUES AND CHALLENGES PERTAINING TO THE FEDERAL STRUCTURE, DEVOLUTION OF POWERS AND FINANCES UP TO LOCAL LEVELS AND CHALLENGES THEREIN

#### 1. THE NAGALAND GOVERNMENT REPEAL ITS MUNICIPAL ACT

##### Context:

The Nagaland government, repealed the **Nagaland Municipal Act of 2001**, which included **33% reservation for women** in urban local bodies, in the face of opposition from community-based organizations.

##### Background of the Issue:

**Nagaland is the only state** in India where seats in Urban Local Bodies (ULBs) are not reserved for women, as mandated by the [74th Amendment to the Constitution](#). The State government amended the **2001 Municipal Act in 2006** to include **33% reservation** for women, but this move **faced strong opposition**, leading to the **indefinite postponement** of ULB polls in 2009. Recently, the **Supreme Court pressurized the Nagaland government** to hold ULB polls, but now the government has repealed the Municipal Act 2001.

##### Reasons for repealing the Nagaland Municipal Act:

Reasons	Examples
<b>Opposition from traditional tribal organizations</b>	Several traditional tribal organizations <b>opposed the 33% reservation of seats for women</b> as they argue that such reservation would violate the <b>special provisions granted by Article 371A</b> of the Constitution to Nagaland.
<b>Violation of customary laws</b>	The apex tribal bodies ( <b>hohos</b> ) in Nagaland have argued that women have <b>traditionally not been part of decision-making bodies</b> and that reservation of seats for women <b>would violate customary laws</b> .
<b>Political pressure and public sentiment</b>	The Nagaland government succumbed to political pressure and public sentiment against the reservation of seats for women in ULBs.

##### Consequences of repealing the Nagaland Municipal Act:

Consequence	Description
<b>Loss of representation for women</b>	Without the Municipal Act, there is no legal provision for reserving seats for women in urban local bodies.
<b>Potential violation of constitutional provisions</b>	The repeal of the Municipal Act could be seen as a violation of the 74th Amendment to the Indian Constitution, which mandates the reservation of seats for women in urban local bodies.
<b>Delay in holding local body elections</b>	It could result in <b>further delays in holding local body elections</b> , which were already postponed several times due to opposition from certain groups.
<b>Loss of credibility for the government</b>	The repeal of the Municipal Act after an <b>undertaking was given to the Supreme Court</b> could erode the credibility of the Nagaland government and its commitment to upholding the rule of law.
<b>Ethical concerns</b>	Gender Equality, Discrimination, Lack of Accountability, and violation of promises

##### Demands of the Tribal Organizations:

- A “**guarantee**” that the **33% quota would not violate the provisions of [Article 371A](#)**.
- The **duration of the reservation** should be capped at **two tenures**
- The **post of chairperson** should not be reserved for women.



**About Article 371A:**

Article 371A of the Indian Constitution is a **special provision made for the state of Nagaland**, to provide special safeguards for the protection of the **unique social and cultural practices, customs and traditions** of the Naga people, who have a distinct identity and history.

Major Provisions	Description
<b>Governor's special responsibility</b>	The Governor of Nagaland has a special responsibility <b>to ensure law and order and the administration of justice.</b>
	The Governor <b>must be consulted on all matters concerning the appointment of civil servants</b> and selection of candidates for admission to educational institutions in Nagaland.
<b>State legislature power</b>	The state legislature of Nagaland has the power to <b>enact laws relating to the ownership and transfer of land</b> and its resources, customary law and practice of the Naga tribes.
<b>Restrictions on Parliament</b>	Parliament of India is <b>prohibited from enacting any law that affects the religious or social practices</b> of the Naga people, their customary law and procedures, or ownership and transfer of land and its resources in Nagaland.

**Insta links**

[Article 371 of the Constitution](#)

**JUDICIARY****2. ISSUES IN SAME-SEX MARRIAGE****Context:**

A five-judge Constitution Bench headed by the CJI heard a batch of petitions seeking legal recognition for [same-sex marriage](#).

**Background:**

- The Court has been hearing multiple petitioners' requests for **legal recognition of same-sex marriages** under the **Special Marriage Act (SMA) 1954** and making the law **gender-neutral**.
- Earlier, the court had referred the pleas to a Constitution Bench because the case involves -
  - An interplay of **constitutional rights and specific legislative enactments** including the Special Marriage Act on the one hand, and
  - The rights of transgender couples** on the other hand.

The issue of same-sex marriage in India	
<b>Arguments of petitioners</b>	<ul style="list-style-type: none"> <li>Marriage is a social status which is bestowed by law.</li> <li><b>These laws do not recognise the rights of same-sex married couples</b> (right to adopt/have children by surrogacy, rights to inheritance, pension etc) even though the SC held that all adults have the right to marry a person of their choice.</li> <li>They will not be able to avail of legally accrued benefits of laws. <b>For example,</b> <ul style="list-style-type: none"> <li><b>The Transplantation of Human Organs Act</b> only allows near relatives to object to the use of a deceased's body for organ donation.</li> <li><b>Section 80 of the IT Act 1961</b> provides for the deduction of certain sums for computing the total income of an assessee when such sums are paid on behalf of a spouse.</li> </ul> </li> <li><b>Equality</b> must extend to all spheres of life - home, workplace, and public places.</li> <li>Non-recognition of same-sex marriage violates rights under -</li> <li>Articles 14 (right to equality before the law),  <b>15 (right against discrimination on grounds of religion, race, caste, sex, place of birth),</b>  <b>19 (freedom of speech and expression), and</b>  <b>21 (protection of life and personal liberty) of the Constitution.</b></li> </ul> <p>Therefore, <b>structural changes along with attitudinal changes</b> are the need of the hour.</p> <ul style="list-style-type: none"> <li>For this to happen, benefits of legislation such as the <b>Special Marriage Act 1954</b> (which provides for the solemnization of special marriages between any two persons), should be provided to same-sex couples.</li> </ul>

<b>Views of the Centre</b>	<ul style="list-style-type: none"> <li>• Opposed the petitions and questioned their maintainability.</li> <li>• If the court allows same-sex marriage, it would amount to the “<b>judicial creation of a social institution called ‘marriage’ of a different kind than contemplated in the existing law</b>”.</li> <li>• <b>Only the legislature</b> (repository of democratic representation and reflects the will of the people) <b>has the right to make such changes in the law.</b></li> <li>• <b>Marriage is not confined to the private sphere</b> - The regulation of marriage is very much an issue of acceptance by society - <b>This rationale</b> is the very basis for state recognition of marriage.</li> </ul>		
<b>Earlier SC judgments</b>	<b>Lata Singh vs State of UP (2006), Shafin Jahan vs Asokan KM (2018) and Laxmibai Chandaragi B vs The State of Karnataka (2021):</b> An adult person has the right to marry a person of their choice under Article 21.	<b>KS Puttaswamy vs Union of India (2017):</b> The rights of LGBTQ are inherent in the right to life, privacy, and dignity. They constitute the essence of <b>liberty and freedom</b> .	<b>Navtej Singh Johar vs UOI (2018):</b> The choice of whom to partner, the ability to find fulfilment in sexual intimacies and the right not to be subjected to discriminatory behaviour are <b>intrinsic to the constitutional protection of sexual orientation</b> .
<b>Way ahead</b>	The <a href="#">march towards same-sex marriage</a> in a diverse country like India, with well-entrenched traditions will not be easy. Therefore, <b>awareness on sex, gender and constitutional rights</b> from the school level to change things on the ground is the need of the hour.		

**Insta Links:** [What is India's stand on same-sex marriage?](#)

#### Prelims Links: UPSC 2019

Which Article of the Constitution of India safeguards one's right to marry the person of one's choice?

1. Article 19
2. Article 21
3. Article 25
4. Article 29

**Ans: 2**

## ISSUES RELATING TO DEVELOPMENT AND MANAGEMENT OF SOCIAL SECTOR/SERVICES RELATING TO HEALTH, EDUCATION, HUMAN RESOURCES.

### 3. THE STATE OF THE WORLD'S CHILDREN 2023

#### Context:

UNICEF released its global flagship report ‘**The State of the World's Children 2023: For Every Child, Vaccination,**’ highlighting the significance of childhood immunization.

#### What is Immunization?

Immunization, also known as vaccination, is the process of protecting an individual or a population from disease by introducing a **substance that stimulates the body's immune system** to recognize and fight the disease-causing agent, such as a virus or bacteria.

#### The major findings of the report are:

Finding	Example
The decline in vaccine confidence globally	Over a third of the 55 countries studied for <b>vaccine confidence</b> showed a decline.
The largest decline in childhood immunization in 30 years	A total of <b>67 million children missed out on vaccinations</b> between 2019 and 2021. In 2022, the number of measles cases was more than double the total in the previous year.
Existing inequities in vaccination access	Unvaccinated children often live in <b>hard-to-reach communities</b> such as rural areas or urban slums.
The growing threat of Vaccine Hesitancy	There is a growing threat of vaccine hesitancy due to factors such as <b>access to misleading information and declining trust in vaccine efficacy</b> .

**India-specific findings:**

<b>Decrease in the number of zero-dose children during the pandemic</b>	Between 2020 and 2021, the number of <b>zero-dose children</b> in India decreased from <b>3 million to 2.7 million</b> . However, India was among the <b>top 20 countries with the largest numbers of zero-dose children</b>
<b>Improvement in the 'Importance Given to Vaccines'</b>	98% of the population in India currently perceive vaccines as important for children

**Recommendations:**

<b>Emphasizes sustained evidence-based catch-up campaigns</b>	India was able to <b>bring down the number of zero-dose children</b> due to sustained evidence-based catch-up <b>campaigns (e.g., Intensified Mission Indradhanush (IMI), ASHA workers, routine immunization)</b>
<b>Accelerating the implementation</b>	Increase the implementation of <b>Immunization Agenda 2030</b> and <b>Gavi Strategy 5.0</b> to promote equity and sustainably scale up immunization coverage.
<b>Strengthen demand for vaccination</b>	Demand for vaccination can be strengthened by talking to communities, tackling gender barriers, and rethinking accountability in health systems.
<b>Importance of investing in primary healthcare</b>	Spending more on <b>immunization and health by investing in primary health care</b> at the national level can help promote sustainable and equitable vaccine coverage.
<b>Need to build resilient systems</b>	E.g., India's digital health platform <b>TeCHO+ (Technology Enabled Community Health Operations)</b> and <b>electronic vaccine intelligence network (eVIN)</b> increased vaccination coverage while enhancing data entry efficiency

**Conclusion:**

Reaching the last child with immunization is a key marker of equity that benefits not only the child but also the whole community. Routine immunizations and strong health systems can best prepare us in preventing future pandemics and reducing morbidity and mortality.

**Terms used:**

- **"Zero dose children"** refers to children who have **not received any vaccines at all** or have not received any vaccines according to the recommended schedule for their age.
- **Vaccine Hesitancy:** Vaccine hesitancy refers to the reluctance of an individual or a group of people to get vaccinated despite the availability of vaccines.
- **Vaccine confidence** refers to the level of trust and belief individuals and communities have in the safety and effectiveness of vaccines.

**About UNICEF:**

**United Nations Children's Fund (UNICEF)** (est. 1946; became a part of UN in 1953; HQ: New York) is an agency of the United Nations (UN) devoted to aiding national efforts to improve the **health, nutrition, education, and general welfare of children**. It is guided by the **Convention on the Rights of the Child, 1989**.

**Insta Links**

[NATIONAL IMMUNISATION DAY](#)

**Mains Links**

**Q. It is found that vaccines taken during childhood do not protect against diseases throughout a person's lifetime. Examine why. Also, discuss the importance of Child vaccination. (250 Words)**

**Prelims Links**

**Q. 'Mission Indradhanush' launched by the Government of India pertains to ( UPSC 2016)**

- immunization of children and pregnant women
- construction of smart cities across the country
- India's own search for Earth-like planets in outer space
- New Educational Policy

**Ans: A**



## DEVELOPMENT PROCESSES AND THE DEVELOPMENT INDUSTRY —THE ROLE OF NGOS, SHGS, VARIOUS GROUPS AND ASSOCIATIONS, DONORS, CHARITIES, INSTITUTIONAL AND OTHER STAKEHOLDERS.

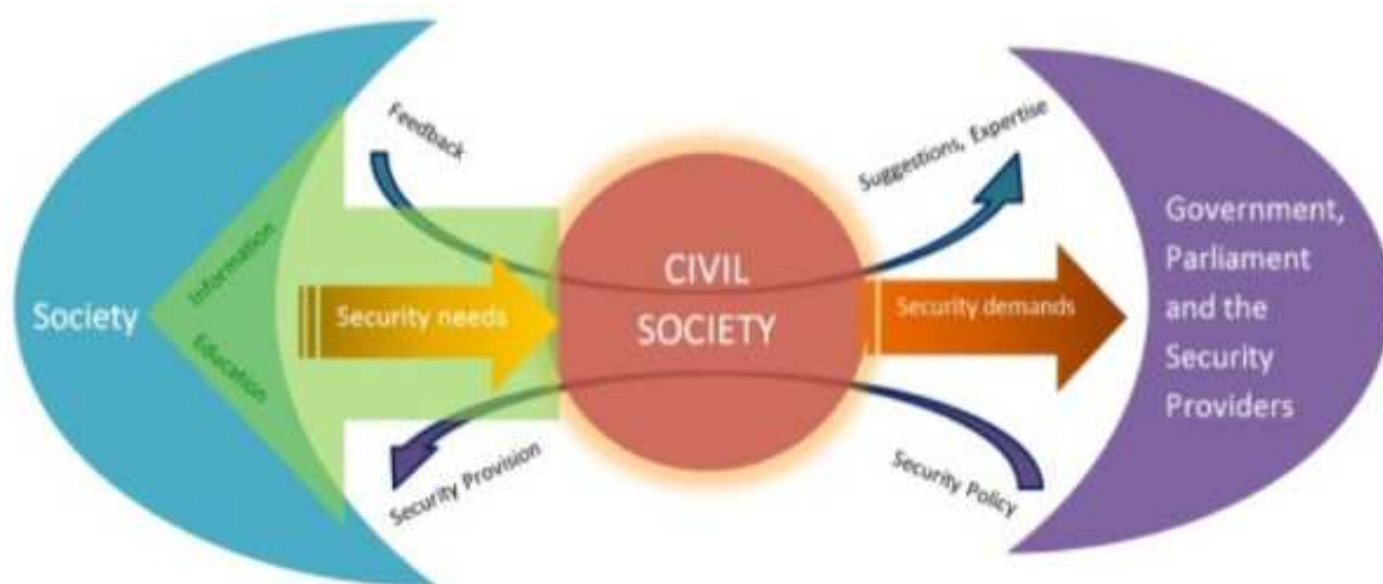
### 4. INDIA'S CIVIL SOCIETY ORGANISATIONS

<b>Context:</b>	The ability of civil society organisations (CSO) or movements to shape policy and public discourse in India has shrunk drastically.
<b>CSOs:</b>	<ul style="list-style-type: none"> <li>These are <b>non-State, not-for-profit, voluntary entities</b> formed by people in the social sphere that are separate from the State and the market.</li> <li>They represent a wide range of interests and ties and can include community-based organisations as well as non-governmental organisations (NGOs).</li> </ul>
<b>Why and how CSOs in India are curbed?</b>	
<ul style="list-style-type: none"> <li>Seen as the new frontier for <b>war, and foreign interference</b> and vilified as <b>disruptive to India's development trajectory and therefore anti-national</b>.</li> <li><b>Imposing financial and structural constraints by</b> <ul style="list-style-type: none"> <li>Cancelling FCRA clearances,</li> <li>Revoking licences,</li> <li>Imposing retrospective taxes, and</li> <li>Pressuring private companies and philanthropists to redirect funding.</li> </ul> </li> <li>Activists, journalists, academics and students have been targeted by the <b>state's governing instruments and non-state actors</b> (spreading violence and abuse - online and offline).</li> </ul>	
<b>Impact of these restrictions on CSOs:</b>	
<ul style="list-style-type: none"> <li><b>Existential threats</b> are faced by civil society actors as their <b>constitutional and civic freedoms are curtailed</b>.</li> <li><b>Migrate to safer avenues/</b> limit the scope of their work/ re-align with the govt.</li> <li><b>This is a grave threat to the system's integrity</b> because civil society is an indispensable safety valve (fixing accountability) for tensions in a polity.</li> <li><b>Unable to speak truth/amplify the voices</b> of the most vulnerable, enrich policies/legislation through constructive feedback.</li> <li><b>Unable to further the collective good</b> - not in the national interest.</li> <li>Young activists could be inducted into political parties → <b>could create an institutionalized moral force within the parties</b> → Balance electoral compulsions with ethical/human rights considerations.</li> </ul>	
<b>New trends:</b>	
<ul style="list-style-type: none"> <li><b>The emergence of govt-backed CSOs:</b> Termed as '<b>New Civil Society for New India</b>', such CSOs are the principal beneficiary of Corporate Social Responsibility (CSR) funds, and have access to and influence over select departments in governments.</li> <li><b>Implications:</b> <ul style="list-style-type: none"> <li>A profound influence on the welfare activities, human rights, and freedoms <b>shaped by the CSO's ideological imperatives</b>, altering the civil society landscape in India.</li> <li>All other CSOs/movements are slowly being <b>circumscribed</b>.</li> </ul> </li> </ul>	
<b>Challenges faced by CSOs:</b>	
<ul style="list-style-type: none"> <li><b>Less flexible</b> in reorienting their normative and operational methodologies.</li> <li><b>Still clinging to outdated tactics.</b> For example, protests at Jantar Mantar undoubtedly bring activists together but they do less to shape the thinking or action of governments.</li> <li>Similarly, <b>articles/papers, and speeches</b> at think tanks/conferences/symposiums do not affect governments into any substantive course correction.</li> <li><b>Even lobbying legislators</b> to raise issues is ineffective as the political parties do not let Parliament function.</li> <li><b>Fails to blend socio-cultural values</b> with welfare/constructive work or calls to protect constitutional values.</li> <li>Consequently, they are <b>unable to guide mass consciousness</b>.</li> </ul>	

**Way forward for progressive civil society in India:**

- Realignment is needed by finding structural solutions to structural problems.
- **Learning from the Gandhian constructive movement**, which complemented the Congress system - an electoral and governance machine.
- **CSOs will need to urgently collaborate** with other progressive stakeholders.
- **Private philanthropies and companies** need to realise that they are the only lifeline for progressive CSOs today.

The inaction today will directly contribute to the extinction of civil society - **the fifth pillar of Indian democracy**. Therefore, by devising new methods of principled coalition we can safeguard and eventually further the constitutional idea of India.



**Insta Links:** [Role of Civil society organisations](#)

**Mains Links:**

Can civil society and Non-Government Organisations present an alternative model of public service delivery to benefit the common citizen? Discuss the challenges of this alternative method. (UPSC 2021)

## ROLE OF CIVIL SERVICES IN A DEMOCRACY

### 5. 16TH CIVIL SERVICES DAY

**Context:**

**National Civil Service Day**, observed on April 21 every year, is a celebration of the idea of national civil service. The **first** National Civil Services Day was celebrated on **April 21, 2006**.

**Background:**

- Civil servants **constitute the backbone of the administration**.
- They **ensure the implementation of government policies**, ensuring the passage of benefits to the people.
- **The civil services in India** consist of the
  - Indian Administrative Service (IAS)
  - Indian Police Service (IPS)
  - Indian Foreign Service (IFS) and
  - A comprehensive list of other Central Services (Group A, B)
- It commemorates the day when **Sardar Vallabhbhai Patel** - independent India's first Home Minister, inaugurated the newly-created Indian Administrative Service in 1947, calling them the **"steel frame of India."**

Indian Civil Services	
Issues faced	Govt efforts
<ul style="list-style-type: none"> <li>• <b>Lack of professionalism and poor capacity building.</b></li> <li>• <b>An ineffective incentive system</b> that does not reward meritorious and upright civil servants.</li> <li>• <b>Rigid and outmoded rules and procedures</b> restrict the exercise of individual judgement and efficient performance.</li> <li>• <b>Lack of accountability and transparency</b>, with no adequate protection for whistle-blowers.</li> <li>• <b>Political interference</b> causes arbitrary transfers, and insecurity in tenures.</li> <li>• <b>An erosion in ethics and values</b> has caused rampant <b>corruption and nepotism</b>.</li> <li>• <b>Patrimonialism</b> (a form of governance in which all power flows directly from the leader).</li> <li>• <b>Resistance to change from the civil servants themselves.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Towards capacity building and Specialisation:  <b><u>Mission Karmayogi</u></b>: A National Programme for Civil Services Capacity Building (NPCSCB).  <b><u>Lateral entry</u></b>: Personnel from the private sector are selected for administrative posts in the government.</li> <li>• Towards transparency and accountability:  <b><u>SVAMITVA scheme</u></b>: A reformative step towards the establishment of clear ownership of property in rural inhabited areas, by mapping land parcels using drone technology.  <b><u>Centralised Public Grievance Redress and Monitoring System (CPGRAMS)</u></b>: An online web-enabled system that provides the facility to lodge a grievance online from any geographical location.  <b><u>RTI, Citizen Charter, etc</u></b></li> </ul>

#### A new ethic of civil servants:

- **Selfless service and empathy.**
- **Duty-bound** to drive India's transition from Amrit Mahotsav to Amrit Kaal.
- **The removal of a colonial mindset**, sharing a sense of pride in the Indian roots, with a **nation-first approach**.
- **A future-ready civil service**, which is
  - Proactive and polite;
  - Professional and progressive;
  - Energetic and enabling;
  - Transparent and tech-enabled;
  - Creative and constructive; and
  - Imaginative and innovative.

#### Desired outcomes for the Indian civil services:

- **Maximum Governance, Minimum Government**
- **Cooperative Federalism** through uniformity in administration across the Union and the States

#### Conclusion:

- The Indian civil services must transform itself from a rigid, restrictive and rule-bound colonial bureaucracy to one **rooted in the national ethos**.
- **"...now, you are serving your own people, so you have to serve with your heart and mind and soul..." (Sardar Patel while inaugurating the new IAS in 1947)**

#### Mains Links:

**Q. Has the Cadre based Civil Services Organization been the cause of slow development in India? Critically examine. (UPSC 2014)**

## 6. REFORMS IN INDIAN CIVIL SERVICES

#### Context:

Copying cutting-edge practices in hiring, specialisation and organisational structure from the Indian military will serve the Indian bureaucracy well.



**Background:**

- The Indian Civil Service exists to **end poverty**.
- **The war on poverty is won by raising the productivity** of five physical and conceptual places - states, cities, sectors, firms, and skills.
- **India's strategy for reducing poverty:**
  - **Generating high-paying jobs** through urbanisation, formalisation, industrialisation, financialisation and human capital.
  - To implement this **India has new policy weapons** like GST, IBC, MPC, UPI, DBT, FDI, PLI, NEP, EODB, privatisation, etc.

**What sabotages the public service outcomes that reduce poverty?**

- The government had an **execution deficit**,
- The private sector had a **trust deficit**,
- Nonprofits had a **scale deficit**, and
- **A dysfunctional Human Resources (HR) regime** for civil servants

Reforms Needed in Indian civil services	
<b>Copying three HR practices from the Indian military</b>	<b>Best practices of the Indian military to be adopted by the civil services</b>
<b>Hiring</b> (fixed terms for successful candidates)	<b>Tenure: The courageous Agniveer revamp:</b> Only 25% of the recruited soldiers stayed on after a fixed duty. It will gradually <b>raise military capital expenditure</b> .  The government must hire all new civil servants for a <b>fixed 10-year tenure</b> with rollover percentages decided by a hard-coded organisational structure.
<b>Specialisation</b> (compounding skills over decades)	A democracy's generalists are politicians, while <b>civil servants are technocrats whose mandate changed from ruling to governing</b> .  Young military recruits pick an area of expertise early, the Indian civil services must replicate this.
<b>Structure</b> (performance management forced via a frozen pyramid)	Civil servant selection is <b>highly meritocratic</b> , but their careers are adversely influenced by <b>outdated HR practices that don't punish bad performers</b> and therefore punish good performers.  The performance management system in the military (promotions with honest appraisals) has been more disciplined.

**How will this transform Indian civil services?**

- Raise competition, accountability and uncertainty.
- **Raise moral courage:** The ability to speak up irrespective of consequences for yourself.

**Conclusion:**

- The Indian Republic has greatly benefitted from civilian control of the military, but it's time for the civil services to learn three cutting-edge HR practices from the military.
- Better HR practices in civil services are needed because **wars are fought with weapons but won by people**.

**Insta Links:** [Parliamentary Committee: Reduce the civil services examination's selection cycle](#)

**Mains Links:**

**Q. "Institutional quality is a crucial driver of economic performance". In this context suggest reforms in the Civil Service for strengthening democracy. (UPSC 2020)**

## INDIA AND ITS NEIGHBORHOOD- RELATIONS. BILATERAL, REGIONAL AND GLOBAL GROUPINGS AND AGREEMENTS INVOLVING INDIA AND/OR AFFECTING INDIA'S INTERESTS.

### 7. INDIA-UAE RELATIONSHIP

#### Context:

India, the **world's second-largest food producer**, is an essential partner in the UAE's ambition to strengthen food security.

#### Various dimensions of the India-UAE relationship

Dimension	Examples
<b>Diplomatic</b>	Establishment of <b>diplomatic relations in 1972</b> ; reciprocal embassies in each other's countries; a <b>strategic partnership</b> between the two countries in 2015
<b>Economic &amp; Commercial</b>	Bilateral trade valued at <b>US\$ 72 billion in FY 2021-22</b> ; UAE as India's <b>third-largest trade partner</b> and <b>second-largest export destination</b> ; UAE comes in the Top 10 destination for FDI in India; India-UAE signed <b>Comprehensive Economic Partnership Agreement (CEPA)</b>
<b>Food security</b>	India is the <b>world's second-largest food producer</b> and UAE is a major importer of Indian food products.
<b>Investment in the Food sector</b>	<b>E.g., Dubai Multi Commodities Centre (UAE's largest free trade zone) launched Agriota</b> (agri-trading and commodity platform) to link Indian farmers to food companies in the UAE.  In 2022, I2U2 meeting UAE committed \$2 billion in investment towards <b>constructing food parks in India</b> and establishing a <b>food security corridor</b>
<b>Cultural</b>	<b>BAPS Hindu temple</b> is planned in UAE; Indian cinema/TV/radio channels are widely available in UAE, annual International Day of Yoga events
<b>Technology partnerships</b>	Collaboration between ISRO and UAESA for the <b>Red Moon mission</b> , digital innovation, and technology partnerships
<b>Defence and Security</b>	The recent <b>I2U2 summits</b> ; Annual defence dialogues, bilateral defence interaction, UAE's role in Indian Ocean Region dialogue, joint military exercises— <b>Exercise Desert Flag</b> ; <b>In-UAE BILAT</b> (bilateral naval exercise) and <b>Desert Eagle-II</b> (bilateral air force exercise)
<b>Mediation</b>	The role played by UAE in mediation between India and Pakistan, facilitating meetings between interlocutors including NSA Doval and Pakistan military officials
<b>Indian Community</b>	Indian expatriate community of approximately 34 lakhs, the largest ethnic community in UAE, comprising roughly about <b>35% of the country's population</b>

#### Challenges/Issues between the two countries:

Challenge	Example
<b>Labour Issues</b>	There have been reports of <b>mistreatment and exploitation</b> of Indian migrant workers in the UAE
<b>Trade Imbalance</b>	India's trade deficit with the UAE has been a cause for concern (US \$18bn in 2021)
<b>Geopolitical Issues</b>	The UAE's growing ties with Pakistan, which has long-standing tensions with India, have been a cause for concern. The UAE has also maintained a <b>neutral stance on the Kashmir issue</b> , which India considers an internal matter.
<b>Regional Competition</b>	For instance, the UAE's recent investments in the port of Gwadar in Pakistan and the development of Chabahar port in Iran have raised concerns in India.

#### Conclusion:

The relationship between **India and UAE has strengthened** over the years, with the UAE becoming India's closest partner in the Arab world. Despite recent challenges, the bilateral ties between the two nations have proven resilient.

#### Insta Links:

[India-UAE](#)

## 8. CHINA- CENTRAL ASIA AND INDIA

### Context:

China convened a meeting (online) of trade ministers of the grouping known as **C+C5**.

### C+C5:

It constitutes **China and the five Central Asian republics**, namely Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, and Kyrgyzstan.

### China and Central Asia:

- China shares a **long history of trade, culture, and people-to-people links** with the Central Asian region, which lies on the **ancient Silk Route**.
- Modern China's involvement with the region began with the **break-up of the Soviet Union in 1991**.
- Diplomatic relations were established in **1992**, and China's relationship with the region was institutionalised as the **Shanghai Five**, the forerunner of the [Shanghai Cooperation Organisation \(SCO\)](#).



Mutual benefits	
For China	For C5
<ul style="list-style-type: none"> <li>Central Asia is a <b>readymade market for cheap exports</b> and gave China <b>overland access to markets in Europe and West Asia</b>.</li> <li>The region is resource-rich, with massive <b>gas and oil reserves, and strategic minerals such as uranium, copper, and gold</b>.</li> <li>China also had another priority in its relationship with these countries - <b>to ensure peace in Xinjiang Autonomous Region</b>, which forms its frontier with Central Asia.</li> <li>The BRI <b>plays a critical role as a transit hub for China's trade with Europe</b>.</li> </ul>	<ul style="list-style-type: none"> <li>Chinese investments <b>helped to upgrade Soviet-era infrastructure and carry out development works</b> in these countries.</li> <li>President Xi launched his Belt and Road Initiative (BRI), <b>a modern version of the Silk Road</b>, during his 2013 visit to the Kazakh capital Almaty.</li> <li>Beijing has also pumped billions of dollars in <b>investments that cover projects</b> from oil and gas exploration, rail, road and seaport connectivity to digital technologies and green energy.</li> <li><b>Access to the Pacific Ocean and East Asia</b> to the land-locked region.</li> <li>China, unlike the West, asks <b>no questions about their governance or human rights record</b>.</li> </ul>

### Friction points between China and Central Asia:

- Beijing's targeting of the Muslim population of Xinjiang** has triggered resentment in these countries, where Islam is the principal religion.
- The increasing presence** of Chinese workers and rapid land acquisitions by China in these countries has led to public protests.

### China's 'Grand Plan' for Relations:

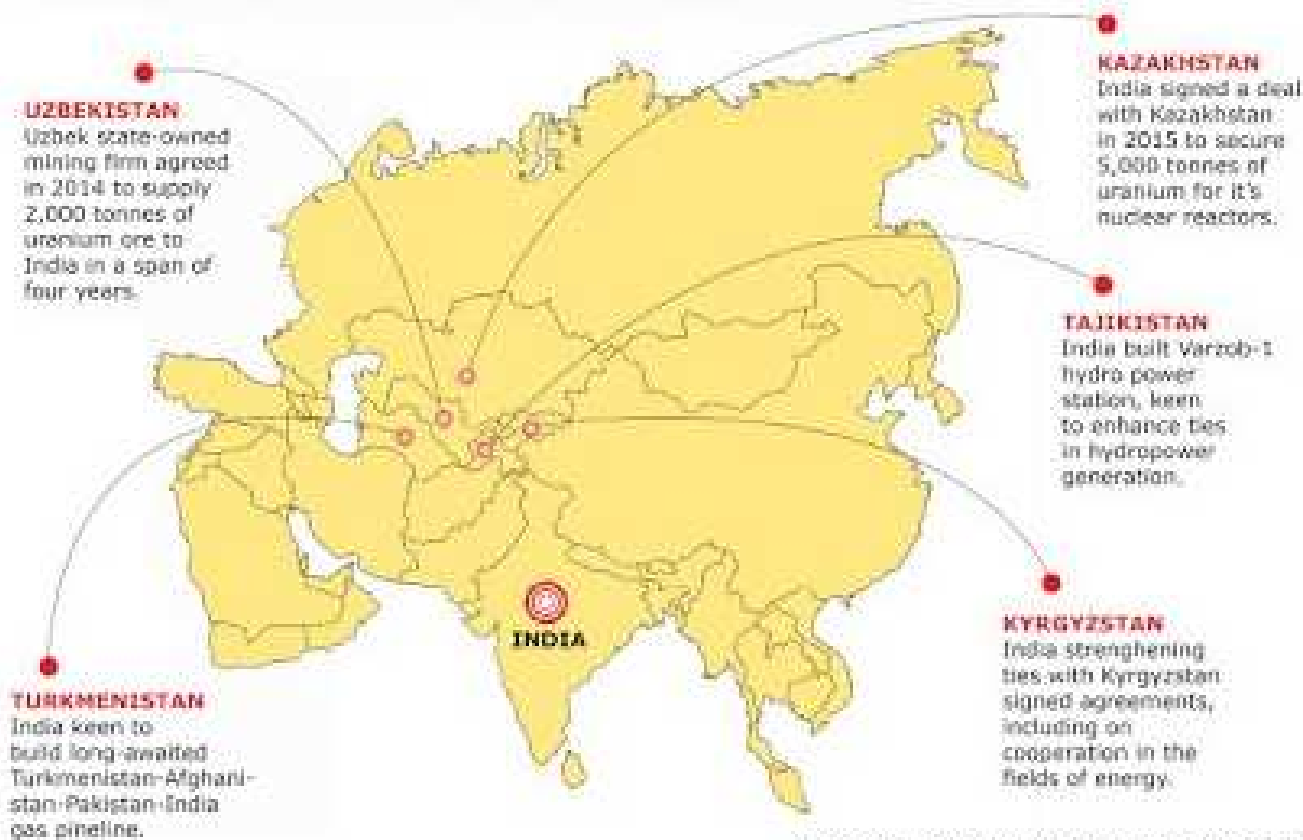
- The region is economically dependent on Russia**, which is also Central Asia's net security provider.
- Russia's trade with these countries has increased** over the last year, as it attempts to find substitutes for imports from Europe.
- Russia also has a huge migrant population of Central Asians** who bind the region to it in economic dependency.
- Russia and China** are now competing for the title of the top trading partner in the area. The trade between China and the five countries reached **\$70.2 billion** last year.
- Beijing is making use of **Russia's preoccupation in Ukraine** to push Moscow out of its own strategic backyard.
- The Ukrainian invasion has given rise to fears (among Central Asian countries) that a **security relationship with Moscow could prove to be a double-edged weapon**.



## India and Central Asia:

### INDIA'S FOOTPRINT IN THE CENTRAL ASIA

India has a special focus on the importance of energy diplomacy, specifically with reference to building relationship with the energy-rich region of the Central Asia.



Source: The MEA, Government of India

- While India has trading ties with these countries, it is **hindered by the absence of a land route to Central Asia**, with Pakistan denying its passage and Afghanistan being uncertain territory after the Taliban takeover.
- The **Chabahar port in Iran** offers an alternative route, but it is not fully developed yet.
- Also, India's relationships in the region (including in the SCO) **remain security-driven**.
- There have been suggestions that India should provide connectivity for people and trade in Central Asia through "air corridors", as it had done for Afghanistan.
- As a first, **New Delhi made its biggest outreach to Central Asia**, when the PM of India hosted a virtual summit of the C5 last year.
- New Delhi's leadership of the SCO this year may provide it with an opportunity to diversify relations with this strategic region.

**Insta Links:** [India-Central Asia](#)

## GS PAPER 3

### EFFECTS OF LIBERALIZATION ON THE ECONOMY, CHANGES IN INDUSTRIAL POLICY AND THEIR EFFECTS ON INDUSTRIAL GROWTH.

#### 1. CARTELIZATION AMONG DOMESTIC TYRE MANUFACTURERS

**Context:** The Supreme Court issued notices to five tyre companies and the industry body Automotive Tyre Manufacturers' Association (ATMA).

**Background:**

- The All-India Tyre Dealers Federation (AITDF) in a reference to the Ministry of Corporate Affairs (MCA) alleged 5 tyre companies for coordination, **price parallelism and cartelisation**.
- These companies (control 90% of the tyre production in India) had **raised tyre prices on the pretext of rising prices of raw materials** (natural rubber).
- However, they did not correspondingly decrease prices when raw material prices fell - **not in line with typical competitive market practices**.
- **The Competition Commission of India (CCI)** - the competition regulator, imposed penalties on the five tyre companies (MRF, JK Tyre, Apollo, CEAT and Birla Tyres) alongside ATMA.
- The order was challenged at the National Company Law Appellate Tribunal (NCLAT) and was **overturned**.
- Now, CCI has approached the apex court challenging the tribunal's order.

**About Cartelisation:**

<b>Meaning</b>	According to CCI, <b>cartelisation is a practice in which a group of competitors (manufacturers, sellers, distributors) come together (agreement) to restrict competition.</b>
<b>Ill-Effects</b>	<ul style="list-style-type: none"> <li>• Reduces the output → <b>increases the price</b> → Forces consumers out of the market (if they opt not to pay a higher price) → transferring wealth unknowingly (if they opt to pay)</li> <li>• A cartel protects its members from full market exposure → decreasing cost control → <b>hurting overall economic performance and innovation.</b></li> </ul>
<b>Cartels vs monopoly</b>	A monopolist dominates the concerned market completely (as there is no competitor), while cartels are formed (with the intention to restrict competition) to dominate the market
<b>Laws to stop cartelisation</b>	<ul style="list-style-type: none"> <li>• <b>The Competition Act, 2002</b> seeks to <b>promote and sustain competition</b> in markets, protect the interest of consumers, and ensure freedom of trade for market participants.</li> <li>• It established the <b>CCI</b> to eliminate practices having adverse effects on market competition.</li> </ul>
<b><u>The Competition (Amendment) Bill 2023</u></b>	The amendments proposed to codify the liability of cartel facilitators. The CCI <b>can now impose penalties of up to 10% of the total global turnover of enterprises.</b>

**Insta Links:** [Competition law amendments: Of penalties and misses](#)

## ECONOMICS OF ANIMAL-REARING/FOOD PROCESSING AND RELATED INDUSTRIES IN INDIA

### 2. ANIMAL BIRTH CONTROL RULES, 2023

**Context:**

The government has announced new **Animal Birth Control (ABC) Rules 2023**, which require strays to be caught, vaccinated, neutered, and released back into the community.

- The ABC 2023 rules will supersede the **Animal Birth Control (Dog) Rules, 2001**
- Previously, the Ministry of Fisheries, Animal Husbandry and Dairying opened a **draft Prevention of Cruelty to Animals (Amendment) Bill, 2022**, for public comment.

**Need for such rules:**

India has more than **1.5 crores of the stray** dog population. Over the last five years, more than 300 people — mostly children from poor and rural families — have been attacked and killed by dogs. Over 20,000 deaths were due to Rabies.

Provision	Description
<b>Aim</b>	To reduce the stray dog population by addressing animal welfare issues.
<b>Sterilization and Immunization</b>	The programme for the <b>sterilization and immunization of stray dogs</b> shall be carried out by the <b>respective local bodies</b> , municipalities, municipal corporations, and panchayats, with the help of the <b>Animal Welfare Board of India (AWBI)</b> -a recognized organization.
<b>ABC+ Anti-Rabies</b>	Local bodies need to implement the <b>ABC and Anti-Rabies Program jointly</b> .
<b>Addressing cruelty</b>	In carrying out the ABC program, 'cruelty to animals' should be addressed

<b>Community Animals</b>	The Rules transform stray dogs into a new class of “ <b>community animals.</b> ”
<b>Care of stray dogs</b>	<b>Resident welfare associations</b> are responsible for caring for stray dogs and feeding them at fixed intervals, away from children and the elderly.
<b>Human and Stray dog conflicts</b>	The Rules provide guidelines on how to deal with human and stray dog conflicts <b>without relocating the dogs in an area.</b>
<b>Prohibition</b>	The Rules <b>prohibit the improper disposal of solid waste</b> and casual feeding of dogs.
<b>Responsibility</b>	Local authorities “ <b>will be held responsible for any violation</b> [during birth-control procedures] and animal-human conflicts.”

### Significance of the Rules:

The new rules will help in **reducing the stray dog** and cat population and resolving the **Human-Dog conflict**.

### Issues with the new rules:

- **Homelessness:** The ABC Rules do not provide for the rehabilitation of stray dogs, and instead, they are left on the streets after sterilization and vaccination.
- **Responsibility:** The ABC Rules place the responsibility of caring for stray dogs on the local residents’ welfare associations, which may not have the resources or capacity to provide proper care.
- **Funding and implementation:** There are concerns that the lack of adequate funding and implementation may lead to the rules being ineffective in addressing the stray dog problem.

### Ethical Concerns with the Rules:

- **Consent:** Animals cannot give their consent to the procedure
- **Pain and suffering:** The procedure can cause pain and suffering to animals
- **Effectiveness:** Sterilization may not always be an effective method of controlling the population of animals
- **Alternatives:** Adopt non-invasive alternatives e.g., Awareness campaigns like “**Be a Human, Save a Life**” by the Delhi government to encourage people to adopt stray dogs

### About Prevention of Cruelty to Animal Act, 1960:

The Prevention of Cruelty to Animals Act, 1960 is the **first law** enacted to **safeguard the rights of animals** and protect them from **pain and suffering** caused by humans. It defines animals as **any living creature other than humans** and outlines **punishments** for those who inflict unnecessary cruelty on them. It also includes guidelines for experimenting on animals for scientific purposes and the exhibition of performing animals. The establishment of the **Animal Welfare Board of India (AWBI)** is one of the key features of this Act.

### Insta Links:

- For the draft Prevention of Cruelty to Animals (Amendment) Bill, 2022: [Click here](#)
- Constitutional Provisions regarding Animal Welfare: [Click here](#)

### Mains Links:

**Q. Critically comment on the Centre’s move to notify new rules to regulate livestock markets under the Prevention of Cruelty to Animals Act, 1960 (PCA). (200 Words)**

## SCIENCE AND TECHNOLOGY

### 3. CLINICAL TRIAL

#### Context:

The speedy approval of Covid-19 vaccines during the SARS-CoV-2 pandemic highlighted the importance of clinical trials.



### What is a Clinical Trial?

It is a research study conducted on human participants to evaluate the safety, efficacy, and/or effectiveness of an intervention such as a drug, device, or behavioural therapy.

**Objective: They are an essential component of the drug development process and are necessary to determine the benefits and risks of new treatments.**

### Stages of Clinical Trial:



### What is CTRI?

**The Clinical Trials Registry - India (CTRI)** (est. 2007; maintained by ICMR (under the Ministry of Health and Family Welfare) a national clinical trial registry in India.

- It is **mandatory to register for every trial at CTRI** before commencing
- CTRI is a **free online public record system** for the registration of clinical trials (both public and private research) conducted in India.

### Issues with the CTRI in India:

Issue	Examples
<b>Missing data</b>	Only 281 of 606 (46%) trials were updated after the final enrollment
<b>Messy data</b>	Unclear data, such as the same acronym being used for two organizations or a clinical trial site being listed twice with the same principal investigator
<b>Misleading information</b>	Wrong data about whether a trial is registered prospectively or retrospectively
<b>Confusion over definitions</b>	A number of entries are inaccurate due to confusion over definitions, such as some 'inter-ventional trials' being listed as 'observational trials'
<b>Incomplete information</b>	Non-standardized information about cities causes confusion and repetition in the registry
<b>Variations in the classification of organizations</b>	All India Institute of Medical Sciences is classified as a 'government-funded agency', a 'government medical college', a 'research institution', and a 'research institution and hospital'

### Solutions:

- Ensure compliance with regulations:** The CTRI should ensure registration of all clinical trials in India
- Adhere to WHO guidelines:** The CTRI should comply with the WHO guidelines and provide information for each

trial, including audit trails, results fields, and data-sharing plans.

- **Improve record-keeping** of CTRI
- **Make CTRI a permanent activity:** The CTRI could be made a permanent activity with staff on a five-year contract, instead of relying on temporary staff for 15 years.

#### Drug approval in India:

A pharmaceutical company in India must **have DCGI approval** for selling a new prescription drug. They can get DCGI approval once drug regulator CDSCO verifies the quality, safety, and efficacy of drugs including vaccines. Also, required is the approval from respective **Ethics Committee** where the study is planned and **mandatory registration** on the ICMR-maintained website. The **Central Drugs Standard Control Organisation** (statutory body under the Drugs and Cosmetics Act 1940) is India's national regulatory body for cosmetics, pharmaceuticals and medical devices.

#### Mains Links

**Q. What are clinical trials? What are the issues with respect to conducting clinical trials in India? Present the ethical issues involved. (250 Words)**

## 4. USE OF ARTIFICIAL INTELLIGENCE IN MEDICINE

#### Context:

The Ministry of Ayush in India is leading an effort to integrate traditional medicine with artificial intelligence (AI) through the Ayush Grid, a comprehensive IT backbone for the traditional medicine sector.

#### What is Artificial Intelligence?

Artificial intelligence (AI) refers to **computer programs that can learn from and make decisions based on data**. These programs are designed to perform tasks that typically require human intelligence, such as recognizing patterns, analysing images, and making predictions.

#### How can AI be used in Medicine?

Use Case	Example
<b>Diagnostics</b>	Using machine learning algorithms to analyse medical images and predict the likelihood of certain conditions, such as cancer or heart disease
<b>Drug Discovery</b>	Using <b>natural language processing algorithms</b> to analyse scientific papers and identify potential drug targets e.g., a vaccine against COVID-19
<b>Clinical Decision Support</b>	To analyse patient data and recommend the most effective treatments based on the patient's medical history
<b>Telemedicine</b>	<b>Using chatbots or virtual assistants</b> to provide patients with personalized medical advice and support
<b>Predictive Analytics</b>	To analyse patient data and predict the likelihood of certain outcomes, such as hospital readmissions or disease progression
<b>Robotic Surgery</b>	To control robotic surgical instruments and improve surgical precision
<b>Personalised Medicine</b>	<b>E.g., Israeli health-tech firm Genetika+</b> is using stem cell technology and artificial intelligence (AI) software to match antidepressants to patients and minimise side effects.
<b>Traditional Medicine</b>	<b>E.g., The Ayush Grid</b> aims to transform the Ayush sector using AI to provide efficient, holistic, affordable, and quality services to all through a secure and interoperable digital ecosystem

#### Issues with the use of AI in Medicine:

Issue	Example
<b>Lack of Diversity in Data</b>	E.g., an algorithm trained only on data from white male patients may not perform well on women or people of colour.
<b>Bias in Data</b>	E.g., an algorithm trained on data that includes racial biases may end up perpetuating those biases.
<b>Safety and Reliability</b>	AI algorithms must be reliable and safe for use in healthcare settings.

<b>Interpretability</b>	It is often difficult to interpret how an AI algorithm arrived at its decision. This is known as the <b>“black box” problem</b> . In medical settings, this can be a concern because doctors need to <b>understand the reasoning behind a diagnosis</b> or treatment recommendation.
<b>Privacy and Security</b>	AI algorithms must be designed with privacy and security in mind to prevent unauthorized access or disclosure of patient information.

### The government programme for the promotion of AI in Healthcare:

- Ayushman Bharat Digital India Mission
- IndiGen Programme (for genome sequencing of Indians)
- Human Genome Project
- Health Stack
- [ICMR guideline of use of AI in Healthcare](#)
- AIRAWAT (AI Research, Analytics and Knowledge Assimilation platform): India's first AI-specific cloud computing infrastructure

### Conclusion:

Despite the challenges, the future of AI in medicine looks promising, and with continued research and development, we can expect to see even more innovative and effective applications of AI in healthcare in the years to come.

#### About Ayush Grid:

AYUSH Grid (by Ministry of AYUSH) aims to **bring on onboard all AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy) facilities** including hospitals and laboratories and to promote traditional systems of healthcare.

### Insta Links:

[ICMR guideline of use of AI in Healthcare](#)

### Mains Links

**Q. Discuss the applications of Artificial Intelligence in the Healthcare sector in India. (250 Words)**

#### Prelims Links

Q. With reference to agriculture in India, how can the technique of 'genome sequencing', often seen in the news, be used in the immediate future?

1. Genome sequencing can be used to identify genetic markers for disease resistance and drought tolerance in various crop plants.
2. This technique helps in reducing the time required to develop new varieties of crop plants.
3. It can be used to decipher the host-pathogen relationships in crops

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Answer: D**

## ACHIEVEMENTS OF INDIANS IN SCIENCE & TECHNOLOGY; INDIGENIZATION OF TECHNOLOGY AND DEVELOPING NEW TECHNOLOGY.

### 5. JAGADISH CHANDRA BOSE

**Context:** Researchers from Tel Aviv University in Israel reported detecting ultrasonic distress noises made by plants when they were stressed or in need of water. Jagadish Chandra Bose had shown, more than a century ago, that **plants experienced sensations** and were able to feel pleasure and pain just like animals.

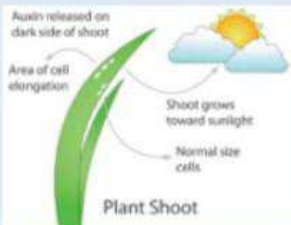


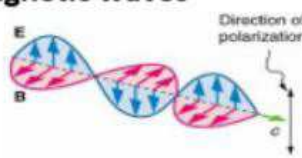
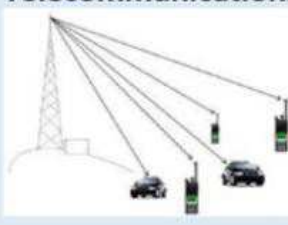


**Acharya J.C. Bose (1858 and 1937) was a multidisciplinary scientist** who made significant contributions to several fields, including physics, biology, and plant physiology.

### Multidisciplinary contributions of JC Bose



## Jagadish Chandra Bose (1858 and 1937)

Field	Contribution	Example
<b>Botany</b> 	The invention of the <b>Crescograph</b> , a device to <b>measure plant growth and response to stimuli</b>	Shown that plants <b>respond to external stimuli such as light, sound, and touch</b> by producing electrical signals that travel through their tissues
	Study of the <b>structure and function</b> of plant tissues	Investigated the anatomy of leaves, stems, and roots
	The invention of the torsional recorder, a device to study the <b>heliotropic movements of plants</b>	Studied the movement of plants towards a light source 
<b>Physics</b>  <b>J C Bose</b>	Demonstration of the <b>polarization</b> of electromagnetic waves 	Helped establish the <b>wave nature of light and its similarity to other forms of electromagnetic radiation</b>  He was the <b>first to generate electromagnetic signals in the microwave range</b>
	Discovery of the <b>bi-metallic effect</b> , the change in resistance of a metallic conductor when subjected to a magnetic field	Demonstrated that <b>metals have a kind of memory that reflects their physical state and past experience</b>
<b>Telecommunications</b> 	The invention of the first wireless detection device, the <b>"coherer"</b>	A precursor to <b>modern radio communication</b> technology
	Discovery of millimetre waves	Used in fields such as radar and wireless communication
	Development of microwave technology	Established the basic principles of microwave communication
<b>Visit Insights IAS Daily Current Affairs</b>	Investigation of the properties of radio waves	He was the first to come up with <b>radio receivers for wireless telegraphy</b>

### Impact of JC Bose's Work on the Indian scientific community

- Bose helped to establish **modern scientific research in India** by setting up his own **laboratory at his home in Calcutta** and carrying out **ground-breaking research in fields** such as physics and plant physiology.
  - This laboratory later became the **Bose Institute**, which continues to be a leading research institution in India.
- Bose's work on **microwave technology and wireless communication** helped to establish **India as a pioneer** in these fields, and his discoveries in this area paved the way for the development of many **modern technologies such as mobile phones and wireless internet**.
- Bose's research inspired many young scientists** in India to pursue careers in science and helped to establish India as a major centre of scientific research and innovation.

## Conclusion

Acharya J.C. Bose's work had a significant impact on the development of science and technology in India and the world, and his legacy continues to inspire and influence scientists and researchers in the country today.

J C Bose didn't receive Nobel Prize as he never claimed a patent for his inventions and discoveries

## Insta Links

[J C Bose](#)

## Mains Links

**Q. What were Acharya J C Bose's multidisciplinary contributions and how did his work impact the Indian scientific community? (10M)**

### Prelims Links

**Q. Which of the following statements is/are correct regarding the vegetative propagation of plants?**

1. Vegetative propagation produces a clonal population.
2. Vegetative propagation helps in eliminating the virus.
3. Vegetative propagation can be practised most of the year.

**Select the correct answer using the code given below.**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Answer: C**

## AWARENESS IN THE FIELDS OF IT, SPACE, COMPUTERS, ROBOTICS, NANO-TECHNOLOGY, BIO-TECHNOLOGY AND ISSUES RELATING TO INTELLECTUAL PROPERTY RIGHTS.

## 6. INDIAN SPACE POLICY (ISP) 2023: PROS AND CONS

### Context:

The Indian government has approved a **new space policy, which allows non-government entities (NGEs)** to offer national and international space-based communication services through self-owned or leased satellite systems.

- Non-government entities refer to **organizations or institutions** that are not directly controlled by the government e.g., Private companies, NGOs, community organizations

### Non-Government Entities (NGEs) can:

- **Establish and operate ground facilities** for space objects operations, such as telemetry, tracking and command (TT&C) Earth Stations and Satellite Control Centres (SCCs)
- **Offer national and international space-based communication services**, through self-owned, procured or leased geostationary orbit (GSO) and non-geostationary satellite orbit (NGSO) satellite systems.
- **Use Orbital resources** to establish space objects for communication services over India and outside.
- **Manufacture and operate space transportation systems**, including launch vehicles, shuttles
- **Engage in the commercial recovery** of an asteroid resource or a space resource.

For Details on the ISP 2023: [Click here](#)

### Pros and Cons of the Indian Space Policy (ISP) 2023:

Pros	Cons
Increased <b>private sector participation</b> . ISRO will be <b>able to focus on R&amp;D more</b> .	Risk of the <b>private sector dominating</b> the sector. Also, overreliance on private entities could lead to potential issues if these entities fail or underperform.

Expanded space economy by increasing India's share in the global space economy to 10%	The benefits of the expanded space economy may <b>not be equally distributed, potentially exacerbating</b> existing socioeconomic inequalities.
Clear roles and responsibilities of different entities	The policy does not specify <b>how resources will be allocated between different entities</b> involved in the space sector, which could lead to potential conflicts.
Utilization of <b>cost-effectiveness</b> in the sector to increase <b>competitiveness</b>	The space sector can have a <b>negative environmental impact</b> , and the policy does not explicitly address how this will be mitigated.
Improved national security in the space domain	-

#### Insta Links

- [Milestones in India's Space Programme](#)
- [Start-ups are powering India's Space Odyssey 2.0](#)

#### Mains Link:

1. What is India's plan to have its own space station and how will it benefit our space programme? (UPSC 2019)
2. Discuss India's achievements in the field of Space Science and Technology. How the application of this technology has helped India in its socioeconomic development? (UPSC 2016)

## CONSERVATION, ENVIRONMENTAL POLLUTION AND DEGRADATION

### 7. POLLUTION IN GANGA

Context	According to the Ministry of Jal Shakti, though the <a href="#">Namami Gange Programme</a> has been able to reduce the overall pollution load in the Ganga River, the river still remains polluted.
<b>Namami Gange Programme:</b>	
<ul style="list-style-type: none"> <li>It is an <b>Integrated Conservation Mission</b>, approved as a 'Flagship Programme' by the Union Government in 2014 with a budget outlay of Rs.20,000 Crore to accomplish the twin objectives of               <ul style="list-style-type: none"> <li>Effective abatement of pollution,</li> <li>Conservation and rejuvenation of National River Ganga.</li> </ul> </li> <li>Since 2014, the Centre had taken up <b>409 projects</b> with a budget outlay of Rs 32,912.40 crore to clean up the river.</li> </ul>	
<b>Pollution in the Ganga River:</b>	
<ul style="list-style-type: none"> <li>At least <b>71% of the river's monitoring stations</b> reported alarming levels of <b>faecal coliform</b> in January 2023.</li> <li>Faecal coliforms are a group of <b>bacteria</b> found in the gut and faeces of warm-blooded animals, which enters rivers through the <b>discharge of untreated sewage</b>.</li> <li>While <b>Uttarakhand</b> had permissible levels of faecal coliform [less than 2,500 most probable number (MPN) per 100 ml], numbers in three other states - <b>UP, Bihar and West Bengal</b> - are alarming.</li> </ul>	
<b>Why does river Ganga still remain polluted?</b>	
<ul style="list-style-type: none"> <li><b>Untreated waste</b> continues to be discharged in 60% of Ganga.</li> <li>While the five major states through which the river flows generated 10,139.3 million litres per day (MLD) of sewage, <b>they had a combined sewage treatment capacity of only 40%.</b></li> <li><b>Uttarakhand</b> is the only state with sufficient treatment capacity.</li> </ul>	
<b>Wider challenges:</b>	
<ul style="list-style-type: none"> <li><b>Higher biochemical oxygen demand (BOD)</b> at the majority of the stations.               <ul style="list-style-type: none"> <li><b>BOD</b> is a measure of the oxygen required by aerobic microorganisms to biochemically oxidise organic matter. It affects the amount of dissolved oxygen in rivers.</li> <li><b>The higher the BOD, the lesser the oxygen available to aquatic life.</b></li> </ul> </li> <li><b>Lax monitoring</b> as the data collection and dissemination remains challenging.</li> </ul>	
<b>Way ahead:</b>	
<ul style="list-style-type: none"> <li><b>Treating industrial and chemical waste:</b> Sewage treatment plants (STPs) are going to be the mainstay of river cleaning.</li> <li><b>Waste to wealth:</b> Identifying, developing and deploying technologies to treat waste to generate energy, recycle materials, and extract resources of value.</li> </ul>	



**Insta Links:** [‘Clean Ganga’ changes course to conservation, tourism, livelihood](#)

**Mains Links:**

**Q. The Namami Gange and National Mission for Clean Ganga (NMCG) programmes and causes of mixed results from the previous schemes. What quantum leaps can help preserve the river Ganga better than incremental inputs? (UPSC 2015)**

**Prelims Links: (UPSC 2014)**

**Consider the following statements :**

1. Animal Welfare Board of India is established under the Environments (Protection) Act, 1986
2. National Tiger Conservation Authority is a statutory body
3. National Ganga River Basin Authority is chaired by the Prime Minister

**Which of the statements given above is/are correct?**

1. 1 only
2. 2 and 3 only
3. 2 only
4. 1, 2 and 3

**Ans: 2**

## 8. BIOMASS PELLETS

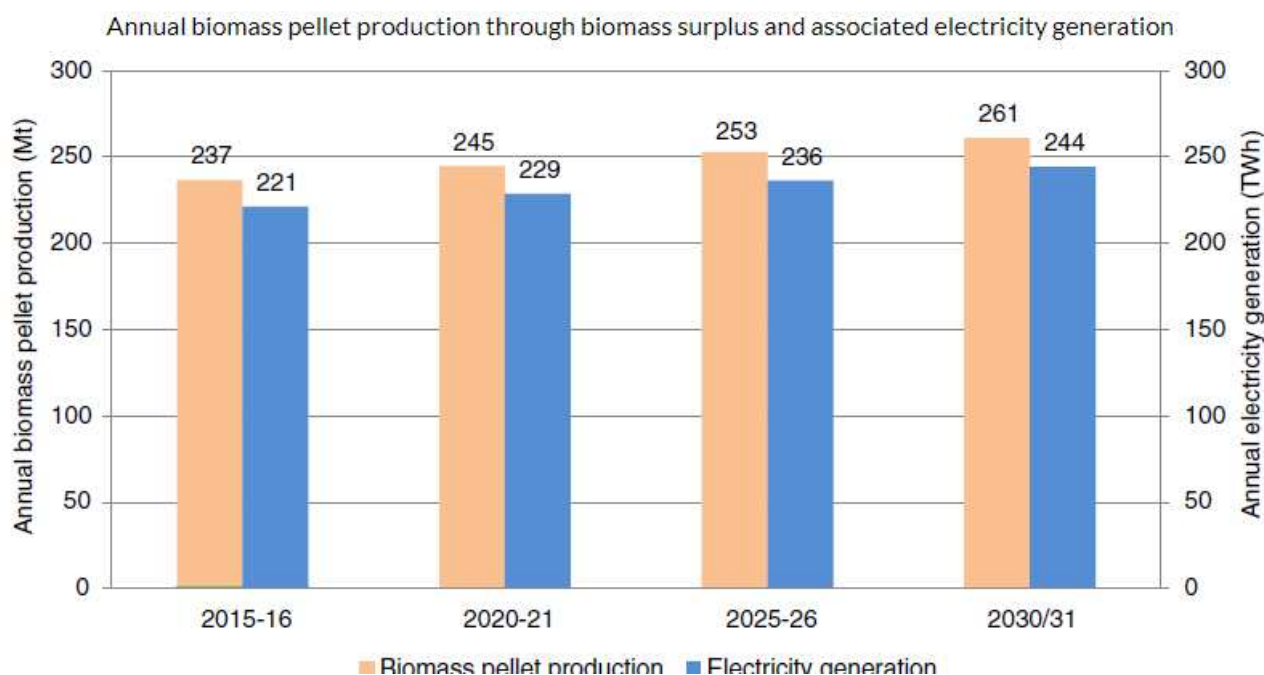
**Context:** The Central Pollution Control Board (CPCB) revised the financial grants for **biomass pellet manufacturing units**.



**What are Biomass pellets?**

<b>Meaning</b>	These are a type of <b>solid fuel</b> made from <b>compressed organic material</b> (biomass) such as industrial waste and co-products, food waste, agricultural residues, energy crops, and untreated lumber.
<b>Types</b>	These are of two kinds - <b>torrefied</b> (Biomass processed at 250-350°C in the absence of oxygen) and <b>non-torrefied pellets</b> (biomass is shredded, ground and sent to a pellet reactor, where it is compressed and bonded).
<b>Advantages</b>	<p>Pellets are extremely dense and can be produced with a low moisture content (below 10%) which allows them to be burned with a <b>very high combustion efficiency</b>.</p> <p><b>Emissions</b> such as NOx, SOx and volatile organic compounds from pellet burning equipment are in general very low.</p>

<b>Disadvantages</b>	<p>A recognized problem is the emission of fine particulate matter into the air.</p> <p>The <b>capital expenditure</b> for setting up a pellet manufacturing unit entails variables such as land, machinery, air pollution control devices, factory infrastructures such as sheds and offices, etc.</p>
<b>Potential</b>	<p>Pelletised biomass can <b>potentially produce 6% of India's total electricity in 2030/31</b>, in addition to direct biomass co-firing for electricity production.</p>



### Biomass pellets production/usage in India:

- It is **mandatory to use biomass or agricultural residue (5-10%)** as combustion fuel along with coal in coal-fired thermal power plants.
- The **biomass used for co-combustion** in the power plants is processed and **refined into pellets** with a calorific value comparable to coal.

### CPCB decision:

- Increased the budget for manufacturing **non-torrefied biomass** pellets to 28 lakhs (from 14 lakhs) per tonne per hour (TPH) of production capacity/40% of the capital cost of the plant and machinery - whichever is lower.
- In the case of manufacturing **torrefied biomass**, no changes are introduced in the fund allocation (of Rs 28 lakhs per TPH) in the revised CPCB guidelines.

### Concerns:

- These **allocations are grossly insufficient** to meet the current requirements of the pellet manufacturing industry.
  - The cost of machinery with a production capacity of one TPH is **approximately Rs 1 crore** and the grants would cover only 28% of the capital investment.
- This **gross underestimation** will not help close the existing demand-supply gap as the country has limited pellet manufacturers.

### Way ahead:

- An imminent need to escalate the biomass pellet manufacturing capacity in the country.
- Indira Gandhi Super Thermal Power Project of NTPC** in Jhajjar, Haryana has taken steps towards facilitating the establishment of pellet manufacturing units.
  - More such initiatives need to be taken by the power generators and the government.
- All the actors in the supply chain**, starting from the farmers and aggregators to pellet manufacturers, must be incentivised.

**Insta Links:** [National Mission on use of Biomass in coal based thermal power plants](#)



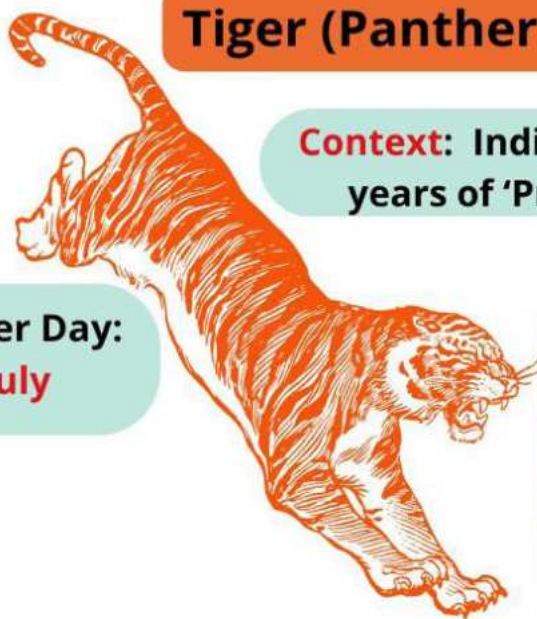
## 9. CAN WE DEMOCRATISE TIGER CONSERVATION IN INDIA?

### Tiger (Panthera Tigris)



**Context:** India will officially mark the 50th years of 'Project Tiger' on 9 April 2023


**World Tiger Day:**  
29th July





#### About Tigers

-  **IUCN:** Endangered
-  **WPA:** Schedule I
-  **Cites:** Appendix I
-  Tigers are the largest cat species and is both **flagship** and **Umbrella** species

 **Numbers:** According to the tiger census of 2019, India has 2967 tigers, of which 526 are in Madhya Pradesh (highest).

 **Sub species:** Traditionally eight subspecies of tigers have been recognized, out of which three are extinct— Caspian tiger, Javan tiger and Bali tiger.

 **Other sub species** are Bengal Tigers, Amur tiger (Amur Rivers region of Russia and China, and North Korea), South China tiger, Sumatran tiger, Indo-Chinese tiger.

 **Largest Tiger Reserve:** Nagarjunsagar Srisailem Tiger Reserve, Andhra Pradesh

 **Smallest:** Bor tiger reserve in Maharashtra

 **Highest Density of Tigers:** Jim Corbett National Park

To know more Visit  
Insights IAS Daily  
Current Affairs

#### Context:

As India celebrates 50 years of its [Project Tiger](#) (1973), there is a need to reflect on what needs to change in conservation practice in India.

#### Background:

- The [Tiger](#) is an “umbrella species”. Hence, saving the tiger means saving the entire ecosystem.
- Tigers in India occur in a wide range of habitat types, from the evergreen forests of the Western Ghats to the terai grasslands of the Himalayan foothills, and from the tropical dry forests of Rajasthan to the mangroves of the Sundarbans.
- Project Tiger was able to sustain tiger populations in most of the geographical regions.
- [The Tiger Census 2022](#) (interim) indicated a 6.7% annual growth rate (in the last 4 years) in the number of Tigers.
- The expected number would be approximately 3167, which is above the previous 2018-2019 estimate of 2,967 tigers.

### Issues with India's conservation practice:

- **Shifting baselines/conservation amnesia:** The figure of 1,400+ Tigers estimated in 2006 resulted in the celebration of **doubling the tiger population in 2019**.
- **Reintroduction plan:** This was done to reintroduce tigers from central Indian forests, where the populations are thriving.
  - However, this will lead to a loss of **genetic diversity**, reducing the hopes of maintaining long-term population viability and natural recovery.
- **Narrow and exclusive conservation practices:** Conservation in India depends entirely on a network of Protected Areas (PAs) and the focus stayed on boosting tiger numbers rather than their habitat and concomitant (prey) species.
  - Also, all-natural habitats are managed by one agency and therefore the approach to conservation is singular and exclusive.
- Lack of scientific oversight:
  - The most common interventions were to **manipulate ecosystems** so that they could support high densities of the Tiger's principal prey species ["cheetalification" of tiger reserves].
  - **However**, in the Kanha Tiger Reserve, the explosion in the cheetal population made the habitat unsuitable for the endangered barasingha.
  - **The excessive provisioning of water** (in other parks) tends to reduce natural, climate-driven variations in populations of wildlife.
- **The [Wildlife Protection Act 1972](#) - a restrictive law:** There is no policy framework and incentive for ordinary citizens to aid in conservation - be it for tigers or for any other species. As a result, conservation has not reached beyond these PAs.

### Impact of Unscientific Tiger conservation practices:

- Fifty years after the Tiger census, the number of Tigers has remained **more or less the same**.
- The 2023 preliminary report, showed that
  - India is now **losing tigers from Jharkhand, Chhattisgarh, Eastern ghats**, and the Northeastern forests.
  - While tiger populations within protected areas in the W. Ghats have remained stable or increased, **tiger occupancy outside of these regions has significantly decreased**.

### Way ahead:

- **Decentralise conservation:** Frameworks that allow local communities, citizens, scientists, NGOs and businesses to participate meaningfully in conservation are needed.
- **For example**, "Reserved Forests" can be co-managed with an approach that is inclusive and provides economic benefits for local communities.

Only by extending the reach of conservation beyond the present PA system and empowering local communities and ordinary citizens to meaningfully participate in conservation actual doubling of tigers and other embattled wildlife can be achieved.

**Insta Links:** [India celebrates 50 successful years of "Project Tiger"](#)

## 10. HOW AI CAN HELP THE ENVIRONMENT

Some examples of how AI can help the environment:

Application	Description	Example
<b>Deforestation monitoring</b>	Deforestation and land use changes cause more than <b>10% of global greenhouse gas emissions</b> . Using AI to monitor <b>forest sounds and detect illegal logging</b>	Non-profit organization the Rainforest Connection's " <b>Guardian</b> " devices, which <b>attach acoustic monitoring sensors</b> to trees to detect sounds associated with illegal logging
<b>Carbon footprint reduction in the industry</b>	Using AI to <b>optimize</b> industrial processes and reduce carbon emissions	<b>Fero Labs' AI-driven optimization software</b> , which reduces the amount of mined ingredients used in steel production
<b>Energy efficiency in buildings</b>	Using AI to optimize <b>heating, ventilation, and air conditioning</b> systems in buildings	<b>Arup's Neuron app</b> , which uses IoT sensors to gather data on building energy usage and optimize HVAC systems



<b>Wildlife conservation</b>	Using AI to monitor and protect endangered species	<b>Rouxcel Technology's AI-enabled bracelets for rhinos</b> , monitor their movements and alert authorities to potential threats
<b>Smart agriculture</b>	Using AI to optimize farming processes and reduce waste	<b>John Deere's AI-powered system</b> , which optimizes planting, irrigation, and fertilization for crops
<b>Climate modelling</b>	Using AI to make predictions about climate patterns and inform climate policy	<b>The UK's Met Office</b> , which uses AI to model climate patterns and inform government policy on climate change
<b>Renewable energy management</b>	Using AI to manage and optimize renewable energy sources	<b>IBM's Watson Energy</b> , which uses AI to optimize the performance of wind and solar energy systems

### Challenges in the use of AI for the Environment:

Challenge	Example
<b>Data quality and quantity</b>	AI models require high-quality data to perform accurately, and the <b>availability of large and diverse datasets can be limited</b>
<b>Bias in data and algorithms</b>	For example, an AI system that recommends conservation areas to protect might <b>not account for cultural significance or indigenous knowledge</b> .
<b>Interpretability</b>	E.g., it may be challenging to understand how a deep learning model <b>classifies satellite images to detect deforestation</b> .
<b>Scalability and deployment</b>	E.g., deploying sensors to collect environmental data in remote locations or deploying drones to monitor wildlife may require significant investment.
<b>Ethical considerations</b>	E.g., the use of <b>facial recognition technology</b> to monitor endangered species could violate the privacy of individuals visiting conservation areas.

### Conclusion:

AI is a powerful tool that, when used appropriately, can help address some of the most pressing environmental challenges facing our planet. By leveraging the strengths of AI and addressing the challenges it presents, we can develop sustainable and innovative solutions for a better future.

### Insta Links

### AI and Robotics

### Mains links:

**Q. Discuss the applications of AI for use in Environment conservation. (250 Words)**

## 11. ALL INDIA REPORT OF FIRST CENSUS OF WATER BODIES

### Context:

Ministry of Jal Shakti has launched the **1st Census of Water Bodies** in convergence with the 6th Minor Irrigation (MI) Census under the **Centrally Sponsored Scheme "Irrigation Census"**.

### Background:

- Since water is a **state subject** under the 7th Schedule of the Indian Constitution, the relevant State Governments are primarily responsible for taking action.
- Through a number of schemes and programs, **the Central Government offers technical and financial assistance to support their efforts**.
  - As an illustration, the [Pradhan Mantri Krishi Sinchayee Yojana](#) (PMKSY)-Har Khet Ko Pani (HKKP) scheme provides for the Repair, Renovation, and Restoration (RRR) of Water Bodies.

### The First Census of Water Bodies

- Objective:** To develop a national database for all water bodies by collecting information on their size, condition, status of encroachments, use, storage capacity, the status of filling up of storage, etc.

- **What is unique about the census?**
  - Until the 5th minor irrigation census, water body data was only available at the village level.
  - The first water body census **included data on all types of water bodies in both rural and urban areas.**
  - For the first time, data on the **encroachment** of water bodies was also gathered during the census.
- **The census defines a water body as:** All natural or man-made units bounded on all sides with some or no masonry work used for storing water for irrigation or other purposes (industrial, domestic or drinking, groundwater recharge, etc).

### Highlights of the first census:

#### STATES WITH MOST WATERBODIES

State	No. of waterbodies
West Bengal	7,47,480
Uttar Pradesh	2,45,087
Andhra Pradesh	1,90,777
Odisha	1,81,837
Assam	1,72,492
Jharkhand	1,07,598
Tamil Nadu	1,06,957

#### STATES/UTs WITH LEAST WATERBODIES

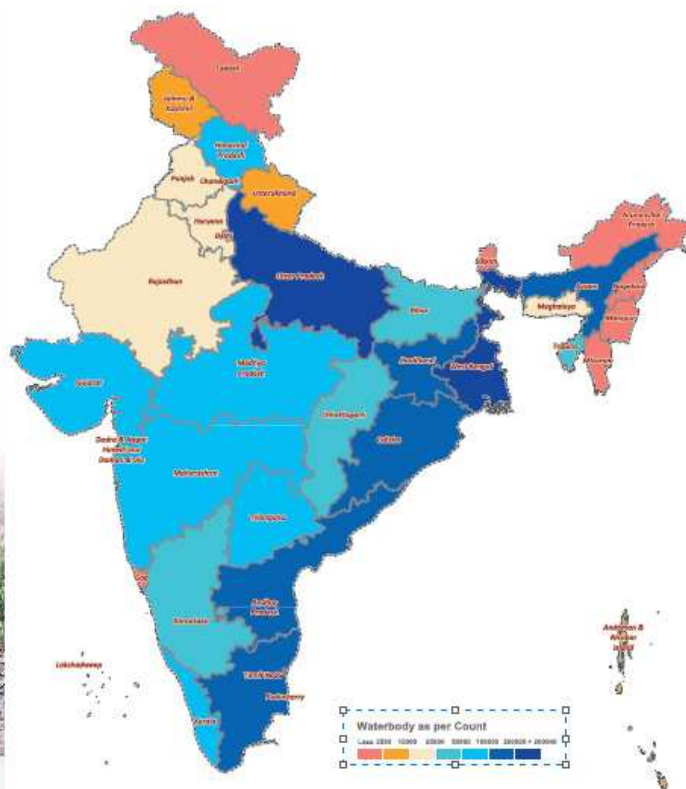
Sikkim	134
Chandigarh	188
Delhi	893
Arunachal Pradesh	993

#### WATERBODIES LOST TO ENCROACHMENTS

Uttar Pradesh	15,301
Tamil Nadu	8,366
Andhra Pradesh	3,920

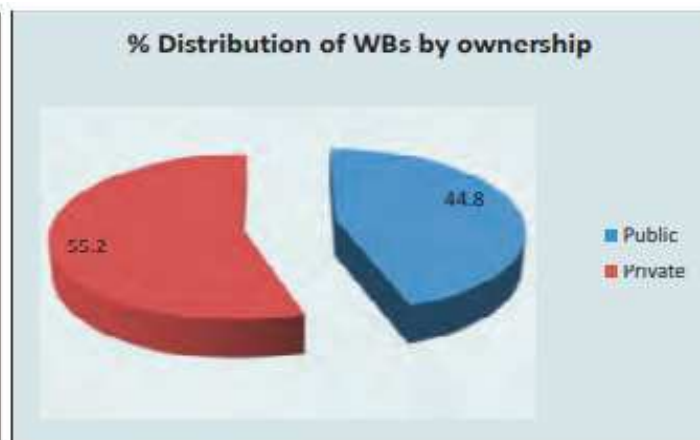
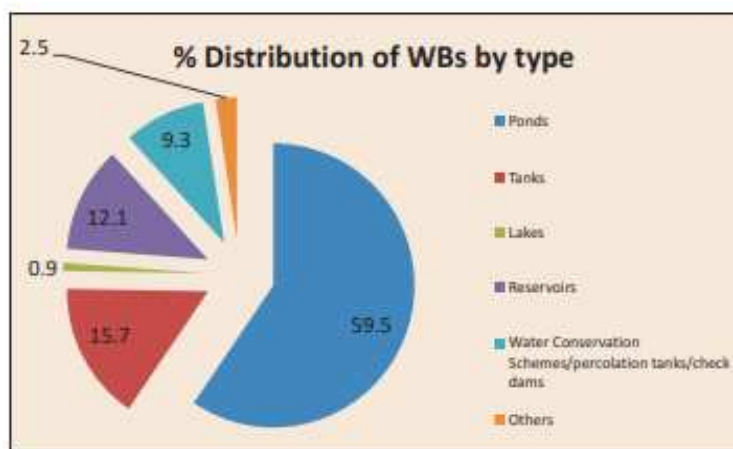


No encroachment on waterbodies was reported from West Bengal, Sikkim, Arunachal Pradesh and Chandigarh. Source: Waterbody census



- **24,24,540** water bodies have been enumerated in the country, out of which **97.1%** are in rural areas and only **2.9%** in urban areas.
- West Bengal's **South 24 Parganas** has been ranked as the top district having the highest (**3.55 lakh**) number of water bodies across the country.

### Classification of water bodies:



- **West Bengal** has the highest number of ponds and reservoirs, whereas **Andhra Pradesh** has the highest number of tanks.
- **Tamil Nadu** has the highest number of lakes and **Maharashtra** is the leading state with water conservation schemes.

**Data on encroachment:** 1.6% of water bodies are reported to be encroached, out of which 95.4% are in rural areas and the remaining 4.6% in urban areas.

**Way ahead for Augmentation, Conservation and Efficient Management of Water Resources:**

- Inclusion of water bodies in land records
- Making them an integral part of the town planning process
- Strict action against the encroachers

## 12. STATE OF THE GLOBAL CLIMATE 2022

**Context:** According to the [World Meteorological Organisation's](#) (WMO) annual 'State of the Global Climate 2022' report, from mountain peaks to ocean depths, climate change continued its advance in 2022.

### Highlights of the report- State of the Global Climate 2022:

In 2022, two climate modes - the <a href="#">El Niño–Southern Oscillation</a> (ENSO) and the <a href="#">Indian Ocean Dipole</a> (IOD) - contributed to major weather and climate events across large areas of the world.	
<b>Global mean temperature</b>	<p>The global mean temperature in 2022 was <b>1.15°C</b> above the 1850-1900 average.</p> <p><b>The years 2015 to 2022 were the eight warmest</b> in the instrumental record back to 1850.</p> <p>This was despite three consecutive years of a cooling <b>La Niña</b>.</p>
<b>Concentrations of the three main greenhouse gases – carbon dioxide, methane, and nitrous oxide</b>	<p>Reached <b>record observed highs</b> in 2021.</p> <p>The annual increase in methane concentration from 2020 to 2021 was the highest on record.</p> <p>The 3 continued to increase in 2022.</p>
<b>Reference glaciers</b>	Experienced an average thickness change of over 1.3 metres between October 2021 and October 2022.
<b>Sea ice in Antarctica</b>	Dropped to 1.92 million km <sup>2</sup> on February 25, 2022, the lowest level on record and almost 1 million km <sup>2</sup> below the long-term (1991-2020) mean.
<b>Ocean heat content</b>	<p>Around 90% of the energy trapped in the climate system by GHGs goes into the ocean.</p> <p><b>Ocean warming rates</b> have been particularly high in the past two decades.</p> <p>Despite continuing La Niña conditions, <b>58% of the ocean surface experienced at least one marine heatwave during 2022.</b></p>
<b>Global mean sea level (GMSL)</b>	The rate of global mean sea level rise has doubled between (1993-2002, 2.27 mm-yr-) and (2013-2022, 4.62 mm-yr).
<b>Ocean acidification</b>	<p>CO<sub>2</sub> reacts with seawater resulting in a decrease of pH referred to as 'ocean acidification'.</p> <p>Ocean acidification threatens organisms and ecosystem services.</p> <p>The ocean surface pH is now the lowest and current rates of pH change are unprecedented.</p>

### Socio-economic and environmental impacts

- **Extreme Weather Events:** Drought gripped East Africa, Record-breaking rain in July and August led to extensive flooding in Pakistan, and Record-breaking heat waves affected Europe during the summer. The unusual heat in Europe last year led to the deaths (15,000) than any other single extreme climate event.
- **Food insecurity:** As of 2021, 2.3 billion people faced food insecurity, of which 924 million people faced severe food insecurity.
- **Displacement:** In Somalia, almost 1.2 million people became internally displaced by the catastrophic impacts of drought.
- **Environment:** Global warming is causing the temperate zone to expand, and climate change is also affecting recurring events (trees blossom, birds migrate) in nature, etc.

### India-specific findings and predictions:

Findings	Predictions
<p><b>Heatwaves</b> in the 2022 pre-monsoon season in India caused a decline in crop yields. A number of <b>forest fires</b>, particularly in Uttarakhand.</p> <p>This, combined with the <b>banning of wheat exports and restrictions on rice exports</b> in India, posed high risks to countries already affected by shortages of staple foods.</p> <p><b>The Indian Monsoon onset</b> was earlier and the withdrawal was later than normal in 2022. The majority of the Indian subcontinent was wetter than average.</p>	<p>Heatwave conditions existed even in <b>February</b> which is not even a summer month.</p> <p>After a relatively cool March, heat waves were back in April.</p> <p>With the La Nina phase getting over, and forecasts of El Nino taking over in a few months, <b>this year is predicted to be warmer than 2022.</b></p> <p>The IMD has predicted a normal monsoon this year, but the impact of <b>El Nino</b> led to fears that rainfall might be suppressed.</p>

**Insta Links:** [Synthesis Report of IPCC AR6](#)

## SECURITY CHALLENGES AND THEIR MANAGEMENT IN BORDER AREAS - LINKAGES OF ORGANIZED CRIME WITH TERRORISM

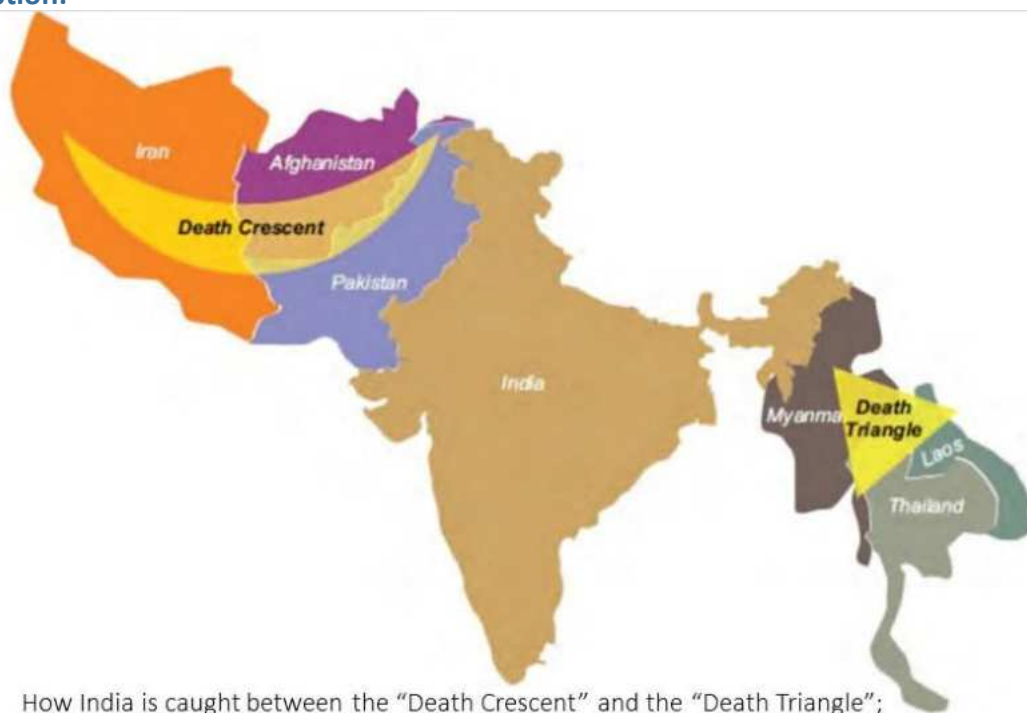
### 13. THE ISSUE OF NARCOTICS TRADE

**Context:** The issue of [narcotics trade](#) has kept security agencies and law enforcement agencies on the tenterhooks.

#### Background:

- **The narcotics trade**, which is assuming dangerous proportions all over the world, is a **social problem** that harms youth and families.
- The money it generates is diverted for disruptive activities that have bearings on **national security**.

#### India is no exception:



How India is caught between the "Death Crescent" and the "Death Triangle";

(Source: NCB, India)

- As India has been **sandwiched between** the Death (Golden) Crescent and Death (Golden) Triangle, it is being flooded with drugs, especially **heroin and methamphetamine**.



- Nearly **90% of the world's demand** for these drugs is being met from these two regions and India is **both a big market and a transit route** for other countries.

Challenges for India:
<ul style="list-style-type: none"> <li>National security challenges:               <ul style="list-style-type: none"> <li>The connection of drug traffickers from across borders with terrorist organisations → illegal money is used for terror activities.</li> <li><b>India has emerged as a hot destination for cocaine</b>, the supply of which is controlled by South American drug cartels, which have links with local drug lords, gangsters and Khalistani terrorists.</li> </ul> </li> <li><b>Porous borders:</b> These are under the control of terrorist/rebel groups, indirectly supported by Pakistan and China.</li> <li><b>The maritime route:</b> Has also become very active.</li> <li><b>The use of drones:</b> To supply drugs and weapons across the border in Punjab is a new phenomenon and law enforcement agencies are working to neutralise this.</li> <li><b>Anonymity:</b> 62% of the darknet is being used for illicit drug trafficking. <b>Cryptocurrency</b> payments and doorstep deliveries have made darknet transactions attractive.</li> </ul>
Measures taken by the government:
<ul style="list-style-type: none"> <li><b>Narcotics Control Bureau (NCB):</b> It was constituted in 1986 under the <b>NDPS Act 1985</b> with the prime responsibility of <b>fighting drug trafficking and drug abuse</b>.</li> <li><a href="#">Nasha Mukta Bharat Abhiyaan (NMBA)</a></li> <li><a href="#">National Action Plan for Drug Demand Reduction (NAPDDR)</a> for 2018-2025.</li> <li>The government constituted the Narco-Coordination Centre (<b>NCORD</b>) in 2016.</li> <li><a href="#">National Fund for Control of Drug Abuse</a></li> </ul>
Achievements of Indian agencies:
<ul style="list-style-type: none"> <li><b>The Indian Coast Guard (ICG)</b>, in conjunction with the intelligence agencies, has been making big seizures frequently.</li> <li><b>The Narcotics Control Bureau</b> busted an organised racket of darknet vendors and arrested several Indian nationals and their international counterparts were exposed for the first time.</li> <li><b>Operation "Gear Box"</b> was started by the Directorate of Revenue Intelligence (DRI) to combat the smuggling of heroin by detecting the hidden drugs in the gear boxes.</li> </ul>
Way ahead:
<ul style="list-style-type: none"> <li><b>Concerted and coordinated efforts</b> of all the agencies will be required to tackle this growing threat.</li> <li><b>Technical surveillance followed by basic policing methods</b> will lead to the seizure of large consignments of drugs and the arrest of the gang.</li> <li><b>The nexus</b> between terrorists and organised gangs/underworld is a new and disturbing trend, which has to be tackled effectively by security agencies.</li> </ul>

**Insta Links:** [Kerala has a drug problem: 300% jump in cases over six years; arrests increase 90%](#)

#### **Mains Links:**

**Q. India's proximity to two of the world's biggest illicit opium-growing states has enhanced her internal security concerns. Explain the linkages between drug trafficking and other illicit activities such as gunrunning, money laundering and human trafficking. What countermeasures should be taken to prevent the same? (UPSC 2018)**

## CHALLENGES TO INTERNAL SECURITY THROUGH COMMUNICATION NETWORKS, ROLE OF MEDIA AND SOCIAL NETWORKING SITES IN INTERNAL SECURITY CHALLENGES, BASICS OF CYBER SECURITY

### 14. INDIA RANSOMWARE REPORT 2022

**Context:** The Computer Emergency Response Team of India (CERT-In) has reported that [ransomware attacks](#) are not only motivated by money but also by geopolitical conflicts.

## What is Ransomware?

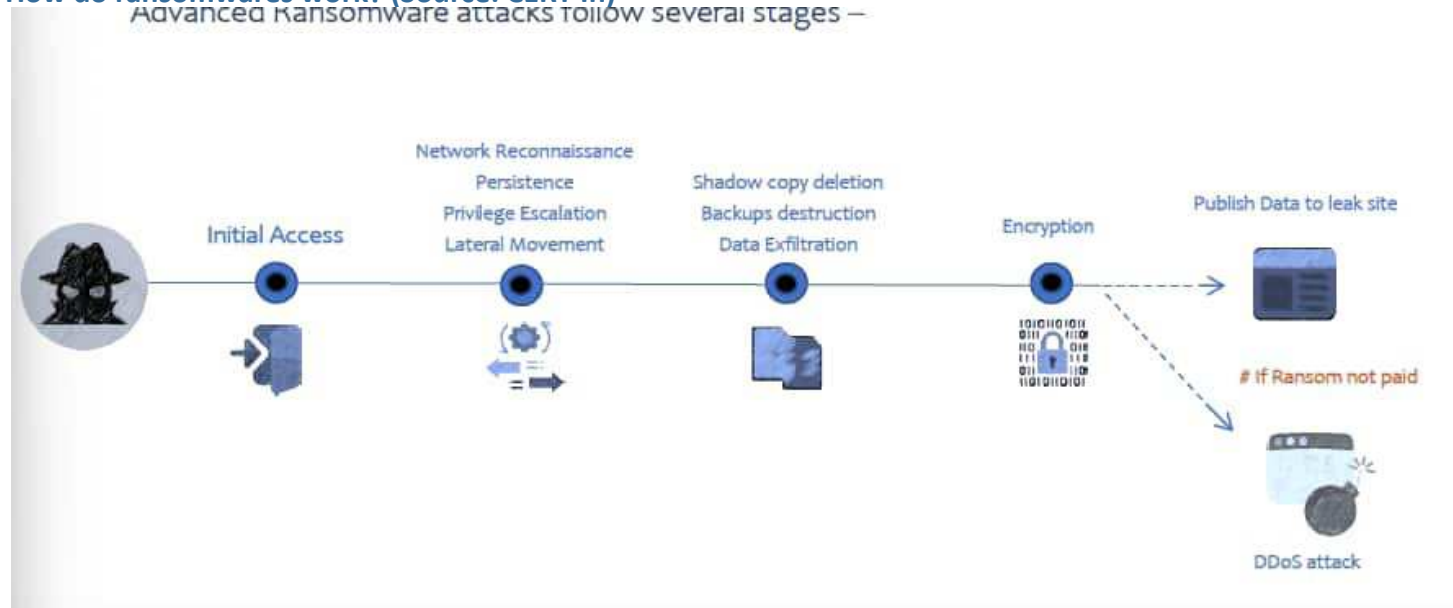
Ransomware is a type of malicious software or malware that is designed to block access to a computer system, network, or data until a ransom is paid. E.g., **WannaCry (2017)**, **Petya/NotPetya (2017)**; **GandCrab (2018)**

## Major findings of the Report:

Findings	Descriptions
<b>Ransomware incidents</b>	The number of reported ransomware attacks in India in 2022 was <b>53% higher</b> than in 2021
<b>Target</b>	Ransomware attacks targeted <b>critical infrastructure organizations</b> to disrupt services and extract ransom payments
<b>Sector most impacted</b>	The <b>IT/ITeS sector</b> in India was the most impacted by ransomware attacks, followed by the finance and manufacturing sectors
<b>Most prevalent variants</b>	<b>Lockbit</b> was the most prevalent ransomware variant in India, followed by <b>Makop</b> and <b>DJVVU/Stop, Makop and Phobos</b> ; <b>Vice Society</b> and <b>BlueSky</b> were new variants
<b>RaaS ecosystem</b>	The <b>RaaS (Ransomware-as-a-service) ecosystem</b> is becoming more prominent, allowing even non-technical individuals to launch ransomware attacks
<b>Restoration time</b>	On average, the restoration time is about <b>10 days</b> for infections in reasonably large infrastructure networks
<b>Recommendations</b>	Organizations should regularly update their contingency plan; have higher cyber awareness among their employees

## How do ransomwares work? (Source: CERT-In)

Advanced Ransomware attacks follow several stages —



Various initiatives for cybersecurity	
Global	India
<b>Budapest Convention on Cybercrime</b> (2004, the first international treaty that seeks to address Internet and cybercrime by harmonizing national laws)—India is not a signatory.	<ul style="list-style-type: none"> <li>• <b>Policies:</b> <a href="#">National Cyber Security Policy 2013</a>; National Cyber Security Strategy 2020</li> <li>• <b>Schemes:</b> Cyber Surakshit Bharat Yojana (2018, MeITY+ NeGD+ Industry)—to create awareness programs on cyber security; Cyber Swachhta Kendra (free Botnet Cleaning and Malware Analysis tools)</li> <li>• <b>Institutions:</b> Indian Cyber Crime Coordination Centre(I4C) (est. in 2018; under <b>Home Ministry</b>)—to combat cybercrime in India in a comprehensive and coordinated manner; National Critical Information Infrastructure Protection Centre (NCIIPC); National Cyber Coordination Centre (NCCC) (under CERT-In)</li> </ul>

## Conclusion:

Continuous efforts are needed to Secure (National Cyberspace), Strengthen (Structures, People, Processes, and Capabilities), and Synergise (Resources including Cooperation and Collaboration) in the field of cyberspace in India.

**About CERT-IN:**

The Indian Computer Emergency Response Team (est. 2004; HQ: New Delhi) is an office within the **Ministry of Electronics and Information Technology**. It is the nodal agency to deal with **cyber security threats like hacking and phishing**. It strengthens the security-related defence of the Indian Internet domain.

**Insta Links:**

[Cybersecurity in India](#)

**Mains Links:**

Q. What is a 'Ransomware' attack? How do they compromise and complicate cybersecurity in the country? How can they be tackled?

**Prelims Links:**

**Q. The terms 'WannaCry, Petya and EternalBlue' sometimes mentioned in the news recently are related to (UPSC 2018)**

- (a) Exoplanets
- (b) Cryptocurrency
- (c) Cyber attacks
- (d) Mini satellites

**Ans: C**

**Q. In India, it is legally mandatory for which of the following to report on cyber security incidents? (UPSC 2017)**

- 1. Service providers
- 2. Data centres
- 3. Body corporate

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 1 and 2 only
- (c) 3 only
- (d) 1, 2 and 3

**Ans: D**

## CONTENT FOR MAINS ENRICHMENT (CME)

### 1. 'JANA RAJ BHAVAN' INITIATIVE

<b>About</b>	<b>Kolkata Raj Bhavan</b> , the residence of the West Bengal Governor, opened its doors to the public on the occasion of <b>Poila Baishak</b> , the Bengali New Year's Day. A heritage walk was inaugurated in collaboration with the Indian Museum, and a colourful 'Peace Run' was flagged off. Similarly, Rashtrapati Bhavan, home to the President of India was thrown open to the public for four days a week in 2017.
<b>Usage</b>	Such initiatives promote the values of openness; inspire youngsters into administration and governance.

### 2. LIFE LESSONS FROM AJAY BANGA

Life Lesson	Example
<b>One person can make a difference</b>	During his time at <b>Nestle</b> , Banga learned that individual actions can have a significant impact. As <b>CEO of MasterCard</b> , he introduced the concept of financial inclusion, setting a goal to bring 500 million unbanked people into the formal banking system and digital economy by 2021.
<b>Creativity is key</b>	He has also championed innovation at MasterCard, increasing revenue and market cap through new products and technologies.

<b>Focus on inclusion</b>	Banga has made it a priority to include underserved and underrepresented populations in his work.
<b>Embrace change</b>	He left Citigroup due to the industry's increasingly regulatory environment and lack of innovation and has been an advocate for digital transformation at MasterCard and beyond.
<b>Persistence pays off</b>	Banga's success at MasterCard was due in part to his persistence in pursuing financial inclusion goals and new innovations. He managed to triple the company's revenue and increase net income six-fold during his tenure, despite facing challenges like economic downturns and industry disruption.
<b>Usage:</b>	His life story can be used in Essay/Ethics to illustrate points and highlight the values of Integrity, commitment to social responsibility, and respect for diversity.

### 3. LIFE LESSONS FROM DALAI LAMA

Life Lesson	Example
<b>Practising compassion and forgiveness leads to inner peace</b>	Despite facing tremendous oppression and violence from the Chinese government, Dalai Lama has always preached non-violence and compassion towards his oppressors.
<b>Education and knowledge are powerful tools for personal growth and societal progress</b>	He himself is a voracious reader and has even established educational institutions in India to provide modern and traditional education to Tibetan refugees.
<b>Building strong relationships and connections is essential for a fulfilling life</b>	He has formed <b>deep and meaningful relationships</b> with people all over the world.
<b>Embracing change</b>	Dalai Lama has faced many challenges and changes in his life, including being forced into exile, losing his country and people, and being constantly under threat. However, he has always remained optimistic and adaptable, embracing change and looking for opportunities to grow and progress.
Dalai Lama believes that <b>cultivating self-awareness and mindfulness</b> can help us identify and overcome negative emotions such as anger, fear, and anxiety.	
<b>Usage:</b> His life story can be used in Essay/Ethics to illustrate points and highlight the values of Compassion, Nonviolence, Respect for diversity, Humility, and morality.	

### 4. NEW DELHI DECLARATION

<b>Context:</b>	The two-day Global Buddhist Summit 2023 concluded successfully in New Delhi with the New Delhi Declaration
<b>Major outcomes of the New Delhi Declaration:</b>	
<ul style="list-style-type: none"> <li>It highlights the importance of <b>peace, well-being, harmony, and compassion</b> for universal peace</li> <li>The <b>texts, doctrines and philosophy of Buddha Dhamma</b> are the best guides for inter-faith dialogue, harmony and universal peace.</li> <li>It calls upon all nations, organizations, and individuals to work towards creating a world free from <b>conflict, violence, and war, protecting the environment, promoting mindfulness</b> and wisdom, and preserving the sacred sites of Buddhism.</li> <li>It recommends a <b>paradigm shift in human attitudes towards nature</b>, with an emphasis on value education and character building, particularly among youths.</li> <li>It recognized the <b>Buddhist pilgrimage as a living heritage</b> that promotes spiritual growth, cultural understanding and social harmony</li> </ul>	
<b>Usage:</b>	The values presented in the declaration can be used in Essays/Ethics to support your answers.



## 5. MATERIALS FROM PLASTICS

<b>About</b>	Ashaya, a Pune-based firm, has created a process to <b>extract materials from Multi-Layered Plastics (MLP) waste and convert them into high-quality products</b> , starting with sunglasses under the brand name <b>Without</b> .
<b>Usage:</b>	It can be used as an example of “ <a href="#">Waste to Wealth</a> ”. Also, the example values of Environmental Responsibility, Social Responsibility and sustainability.
<b>Multi-Layered Plastics (MLP)</b>	MLPs are composed of multiple layers of different materials such as plastic, aluminium, paper, and others, which are fused together to create a barrier. They are used in various products such as food packaging, sachets, wrappers, etc



## 6. INDORE-MODEL WASTE TREATMENT

<b>About</b>	The Indore-model waste treatment is a <b>sustainable and cost-effective</b> way of managing wet waste while also <b>producing clean energy</b> .
<b>Process</b>	It involves the <a href="#">bio methanation</a> of wet organic waste, which produces <a href="#">bio-CNG (compressed natural gas)</a> as a <b>by-product</b> . It has been recognized as one of the <b>most effective waste management models</b> in the world and has inspired over 72 countries to replicate it.
<b>Usage:</b>	It can also be used as an example of “ <b>Waste to Wealth</b> ”. This mitigates the issues of waste management as well as energy security.

## 7. INDIA'S FIRST ENVIRONMENTAL REFERENDUM

<b>Context</b>	Ten years ago, on April 18, 2013, the <b>Dongoria Kondhs</b> , a vulnerable tribal group in India, won a landmark legal battle in the Supreme Court against Vedanta Company's plans to <b>exploit the Niyamgiri Hill for bauxite</b> .
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<b>What did the court say?</b>	The court recognized the <b>cultural, religious, and spiritual rights</b> of the tribe on the hill and gave the Gram Sabha the authority to <b>examine possible infringements</b> on their rights due to the proposed project. The Supreme Court <b>ordered a referendum</b> to be held amongst the affected Gram Sabhas to obtain consent on the project from the community, which unanimously voted against it.
<b>Outcome</b>	The referendum resulted in a <b>rare registration of the Dongoria Kondhs' claim for sovereignty, self-determination, and territorial autonomy</b> .
<b>Usage:</b>	Niyamgiri case today serves as a <b>textbook example of good usage of Free, Prior Informed Consent (FPIC)</b> , for any environmental projects. The case can be a quote in an Essay/Ethics/ Environment question.

## 8.CITY NATURE CHALLENGE

<b>Context</b>	<b>Over 30 Indian cities</b> will participate in the <b>City Nature Challenge</b> , an app-based competition that encourages people to record observations of nature. Participants can use the <b>iNaturalist app</b> to click and upload photos of natural flora and fauna, and the app uses <b>Artificial Intelligence</b> to suggest the species name.
<b>Significance:</b>	The event is an opportunity for citizens to <b>use nature to reduce stress and calm anxiety</b> , and the data collected will be used by scientists and researchers to research different plant and animal species and determine the biodiversity in a region.
<b>Usage:</b>	Such examples can be used in governance and environment questions showing <b>people's participation in documenting biodiversity ('Citizen Science')</b> ; raising awareness about nature, reducing stress and promoting a sense of well-being

## 9.KERALA ADOPTS WATER BUDGET

<b>Context:</b>	Kerala became the first state to <b>adopt a water budget</b> , as a solution to water scarcity during summer months to ensure equitable water distribution.
<b>Water Budget</b>	A <b>water budget</b> is a tool used to manage water resources by <b>estimating the total amount of water available</b> in a region and the amount of water used by different sectors.
<b>Benefits:</b>	<ul style="list-style-type: none"> <li>• It helps in making <b>informed decisions</b> about water use</li> <li>• Identifying areas of water scarcity</li> <li>• Developing strategies for equitable water distribution.</li> <li>• Create awareness about proper water use and avoiding wastage.</li> </ul>
<b>Other initiatives of the Kerala govt:</b>	It has revived <b>over 15,000 kilometres</b> of waterways in the last few years, and local bodies are rejuvenating more ponds and streams.
<b>Usage</b>	This can be used as an example in Governance, and Agriculture questions on water management.

## 10.FARM DISTRESS INDEX

<b>About</b>	Scientists at the <b>Central Research Institute for Dryland Agriculture (CRIDA)</b> have developed an <b>early warning system called Farmers Distress Index</b> , which is built on 21 simple questions— based on financial, emotional, and other parameters. The index can sense <b>imminent distress at least 3-4 months</b> ahead of its actual occurrence.
<b>Usage:</b>	This innovative tool can be mentioned in Questions related to Farmer's distress.
<b>About CRIDA:</b>	<b>Central Research Institute for Dryland Agriculture (est. 1985; HQ: Hyderabad)</b> is an institute under the Indian Council of Agricultural Research. The institute was set up with the intention of undertaking agricultural research activities in areas that have low rainfall

## FACTS FOR PRELIMS GS PAPER 1

### INDIAN HERITAGE AND CULTURE

#### 1. BIHU DANCE



##### Bihu Dance

**Context:** Guinness World Record has been awarded for the largest Bihu dance performance and largest dhol recital at a single venue in Assam.

##### About Bihu Dance

	Description
About	Bihu is a <b>fast-paced</b> (with brisk footsteps), extremely joyful dance, hailing from the state of <b>Assam</b>
Purpose	Celebrating the <b>three agricultural festivals of Assam</b> — <b>Rongali/Bohag Bihu</b> (April), <b>Bhogali/Magh Bihu</b> (January), <b>Kongali/Kati Bihu</b> (October)
Performers	Young men and women in groups
Costume	Colourful traditional costumes (centered round the <b>red color theme</b> , male performers of Bihu are dressed in <b>dhosis and gamocha</b> )
Music	Bihu folk music played with instruments such as <b>drums and flutes</b>
Significance	Symbolizes fertility and love, celebrates the arrival of spring and the rain needed for crop growth
Cultural icon	Sign of Assamese cultural identity has remained relevant even with increased urbanization
Historical significance	One of the earliest depictions of Bihu dance can be found in 9th-century Tezpur and Darrang regions, and it has been referenced in inscriptions from the 14th century

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#### 2. GOND PAINTING

##### Gond Painting

**Context:** Gond painting, popular folk art of the Gond tribe in Madhya Pradesh, has been awarded the **Geographical Indication (GI)** tag.

##### About Gond Paintings

	Information
About	Gond painting is one of the <b>most famous artworks</b> of the Gond tribal community, done to preserve, remember, and communicate the rich culture
Evolution	<b>Digna and Bhittichitra paintings</b> evolved into present-day Gond paintings
Famous Artist	<b>Jangarh Singh Shyam</b>
Materials	Handmade paper, canvas, natural and synthetic colours
Tools	Paintbrushes
Themes and Designs	<b>Local flora and fauna</b> , deities, urban culture, and daily life. These paintings are <b>geometrically drawn on the walls</b> of the hut. It also includes <b>portraits of Lord Krishna, crows with pots, young boys, and girls</b>
Signature Patterns	Dots, fine lines, curved lines, dashes, fish scales, drops of water, seed shapes, and geometrical shapes
Location	It is mainly done in <b>Patangarh Village in the Dindori district</b> of Madhya Pradesh.
Gond Tribes	The Gond tribe is <b>one of the largest tribal communities</b> in India. The name Gond comes from " <b>Kond</b> " meaning green mountains. Their main occupation is Agriculture or daily wages

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#### 3. KHAYAL

##### Khayal Music

	Information
About	Khayal is a <b>genre of Hindustani classical music</b> , which originated in the late 16th century in Sufi communities in the region between Delhi and Jaunpur.
Origin	<b>Persia</b> (now Iran)
Meaning of 'Khayal'	The word " <b>khayal</b> " comes from Persian and means " <b>imagination</b> " or " <b>idea</b> ". It is also known as <b>Bandish</b>
Founder	<b>Amir Khusrau</b>
Repertoire	<b>Short songs</b> (2-8 lines)
Composed in	Specific raga and tala
Text	Praise of kings, description of seasons, pranks of Lord Krishna, divine love, the sorrow of separation
Major Gharanas	Gwalior (Oldest), Kirana, Patiala, Agra, Bhendibazaar
Dhrupad	Dhrupad is also a form of Hindustani music, which enjoyed wide popularity till the 17th or early 18th century, after which it <b>gradually declined</b> with the emergence of Khayal (more romantic and entertaining style).



##### Khayal Vs Dhrupad

	Khayal	Dhrupad
Emphasis	Improvisation and ornamentation	Rhythm and melody
Compositions	<b>Flexible</b> compositions (bandish)	<b>Fixed</b> compositions (bandish)
Lyrics	<b>Secondary</b> to musical expression	<b>Emphasized</b> , with clear enunciation
Tempo	Generally <b>faster</b> and more lively	Generally <b>slower</b> and meditative
Vocal style	<b>Expressive</b> and ornamented	<b>Clear</b> and precise
Use of instruments	Often accompanied by <b>tabla and/or harmonium</b>	<b>Rarely</b> accompanied by instruments
Performance length	Typically <b>shorter</b> , around 20-30 minutes	Typically <b>longer</b> , around 60 minutes or more

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#### 4. GLOBAL BUDDHIST SUMMIT

- **Conducted by:** The Ministry of Culture+ International Buddhist Confederation (IBC)
- **Theme:** "Responses to Contemporary Challenges: Philosophy to Praxis."
- **Aim:** The summit aims to **enhance cultural and diplomatic relationships** with other countries and mark the significance and importance of India in Buddhism, as Buddhism was born in India.

##### Buddhist councils

**Context:** PM will inaugurate the **first Global Buddhist Summit** in New Delhi on April 20th and 21st.

The Buddhist council refers to a **series of meetings held by the early Buddhist sangha**, or monastic community, following the death of the Buddha. These councils were convened in order to **preserve and codify the Buddha's teachings**, which were transmitted orally by his disciples in the early years of Buddhism.



Council	First Council	Second Council	Third Council	Fourth Council
Year	486 BC	386 BC	250 BC	72 AD
Location	Rajgir	Vaishali	Pataliputra	Kundalavana (Kashmir)
King	Ajatasatru	Kalasoka	Ashoka	Kanishka
Presiding Priest	Maha Kasyapa	Sabakami	Mogaliputta Tissa	Vasumitra
Purpose	Preserve Buddha's teachings and rules for disciples	Settle a dispute over Vinaya and Ten Points Rules	Reconcile different schools of Buddhism and purify the Buddhist movement	Deal with a serious conflict between Sarvasthivada teachers of Kashmir and Gandhara
Outcome	Collection of Pali Tipitaka	Split of the Buddhist order into Theravada and Mahasanghika	Codification of Abhidhamma Pitaka and declaration of Sthaviravada School as orthodox	Sarvasthivada doctrines organized into commentaries; the final division of Buddhism into Mahayana and Hinayana

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Note: The **Theravada Buddhist Council in 1871** and **Theravada Buddhist Council in 1954** are known as the Fifth and Sixth Buddhist Councils respectively.

## A. ZEMITHANG

### Context:

Zemithang, the first stop of the **14th Dalai Lama** during his flight from **China-occupied Tibet in 1959**, recently hosted a major Buddhist conference attended by some 600 delegates, including Tibetan spiritual leaders, from across India.

- **Conference conducted by:** Indian Himalayan Council of Nalanda Buddhist Tradition, at Gorsam Stupa in Tawang district, Arunachal Pradesh
- **Aim:** To make Buddhism vibrant and deeply connected to Nalanda Buddhism

**About Zemithang:** Zemithang (in the Pangchen Valley) is a village and the last circle headquarters bordering Bhutan and Tibet. Zemithang means “**sand valley**” and the people of the area are referred to as Pangchenpa, meaning “people who gave up sin”.



## 5. ABHILEKH PATAL

### Context:

PM praised “Abhilekh Patal” a portal with over 1 Crore Pages of Historical Records of the National Archives.

### About the Portal:

It is a web portal to access records of the National Archives of India (NAI) and make its content available to all.

The National Archives of India (est. 1891; HQ: New Delhi) is a repository of the **non-current records of the Government of India** and holds them in trust for the use of administrators and scholars. NAI is an **Attached Office of the Ministry of Culture**.

## 6. PTP-NER SCHEME

### Context:

Ministry of Tribal Affairs have launched **Marketing and Logistics Development for the Promotion of Tribal Products from the North-Eastern Region (PTP-NER)** for improving the lives of the talented artisans belonging to the Northeast.

### About the Scheme:

About	Description
<b>Nodal Ministry</b>	Ministry of Tribal Affairs
<b>Type</b>	Central Sector Scheme
<b>Aim</b>	To strengthen <b>livelihood opportunities for tribal artisans</b> through increased efficiency in procurement, logistics, and marketing of tribal products from North Eastern States
<b>States Covered</b>	Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim
<b>Nodal Agency</b>	Tribal Cooperative Marketing Development Federation (TRIFED)
<b>Key Features</b>	Facilitates <b>backwards and forward linkages</b> through incubation support, aggregation, skill and entrepreneurship development, sourcing and procurement, marketing, transportation, and publicity
<b>Tribal Artisans Melas (TAMs)</b>	Central government to organize TAMs in April and May to showcase tribal products. The <b>empanelment of tribal artisans</b> will be done directly or through Tribal Artisan Melas (TAMs).
<b>Partners</b>	North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC), India Post and North Eastern State Government Departments/Agencies

## AWARDS

## 7. NATIONAL PANCHAYAT AWARDS AND GS NIRNAY

### Context:

President of India inaugurated the National Conference on Incentivization of Panchayats and presented the **National Panchayat Awards** in New Delhi.

- It honours the **best-performing Panchayats** by assessing their performance in the attainment of SDGs.



The annual awards were first instituted in 2011.

- Also, a booklet on '**Best Practices on Works of Awardee Panchayats**' was also released

The Ministry of Panchayati Raj is celebrating National Panchayat Awards Week from 17th to 21st April 2023, as part of the Azadi Ka Amrit Mahotsav (AKAM) 2.0, leading up to National Panchayati Raj Day on 24th April 2023.

## GS NIRNAY

**Ministry of Panchayati Raj GS NIRNAY** (National Initiative for Rural India to Navigate, Innovate and Resolve Panchayat decisions) is a mobile application aimed at **empowering rural communities**.

- It will provide **easy access to critical information discussed during a Gram Sabha**; acting as a means of verification of facts where necessary or in case of queries that may arise regarding the resolutions undertaken during the Gram Sabha.

### Other Information:

Under the **SVAMITVA Scheme**, Drone Survey has been completed in more than **2.35 lakh** villages whereas **6.57 lakh villages**, viz 95% of **6.62 lakh** villages have been provided with Bhu-Aadhaar under Unique Land Parcel Identification Number (ULPIN) project.

## GS PAPER 2

### GOVERNANCE, POLICY, LEGISLATIONS, GOVT. SCHEMES

## 1. AADHAAR AUTHENTICATION

**Context:** The Ministry of Electronics and Information Technology (MeitY) has proposed rules to **allow entities other than Government Ministries and Departments to use Aadhaar authentication** to promote ease of living and enable better access to services for citizens.

### About the proposed rule:

Topic	Information
What does the Rule say?	Any entity other than a ministry or department that desires to use Aadhaar authentication needs to <b>submit its proposal to the concerned ministry/department</b> at the Centre or state level with justification → The proposal is forwarded to <b>UIDAI</b> , which will review and decide on the application.

What is Aadhaar Authentication (AA)?	Aadhaar authentication is a process that <b>verifies the identity of an individual using their Aadhaar number</b> . It is mainly used for availing government services and schemes.
Entities currently allowed to perform AA	<b>Government ministries and departments; Some private entities</b> like banks and telecom companies (for KYC authentication and only if UIDAI was satisfied with regard to standards of privacy and security)
Purpose of AA	For the interest of <b>good governance, preventing leakage of public funds</b> , enablement of innovation, the spread of knowledge, and promoting ease of living and enabling better access to services for residents.
Legal provision	<b>Aadhaar Authentication for Good Governance (Social Welfare, Innovation, Knowledge) Rules, 2020</b>
Concerns	SC (2018) struck down <b>Section 57 of the Aadhaar Act</b> which allowed the use of Aadhaar data by private companies – to establish the identity of an individual for being “ <b>un-constitutional</b> ”
What is the Aadhaar number?	A <b>12-digit unique identity number issued by UIDAI</b> , a statutory authority under <b>MeitY</b> , on behalf of the Government of India. It is based on an <b>individual's biometric and demographic data</b> .

### DEVELOPMENT PROCESSES AND THE DEVELOPMENT INDUSTRY — THE ROLE OF NGOS, SHGS, VARIOUS GROUPS AND ASSOCIATIONS, DONORS, CHARITIES, INSTITUTIONAL AND OTHER STAKEHOLDERS.

## 2. SANGATHAN SE SAMRIDDHI

### Context:

Ministry of Rural Development's Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM) launched “**Sangathan Se Samridhhi– Leaving no Rural Woman Behind**”.

### About the Campaign:

- It is a national campaign under **Azadi Ka Amrit Mahotsav Samaveshi Vikaas**
- Aim:** To mobilize **10 crore women** from vulnerable and marginalized rural households under the Self-Help Group (SHG) fold.
- Currently, **9 crore women** already part of the SHG movement
- Benefits:** sharing by SHG champions, mobilizing eligible women, training new SHG members, reviving defunct SHGs, and opening SHG bank accounts

### What are SHGs?

They are small informal groups of **10-20 individuals**, mostly **women** from similar social and economic backgrounds, who come together to form a group for mutual support and help.

- SHGs encourage members to **save regularly**, and these savings are then **pooled to provide loans to members** for various purposes such as starting a small business, paying for their children's education or medical expenses, etc.

### About Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM):

	Information
<b>Type</b>	Centrally Sponsored Scheme
<b>Launched in</b>	2011 (as a restructured version of SGSY), renamed in 2015 as Deendayal Antyodaya Yojana (DAY-NRLM)
<b>Objective</b>	Creating institutional platforms for the rural poor, including at least one member from an eligible household into the SHG fold, enable SHGs to increase household income
<b>World Bank Support</b>	Aid in part through investment support by the World Bank
<b>Target</b>	Cover 7 crore rural poor households and 10 Cr women
<b>Overdraft Facility</b>	Rs 5,000 available to verified SHG members under DAY-NRLM having accounts under the Prime Minister Jan Dhan Yojana with Banks
<b>Working</b>	Through Social, Community, Financial mobilization and convergence.

## IMPORTANT INTERNATIONAL INSTITUTIONS, AGENCIES AND FORA - THEIR STRUCTURE, MANDATE.

### 3. UN WOMEN

**Context:** India has donated **\$500,000** to the United Nations Entity for Gender Equality and the Empowerment of Women

(UN Women)

### About UN Women:

About	Details
<b>Established</b>	2010; HQ: New York
<b>India</b>	India is <b>one of the founding members of the Executive Board of UN Women</b> and is <b>currently serving as a member</b> . Also, <b>women-led development</b> is one of the priorities of <b>India's G20 presidency</b>
<b>Formed by merging</b>	Division for the Advancement of Women (DAW), International Research and Training Institute for the Advancement of Women (INSTRAW), Office of the Special Adviser on Gender Issues and Advancement of Women (OSAGI), United Nations Development Fund for Women (UNIFEM)
<b>Objectives</b>	Support <b>inter-governmental bodies</b> in formulating policies, global standards, and norms; Forge effective <b>partnerships with civil society</b> ; Hold the UN system <b>accountable for its own commitments on gender equality</b> , including monitoring progress.
<b>Focus</b>	Promoting gender equality and the empowerment of women.

## 4. CARICOM

### Context:

External Affairs Minister S Jaishankar co-chaired the 4th India-CARICOM ministerial meeting

### About Caribbean Community (CARICOM)

CARICOM (est. in 1973; HQ: Georgetown, Guyana) is an intergovernmental organisation that is a political and economic union of 15 member states throughout the Americas and Atlantic.



## GS PAPER 3

### ECONOMY, BANKING/ FINANCIAL INCLUSION, ENERGY, INFRASTRUCTURE

## 1. TRANSFER PRICING-"ARM'S LENGTH PRICE"

#### Context:

The recent Supreme Court ruling that the "arm's length price" determined by the **Income Tax Appellate Tribunal (ITAT)** cannot be treated as final in disputes related to alleged **income suppression by multinational companies** could potentially increase fresh litigation and delay final decisions.

#### What is Transfer pricing?

Transfer pricing refers to the **pricing of goods, services, or intellectual property** that is sold between two or more companies that are part of the same multinational enterprise (e.g., subsidiaries).

#### What is the "arm's length price"?

Arm's length price is a transaction in which **buyers and sellers of a product act independently and have no relationship** with each other.

#### Impact of the Judgement:

- It may **delay and increase the litigation**
- The ruling may increase the use of conciliatory mechanisms like **advance pricing agreements (APAs)**
- It could also increase the utility of **MAP (mutual agreement procedure)**, as an alternate dispute resolution mechanism.
- **It will increase the usefulness of Safe Harbour rules**—which restrain the tax authority from **questioning the pricing of certain transactions** between multinational companies and their subsidiaries.

## 2. TRADE DATA

#### Context:

Trade data (released by the Ministry of Commerce and Industry) points to slowing global and domestic demand

#### Key points:

- **India's overall exports** surpassed the 2022-23 target of **\$750 billion dollars** (nearly \$770 billion)
- **Trade Balance (Export-Import):** Negative (\$122 billion in FY23 in comparison to \$83 billion in FY22).
- **Goods trade deficit:** \$266 billion

- **Services trade surplus:** Nearly \$144
- **India's merchandise exports and imports** have now declined in three of the last four months.
- **Major items of export by India:** Petroleum, Electronics goods, rice, etc.
- **Major Items of import:** Petroleum and Coal.
- **Major Export Destinations:** USA, UAE, Netherlands and China.
- **Major Import Destinations:** China, UAE, USA and Russia.

## 3. WTO PANEL RULES AGAINST INDIA

#### Context:

**World Trade Organization (WTO)** panel has ruled that **India has violated global trading rules** by imposing import duties on IT products, such as mobile phones and components, and integrated circuits.

#### Background of the dispute:

India had introduced import duties of **between 7.5% and 20% for IT products- mobile, components, and ICs**. In 2019, the European Union (EU), Japan, and Taiwan filed complaints with the World Trade Organization (WTO), arguing that **India's import duties violated global trading rules** and exceeded the maximum rate allowed.

#### WTO recommendation:

The WTO panel recommended that India should **bring the measures into conformity with its obligations**. India has already brought some of the **challenged tariffs into line with global trading rules** since last year.


#### What next?

If India appeals the ruling, the case will remain in legal limbo since the WTO's top appeals bench is not functioning due to the US's opposition to judge appointments.


**About WTO Dispute Settlement System (DSS):** There are two main ways to settle a dispute once a complaint has been filed in WTO—Mutually agreed solution and through adjudication (through the implementation of the panel—legally binding)

- The appeal to the order is held at the **Appellate Body** (currently dysfunctional). Another mechanism for appeal is **MPIA**.






**Multi-Party Interim Appeal Arbitration Arrangement (MPIA)**



**Context:** Japan has joined the Multi-Party Interim Appeal Arbitration Arrangement, an alternative mechanism for resolving disputes to the World Trade Organization's top appeals bench.

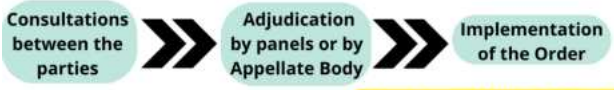
**About MPIA**

- Formed in 2020
- An alternative system for resolving WTO disputes (in the absence of a functioning WTO Appellate Body)
- Approved by WTO Dispute Settlement body
- Any member can join MPIA by notifying the Dispute Settlement Body
- In a dispute between members, MPIA will supersede the previous appeal processes and also apply to future disputes between members
- India not a member yet



**Issues with the present arbitration system WTO:** It has been idle since 2019 due to holds on appointments by US. The WTO's dispute system's paralysis has resulted in fewer cases being brought to the organization.

**WTO's dispute settlement process**



To know more Visit Insights IAS Daily Current Affairs

## About National Ropeways Development Programme - "Parvatmala"

Topic	Description
<b>Announced in</b>	Budget (2022-23)
<b>Objective</b>	Development of ropeway and alternative mobility solutions technology. To improve connectivity and convenience for commuters, besides promoting tourism esp. in Hilly areas)
<b>Nodal Ministry</b>	Ministry of Road Transport and Highways (MORTH)
<b>Mode</b>	PPP (Public Private Partnership) mode
<b>Regions</b>	Uttarakhand, Himachal Pradesh, Manipur, Jammu & Kashmir and other North Eastern states
<b>Benefits of Ropeway</b>	Economical mode of transportation, faster mode of transportation, environmentally friendly, last mile connectivity, Ideal for difficult/challenging/sensitive terrain

## 4. MISSION 50K-EV4ECO

### Context:

The **Small Industries Development Bank of India (SIDBI)** has launched **Mission 50K-EV4ECO**, the initiative will fund the purchase of 50,000 EVs in the country to spur the local eco-system.

### About the mission:

- The pilot phase of 'Mission 50K-EV4ECO' will increase the uptake for two, three and four-wheelers through **direct (to MSMEs) and indirect lending (to NBFCs)**
- This scheme is the precursor to EVOLVE scheme by SIDBI-World Bank

The Indian automobile industry **ranked fifth largest globally** and is expected to become the third largest by 2030. However, the sale of electric vehicles accounts for just 1% of total sales, currently.

### About SIDBI:

**Small Industries Development Bank of India (SIDBI)** (est. 1990 as a subsidiary of IDBI bank; statutory body under Ministry of Finance; HQ: Lucknow) is the apex regulatory body for overall licensing and regulation of micro, small and medium enterprise finance companies in India.

## 5. PARVATMALA PARIYOJANA

**Context:** The government has announced plans to **develop over 250 projects** in the next five years under the Parvatmala Pariyojana.

## 6. UDAN 5.0



### UDAN 5.0



**Context:** The Ministry of Civil Aviation in India has launched the **5th round of the Regional Connectivity Scheme (RCS) - Ude Desh Ka Aam Nagrik (UDAN)**

### About UDAN Scheme

It was launched as a Regional Connectivity Scheme (RCS) under the Ministry of Civil Aviation in 2016, to provide affordable, economically viable and profitable air travel on regional routes to the common man even in small towns.

	UDAN 1.0	UDAN 2.0	UDAN 3.0	UDAN 4.0	UDAN 5.0
<b>Focus Category</b>	Category 1 (19-78 Seats)	1 (19-78 Seats)	1 (19-78 Seats)	1 (19-78 Seats)	2 (20-80 Seats) and 3 (>80 Seats)
<b>Distance Length Cap</b>	500 km	500 km	800 km	1,200 km	Now no restriction on the distance between the origin and destination of the flight
<b>Viability Gap Funding Cap</b>	70% for Cat-1, 90% for Hilly States, J&K, Ladakh, NE and Island regions	Same	Same	Same	60% for Priority Areas, 20% for Non-Priority Areas
<b>Number of Airports</b>	70 airports	325 airports	688 airports	766 airports	766 airports
<b>Exclusivity</b>	3 years	3 years	3 years	1 year	1 year
<b>Implementation Period</b>	10 years	10 years	10 years	10 years	10 years

### Other features of UDAN 5.0:

- No predetermined routes would be offered.** Only Network and Individual Route Proposal proposed by airlines will be considered.
- The same route will not be awarded to a single airline more than once**, whether in different networks or in the same network.
- Airlines would be required to commence operations within 4 months** of the award of the route.



Earlier this deadline was 6 months

## 7. PRAYAG PLATFORM

### Context:

Jal Shakti Ministry launched PRAYAG, a real-time monitoring centre for planning and monitoring of projects, river water quality, etc., during the 11th meeting of the Empowered Task Force of the National Mission for Clean Ganga (NMCG)

### About

**PRAYAG (Platform for Real-time Analysis of Yamuna, Ganga and their Tributaries)** monitors various projects through various online dashboards such as Ganga Tarang Portal, Ganga Districts Performance Monitoring System, etc.

#### About [National Mission for Clean Ganga \(NMCG\)](#)

NMCG (est. 2011; as a registered society) aims to rehabilitate and boost existing sewage treatment plants; curb pollution at exit points; maintain water flow without changing natural variations; restore surface and groundwater, etc. in Ganga and its tributary basins. It is being implemented by the National Ganga Council.

## 8. INDIAN BUREAU OF MINES

### Context:

The Indian Bureau of Mines (IBM) has informed the Ministry of Steel and Mines that mining lease holders in Odisha are **illegally transporting low-grade manganese ore** from their mines.

### More about it:

Topic	Information
<b>Previous reports</b>	Steel Ministry had alerted the Odisha Government (November 2022) about the <b>under-reporting of grades of chromite and manganese ores</b> . Also, the <b>M. B. Shah Commission report on Illegal Mining</b> had probed into the issue of irregularities in the mineral sector in the past, which put the extent of loss at ₹59,000 crores.
<b>Mines and Minerals Regulation and Development Act 1957</b>	Empowers <b>state government to make rules for preventing illegal mining, transportation, and storage of minerals</b> . It is the responsibility of State Governments to establish the correct grade of mineral being dispatched.

<b>Mining resources in Odisha</b>	Odisha is a mineral-rich state with over <b>96% of India's chrome ore</b> , over <b>51% of bauxite reserve</b> , over <b>33% of hematite iron ore</b> , and over <b>43% of manganese</b> .
<b>About Manganese</b>	Manganese is a <b>silvery-gray metal</b> that is found in abundance in the Earth's crust. It is commonly used in the <b>production of steel and other alloys</b> due to its ability to improve the strength, toughness, and workability of these materials.
<b>About IBM</b>	<b>Indian Bureau of Mines (est. 1948; HQ: Nagpur)</b> promotes the systematic and scientific development of mineral resources of the country both onshore and offshore. It collects a <b>database of information on mines and minerals</b> in the country to create a National Mineral Information Repository.

## AGRICULTURE



## 9. SPACE SEEDS

### Context:

The International Atomic Energy Agency (IAEA) and the Food and Agriculture Organization (FAO) had sent two varieties of seeds, **arabidopsis and sorghum**, to space to make them **climate-tolerant by exposing them to harsher surroundings**.

### About:

	Details
<b>Positive impact of solar radiation on plants</b>	Exposure to increased solar radiation can <b>cause genetic changes in plant seeds</b> , which can potentially make them more resilient and adaptable to harsh environmental conditions such as drought, high temperatures, and soil salinity. This adaptation process is known as <b>space mutagenesis</b> .
<b>Negative impact</b>	Excessive exposure to solar radiation can be harmful to plant seeds, leading to genetic mutations that may be deleterious or even lethal.

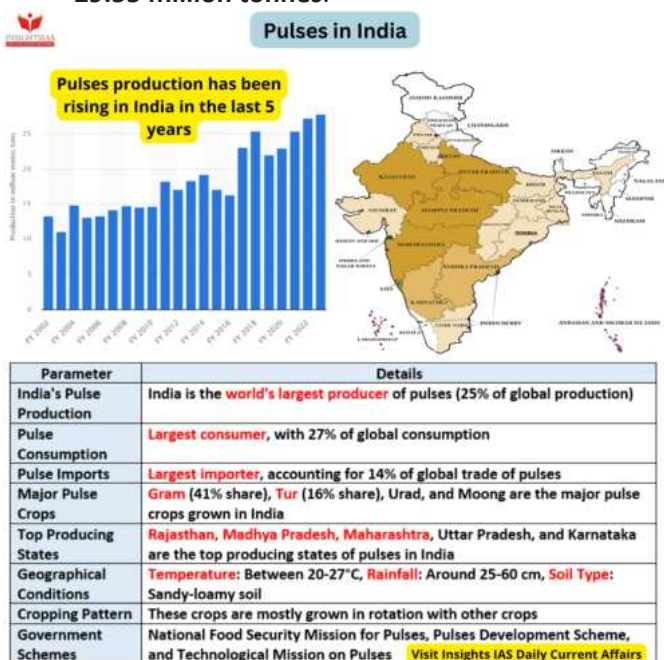
<b>How will the study work?</b>	By accelerating the <b>natural genetic adaptation of crops</b> through space mutagenesis, scientists may be able to create new and improved plant varieties that can thrive in the face of increasing environmental stresses.
<b>About Sorghum</b> 	Sorghum is a cereal grain that is grown for both human consumption and animal feed. Sorghum is a <b>versatile crop that can grow in a wide range of environmental conditions</b> , from drought-prone areas to more humid regions.
<b>About Arabidopsis</b> 	It is a small flowering plant that belongs to the <b>mustard family (Brassicaceae)</b> . It is widely used as a model organism in plant biology research due to its small size, rapid life cycle, and easily manipulable genetics.

## 10. PULSES IN INDIA

### Context:

The Indian government has begun monitoring the stock levels of [pulses](#) in the country amidst concerns of a possible decrease in yield due to heavy rain and hailstorms in late March and early April.

- The total production of pulses in 2021-22 was **27.3 million tonnes** and this year's target was kept at **29.55 million tonnes**.



### Related News:

The Indian government has urged **states to procure pulses (for Mid-day meals) under the [PM-POSHAN \(Prime Minister's Overarching Scheme for Holistic Nutrition\)](#) program from NAFED** (National Agricultural Cooperative Marketing Federation of India Ltd.).

**Reason for this direction:** The government maintains buffer stocks of pulses through NAFED and wants states to purchase from them to ensure benefits from economies of scale and subsidized rates for the students

### About NAFED:

NAFED (est. 1958; HQ: New Delhi) is a **cooperative marketing organization** that promotes cooperative marketing of agricultural produce and stabilizes prices of essential commodities like pulses.

### About PM POSHAN

Pradhan Mantri POshan SHakti Nirman (PM POSHAN) is a **Centrally Sponsored Scheme**, earlier known as the **National Scheme for Mid-Day Meal** (launched 1995; under Ministry of Education) in Schools. It aims at Enhancing the enrolment, retention and attendance of students, and improving nutritional levels among school-going children (class 1 to 8). It will provide **one hot cooked meal in Government and Government-aided schools** from 2021-22 to 2025-26.

## 11. 'SATHI' PORTAL AND MOBILE APP

**Context:** The Sathi ([Seed](#) Traceability, Authentication and Holistic Inventory) portal and mobile app were launched by the Ministry of Agriculture and Farmers Welfare.

About	Description
<b>Objective</b>	Designed to curb the <b>sale of spurious seeds</b> and ensure that quality seeds reach farmers
<b>Working</b>	Quality assurance, <a href="#">seed</a> source identification (traced through a QR code system), Seed Certification, Seed Licensing, Seed Catalogue, Dealer Farmer Sales, Farmer Registration and direct subsidies to registered farmers' bank accounts
<b>Process</b>	Seeds with <b>valid certification can only be sold by valid licensed dealers</b> to centrally registered farmers who will receive a subsidy through DBT directly into their bank accounts

<b>Developer</b>	National Informatics Centre in collaboration with the Ministry on the theme of ' <b>Uttam Beej – Samriddh Kisan</b> '
<b>Issue of inferior seeds</b>	Poor seed quality arises as <b>most farmers in India keep their own seed</b> and do not tend to do any seed processing to ensure varietal purity or seed quality. Inferior quality seeds lead to " <b>Germination failure</b> "
<b>The legal status of seeds in India</b>	Enactment of <b>Seeds Act, 1966</b> gives legal status to seeds in India; Seed Act allows farmers to get compensation for losses incurred; Seed certification is <b>voluntary</b> but <b>labelling is compulsory</b> in India; <b>PPV&amp;FR Act, 2001</b> to ensures availability of quality seeds and planting material to the farmer

## 12. MAHARISHI

### Context:

MACS 2023 unanimously agreed to launch a [Millet Initiative - MAHARISHI](#) which was **proposed by India** for research in the field of millets

### About:

	Description
<b>Full name</b>	MAHARISHI (Millets And OtHer Ancient Grains International ReSearch Initiative)
<b>Purpose</b>	Research and awareness about <b>agro-biodiversity, food security, and nutrition</b> aligning with the <b>International Year of Millets 2023</b>
<b>Secretariat</b>	Indian Institute of Millets Research (IIMR), Hyderabad
<b>Technical Support</b>	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), One CGIAR Centres, and other international organizations
<b>Focus</b>	Nutri-cereals or superfoods, mainly grown on marginal land in dry areas of temperate, sub-tropical, and tropical regions
<b>Priority Areas</b>	Food Security and Nutrition; Building resilience and sustainable agriculture through approaches of climate resilient agriculture and One Health; Digitalization for Agricultural Transformation; Public-Private Partnerships for Research and Development

### About MACS:

The G20 Meeting of Agricultural Chief Scientists (MACS) involves the meeting of ministries or governmental bodies responsible for agricultural research in the respective G20 states as well as leading research institutions which strategically advise these decision-makers. The first meet of MACS was held in Mexico in 2012.

## HEALTH

## 13. PREPAREDNESS AND RESILIENCE FOR EMERGING THREATS (PRET)

**Context:** The Preparedness and Resilience for Emerging Threats Initiative (PRET) will **launch on April 24-26, 2023**, with a focus on respiratory pathogen pandemic preparedness.

### About PRET:

	Details
<b>Purpose</b>	<b>Improve disease pandemic preparedness</b> by leveraging systems, capacities, knowledge, and tools for groups of pathogens based on their mode of transmission
<b>Regulations</b>	The initiative will operate under the <b>International Health Regulations (IHR)</b> and <b>promote whole-of-government and whole-of-society approaches to pandemic planning.</b>
<b>Vision</b>	More equitable and robust response to future disease pandemics
<b>Implementation priorities</b>	Established by country authorities in line with regional and global mandates
<b>Other programmes to prevent future pandemics</b>	One health approach; WHO's Health Emergencies Programme (WHE); Proposed Pandemic Treaty
<b>About WHO</b>	The World Health Organization (est. 1948; HQ: Geneva) is a <b>specialized agency</b> of the UN responsible for international public health. India is a member.

## 14. FSSAI

**Context:** Cadbury Bournvita's products advertisement and product packaging have been found to be misleading as they did not disclose the sugar content.



### FSSAI regulation on the product packaging:

FSSAI issued a **draft notification on front-of-package labeling** in September 2022 that proposed the “**Indian Nutrition Rating**.” It would notify consumers if a food product was **high in fat, sugar, and salt (HFSS)**, allowing them to make an informed choice.

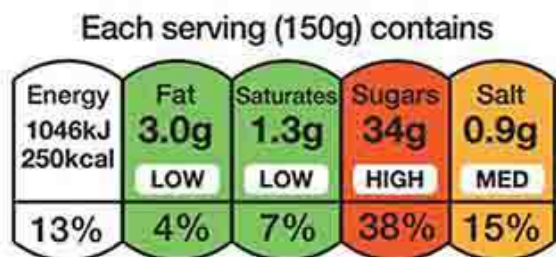
However, FSSAI has been found to have failed at implementing its own regulations.

### How much intake of HFSS is safe?

Nutrient	WHO recommended intake	The actual average usage in India
<b>Fat</b>	Less than 30% of total energy intake (80g per day)	Not available
<b>Salt</b>	Less than 5 grams per day	10-12 grams per day
<b>Sugar</b>	Less than 7% of total energy intake (7g per 100gm)	Around 36 grams per day

#### About India Nutrition Ratings (INR)

It mandates **pre-packaged foods to carry a star rating similar to the energy-efficiency ratings** on electronic goods, to discourage the consumption of foods high in sugar, salt and fats.



of an adult's reference intake

Typical values (as sold) per 100g: 697kJ/ 167kcal

#### About FSSAI:

Food Safety and Standards Authority of India (est. 2008; HQ: New Delhi) is an autonomous statutory body (under the Food Safety and Standards Act, 2006) established under the **Ministry of Health & Family Welfare**.

## 15. 100 FOOD STREETS IN 100 DISTRICTS

**Context:** The Ministry of Health has proposed the operationalization of ‘**100 food streets across 100 districts**’ in the country to promote **safe and hygienic food practices**.

### About the Eat Right Food Street Project:

Key Details	Description
<b>Aim</b>	To promote <b>safe and healthy food practices</b> , reduce food-borne illnesses, and improve overall health outcomes
<b>Implementing Authority</b>	Ministry of Health and Family Welfare in collaboration with the Ministry of Housing and Urban Affairs
<b>Funding</b>	Financial assistance of <b>₹1 crore per food street/district provided</b> to States and Union Territories
<b>Implementation</b>	Through the <b>National Health Mission (NHM)</b> in convergence with the Ministry of Housing and Urban Affairs and <b>technical support</b> from the <b>Food Safety and Standards Authority of India (FSSAI)</b>
<b>Number of Food Streets</b>	100 food streets in 100 districts across the country
<b>About National Health Mission</b>	It was launched in <b>2013</b> subsuming the National Rural Health Mission and the National Urban Health Mission, with the aim to achieve <b>universal access to equitable, affordable &amp; quality healthcare services</b> that are accountable and responsive to people's needs.

## 16. ‘ANIMAL PANDEMIC PREPAREDNESS INITIATIVE’ (APPI) AND THE ‘ANIMAL HEALTH SYSTEM SUPPORT FOR ONE HEALTH’

#### Context:

Union Ministry for Fisheries, Animal Husbandry and Dairying has launched the **Animal Pandemic Preparedness Initiative (APPI)** and **World Bank-funded Animal Health System Support for One Health (AHSSOH)** to enhance India's preparedness and response to potential animal pandemics, in line with the One Health approach.

#### About APPI and AHSSOH:

	APPI (Animal Pandemic Preparedness & Response)	AHSSOH (Animal Husbandry Infrastructure Development Fund)
<b>Objective</b>	Enhance India's preparedness and response to potential animal pandemics	Create an ecosystem for better animal health management using the One Health approach



<b>Key pillars</b>	Integrated disease surveillance & monitoring (built on National Digital Livestock Mission), disease modelling algorithms and early warning systems, strengthening regulatory system (e.g., Nandi online portal), targeted R&D	Strengthen district laboratories, provide mobile veterinary units in remote and high-risk areas, upgrade dispensaries and hospitals, train veterinarians and private diagnostic labs
<b>Implementation period</b>	-	<b>5 years as a Central sector scheme</b>
<b>Coverage</b>	-	<b>Initially covers five states</b> - Assam, Odisha, Madhya Pradesh, Maharashtra, and Karnataka

**Significance:**

Both APPI and AHSSOH are important initiatives aimed at improving animal health and reducing the risk of potential pandemics. Both initiatives are essential in promoting animal health and welfare, which in turn can have a positive impact on human health and the economy.

**About One Health Approach (2022-2026)**

One Health is an approach calling for “the collaborative efforts of multiple disciplines working locally, nationally, and globally, to attain optimal health for people, animals and our environment”, as defined by the One Health Initiative Task Force.

**SCIENCE AND TECHNOLOGY****17. ETHYLENE OXIDE****Context:**

The European Commission has **classified ethylene oxide as carcinogenic, mutagenic and toxic for reproduction** (previously it was classified as a fumigant)

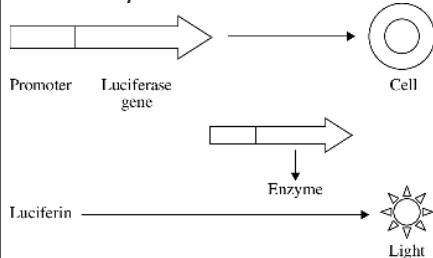
**Significance:** Agricultural products being exported to European Union will now be mandatorily tested.

**Ethylene oxide:**

At room temperature, ethylene oxide is a **flammable colourless gas with a sweet odour**. It is used primarily to produce other chemicals, including **antifreeze**. In smaller amounts, ethylene oxide is used as a **pesticide** and a **sterilizing agent**. The ability of ethylene oxide to **damage DNA** makes it an effective sterilizing agent but also accounts for its cancer-causing activity.

**18. BIOLUMINESCENCE**

**Context:** Recently, Visakhapatnam beaches started glowing due to a phenomenon called [bioluminescence](#)

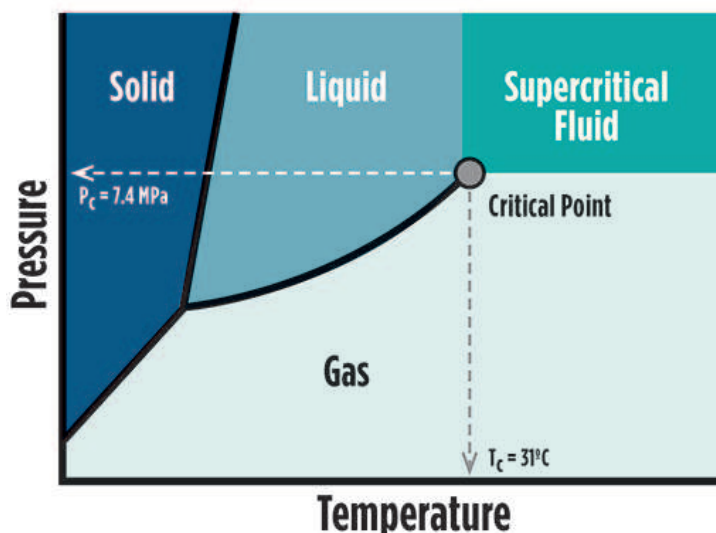
About Bioluminescence	Description
<b>Definition</b>	Production and emission of light by living organisms.
<b>Mechanism</b>	<p>The chemical reaction between <b>luciferin</b> (a molecule that, when it reacts with oxygen, produces light.) and oxygen, is catalyzed by the <b>luciferase</b> enzyme.</p>  <p>Bioluminescence is <b>chemiluminescence</b> that takes place inside a living organism</p>
<b>Prevalence</b>	Found in many marine organisms, including bacteria, algae, jellyfish, fish, and sharks
<b>Functions</b>	Used for warning or evading predators, luring or detecting prey, and communicating within a species
<b>Examples</b>	Fireflies, anglerfish, jellyfish, bioluminescent plankton
<b>Visakhapatnam</b>	Here the phenomenon is most likely the result of an <b>algal bloom (significant accumulation) of the dinoflagellate species</b> of noctiluca and ceratium. These emit light when disturbed by <b>breaking waves</b>

**19. SUPERCRITICAL CARBON DIOXIDE****Context:**

A new research by IIT Madras has suggested the use of Supercritical carbon dioxide to flush out oil from depleting oil and gas reservoirs.

**What is Supercritical carbon dioxide?**

It is a fluid state of **carbon dioxide** where it is held at or above its critical temperature (31°C) and critical pressure (73 atm).

Figure 1: Phase diagram of CO<sub>2</sub> (T<sub>c</sub>: critical temperature, P<sub>c</sub>: critical pressure).


### Benefits:

- **Carbon Dioxide Sequestration:** Having properties midway between a gas and a liquid, supercritical carbon dioxide helps in simultaneous carbon dioxide sequestration
- **Enhanced oil recovery (EOR) from depleted Oil wells:** Supercritical carbon dioxide reduces oil viscosity, induces in situ swelling of the oil and thus enhances oil recovery


**Method: 'Surfactant-Alternating gas (SAG) injection' approach:** In this process, carbon dioxide gas is injected into the reservoir, where it becomes supercritical, followed by injection of water or surfactant solution.

## 20. QUANTUM MISSION

### Context:

The Indian Union Cabinet has approved the National Quantum Mission (NQM), with a budget of ₹6,003 crore, to fund research and development of quantum computing technology and associated applications.

### About National Quantum Mission



**Quantum Computing**

**Context:** Union Cabinet has approved the National Quantum Mission (NQM)

Quantum computing uses quantum bits (qubits) that can be both 0 and 1 at the same time, allowing for multiple calculations to be performed simultaneously, making quantum computing exponentially faster than traditional computing for certain types of problems.

Objective	Description
Develop and promote Quantum Technology in India	
<b>Timeframe</b> 2023 – 2031 (10 years)	
<b>Major themes</b>	<ul style="list-style-type: none"> <li>• <b>Quantum Computing:</b> Develop physical qubit computers with a capacity ranging from 50-1000 qubits (to be completed within 3-8 years)</li> <li>• <b>Quantum Communication:</b> Develop secure satellite-based communication with a range of 3000 km and communication lines using Quantum Key Distribution over 2000 km (to be completed within 3-8 years)</li> <li>• <b>Quantum Sensing and Metrology:</b> Develop quantum sensors (magnetometers with high sensitivity in atomic clock systems) for Navigation, healthcare and diagnostics, defence, and energy sectors (to be completed within 8 years)</li> <li>• <b>Quantum Material and Devices:</b> Develop devices and materials (superconductors, novel semiconductor structures, and topological materials) for quantum technology (to be completed within 3-8 years)</li> </ul>
<b>Key Agencies Involved</b>	Department of Science & Technology, Department of Atomic Energy, Department of Telecommunications, DRDO, ISRO
<b>Other Aim</b>	The Mission also aims to establish four thematic hubs (T-Hubs) at research institutes and R&D centres (based on above themes)
<b>Significance</b>	India will be among the top six leading nations (US, Canada, France, Finland, China and Austria.) Involved in the research and development in quantum technologies.
<b>Other programmes</b>	National Mission for Quantum Technologies and Applications (NM-QTA); Quantum-Enabled Science & Technology (QuEST); C-DOT's Quantum Communication Lab and Quantum Key Distribution (QKD) solution.

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### About Quantum Computing:

Quantum computing is a new way of **computing that uses the principles of quantum mechanics to perform calculations**. In traditional computing, data is processed using bits, which are either a 0 or a 1. But in quantum computing, the data is processed using quantum bits or qubits, which can be both a 0 and a 1 at the same time. This property of qubits is called superposition, which allows for multiple calculations to be performed simultaneously, making quantum computing exponentially faster than traditional computing for certain types of problems.

## 21. EMIC PLASMA WAVE

### Context:

Scientists in India have identified a type of **plasma wave called Electromagnetic Ion Cyclotron (EMIC) waves** at the Indian Antarctic station, Maitri.

### What is Plasma?

Plasma is often referred to as the **fourth state of matter**, along with solid, liquid, and gas. It is a type of gas that is **made up of electrically charged particles**, such as ions and free electrons. Plasma can be found in many places, including **flames, lightning, and the sun**.

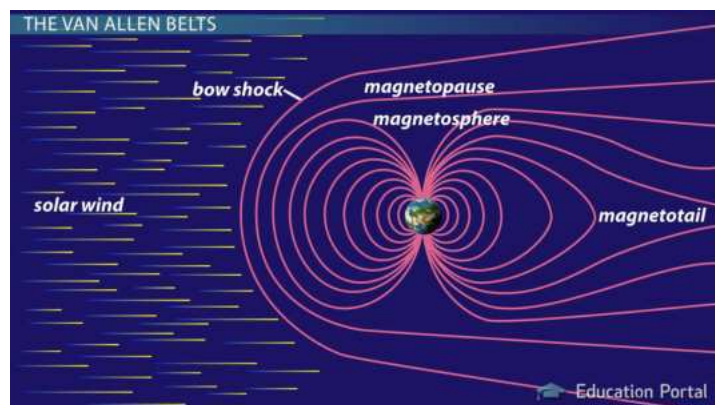
### What are Electromagnetic Ion Cyclotron (EMIC) waves?

It is a type of **plasma wave** that is generated in the **Earth's magnetosphere**, a region of space around the Earth that is affected by the planet's magnetic field. These waves can resonate with charged particles, particularly ions, that are trapped in the magnetosphere, causing them to **move in a cyclical motion**.

### Significance of the study of EMIC waves:

The study can help understand the impact of energetic particles (esp. Killer electrons) in the radiation belts on the low orbiting satellites.

- **Killer electrons** are electrons **having speed close to the speed of light**, which form the radiation belt of planet Earth



**India's Antarctic Missions:** Acceded to the Antarctic Treaty System (1983); Dakshin Gangotri (1984); Maitri (1989); Sagar Nidhi ice-class vessel (2008); Bharati (2015)

**India's Arctic Mission:** Himadri (2007); observer at the Arctic Council

## 22. GLOBAL UNICORN INDEX

### Context:

After the United States and China, **India has retained the third-highest number of unicorns in the world** (Hurun Report on Global Unicorn)

### Findings:

- India, with **68 unicorns** has added **14 new unicorns** since the pandemic began and stands behind USA (666) and China (316)
- Top-most unicorn in India:** BYJU's (\$22 billion); Swiggy and Dream11 (both at \$8 billion)
- Offshore unicorn:** India (70) has more than China (32) and both countries produce more offshore unicorns than any other country



### About HURUN

It is a research, media and investments business, best known for its Hurun Rich List, a ranking of the wealthiest individuals in China

## ENVIRONMENT, CLIMATE & CONSERVATION

## 23. GREAT PACIFIC GARBAGE PATCH

**Context:** A new study published in the Nature Ecology & Evolution journal reveals those dozens of coastal invertebrate organisms, including tiny crabs and anemones, have been **able to survive and reproduce on plastic debris in the**

### Great Pacific Garbage Patch

#### Key findings:

- Plastic pollution** in the ocean might be **enabling the creation of new floating ecosystems of coastal species** that are not normally able to survive in the open ocean



	Details
About	The <b>Great Pacific Garbage Patch</b> (also known as the <b>Pacific Trash Vortex</b> ) is a vast area in the <b>North Pacific Ocean</b> where high concentration of Plastic Debris is present
Location	Pacific Ocean, between <b>Hawaii and California</b>
Size	Roughly <b>1.6 million square kilometres</b> (3 times the size of France)
Divided into	<b>Eastern Garbage Patch</b> (extends from California to Hawaii) and <b>Western Garbage Patch</b> (extends from Hawaii to Japan)
Formation	It is caused by the <b>circular currents of the North Pacific Gyre</b> that trap and concentrate debris in this area.
Plastic Types	Hard plastic, sheet or film, Plastic lines, ropes or fishing nets, Plastic cutlery, single-use carrying bags, plastic water bottles, and more
Ghost Fishing Nets	<b>46% of the total mass found</b> in the Great Pacific Garbage Patch is made up of ghost fishing nets (lost or abandoned fishing nets)
Harmful Effects	It Endangers marine life, contaminates food chains, releases toxic chemicals into the ocean, and more
Efforts to mitigate	<b>Ocean Cleanup initiative</b> (an NGO has developed an "Interceptor" that can collect plastic waste from rivers before it reaches the ocean); <b>Project Kaisei</b> (researches on plastic debris); <b>4Ocean</b> (They sell bracelets made from recycled materials and use the proceeds to fund ocean clean-up efforts)
Plastic Treaty	<b>UN Environment Assembly</b> passed a resolution (in 2022) to <b>end plastic pollution</b> and create the <b>world's first legally binding global plastic pollution treaty</b> by 2024

## 24. HUMAN-INDUCED PLANET-WARMING: EARTH ENERGY IMBALANCE

### Context:

A new study (published in the journal [Earth System Science Data](#)) warns that **human-induced climate change** is affecting Earth's energy balance.

### What does the study say?

Over the last 50 years, about **89% of the accumulated heat** is stored in the ocean, **6% on land**, a per cent in the atmosphere, and about **4% available for melting the cryosphere**.

### Impact of this increasing heat absorption:

Earth System Components	Impact of Increasing Heat Absorption
Land	Increased ground surface temperatures→ Trigger decomposition of soil organic matter and plant litter by soil microbes→ will release carbon dioxide in the process. <b>Higher soil respiration</b> can decrease soil water.

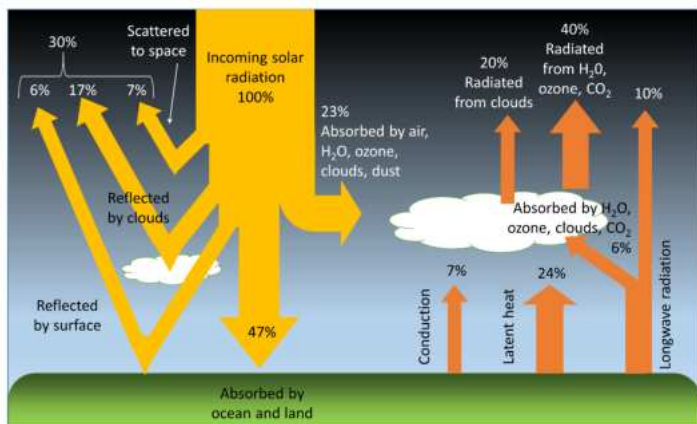


<b>Water Bodies</b>	Heat storage within inland water bodies → An increase in lake water temperatures → Making conditions ripe for <b>algal blooms</b>
<b>Troposphere</b>	The lower atmosphere, also known as the troposphere, is warming up due to increased heat accumulation, especially in the upper troposphere in the tropics → Changes in the <b>Earth's climate, circulation and weather patterns.</b>
<b>Cryosphere</b>	Increased heat uptake → Melting of grounded and floating ice → <b>less albedo effect</b> → Contribute significantly to the overall cryosphere heat gain

### What is Earth's Energy Imbalance?

It refers to the difference between the **amount of energy that the Earth receives from the Sun and the amount of energy that it radiates** back to space.

- **Positive EEI:** When this imbalance is positive, it means that **more energy is entering the Earth's system than is leaving it**, which leads to a warming planet.
- **Significance:** EEI is an important indicator of climate change and provides an estimate of how much and how fast the Earth's climate is warming.



## 25. MAJOR ECONOMIES FORUM (MEF) ON ENERGY AND CLIMATE

### Context:

The Leaders Meeting of the Major Economies Forum on Energy and Climate Change has acknowledged **climate change as a major challenge**.

- The meeting was attended by the **Heads of State and Ministers of 20 major economies of the world.**

### About MEF:

	Description
<b>Purpose</b>	Facilitating dialogue among major emitting countries (both developed and developing) to advance efforts against climate change
<b>Year Launched</b>	2009 by US President Barack Obama
<b>Members</b>	20 major economies including India, Australia, Brazil, China, UK, UAE, etc.
<b>GDP and GHG Emissions</b>	MEF economies account for roughly 80% of global GDP and global greenhouse gas (GHG) emissions
<b>Focus</b>	Achieving International Energy Agency's (IEA's) " <b>Credible Pathways to 1.5°C</b> ", through Decarbonizing Energy; Reducing deforestation to net zero; Launching a Methane Finance Sprint to cut methane emissions; Accelerating hydrofluorocarbon (HFC) phasedown under Kigali Amendment; Accelerate CCUS technologies through a COP 28 <b>Carbon Management Challenge</b>

## SPECIES IN NEWS

### 26. MANGROVE PITTA BIRD



A census of mangrove pitta birds was conducted in two coastal districts of Odisha, India, where the nearly threatened species is found. A total of **179 individual mangrove pitta birds** were counted, with the highest concentration found in the mangroves near the Mahipura river mouth inside the Bhitarkanika National Park.

<b>Context:</b>	
<b>About Mangrove Pitta bird</b>	The mangrove pitta is a species of passerine bird in the family Pittidae native to the eastern Indian Subcontinent and western South-east Asia.
<b>Scientific name</b>	Pitta megharencha
<b>Conservation status</b>	Near Threatened
<b>Habitat</b>	Coastal mangrove forests in Eastern India
<b>Characteristics</b>	Forages on the ground and rests on trees



<b>First census location</b>	Coastal mangrove patches in Kendrapara and Jagatsinghpur districts, Odisha, India
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<b>About Bhitarkanika National Park</b> It is the <b>second-largest Mangrove ecosystem</b> in India. It is inundated with waters from rivers <b>Brahmani, Baitarani, Dhamra and Patasala</b> forming a unique ecosystem. It is the breeding place for the <b>Salt Water Crocodiles</b> . The Gahirmatha Beach which forms the boundary of the sanctuary in the east is the largest <b>colony of the Olive Ridley Sea Turtles</b> .
---

## 27. TOQUE MACAQUES

### Context:

Sri Lanka is planning to **export 1,00,000 toque macaques to China**.

The toque macaque is **endemic** to Sri Lanka and classified as **Endangered** (IUCN). It is reddish-brown-coloured. The most characteristic feature is the toque-like swirl of hair on its head top.



### TOQUE MACAQUE

*Macaca sinica*


#### CONSERVATION STATUS: ENDANGERED

- Named for the whorl of hair on top of their heads
- Endemic to Sri Lanka
- They form large troops with complex social hierarchies
- Commonly seen in Sri Lanka's Cultural Triangle of temples and nicknamed *temple monkeys*
- Threatened by habitat loss and human-wildlife conflicts



## 28. HELOPELTIS THEIVORA

<b>Context:</b>	The tea mosquito bug (Helopeltis Theivora) is spreading rapidly and affecting tea production in both low and high-elevation plantations in Southern India
-----------------	---

<b>About the Bug:</b> 	It is a major sucking pest of tea ( <b>Camellia sinensis L.</b> ) in most tea-producing countries. The nymphs and adults of the TMB suck the sap from tender leaves, buds and young shoots, which results in heavy crop losses.
<b>Prevention:</b>	It can be controlled by using synthetic pesticides. However, the 2014 Plant Protection Code (PPC) from the Tea Board of India restricts the use of harmful pesticides to keep the tea safe and free from harmful pesticides

India is the **second highest producer of tea** (China is the largest producer and consumer of tea) in the world and makes up over **12%** of world exports.

## 29. BATS DYING OF HEAT STROKE



### Bats



**Context:** Experts are warning that increasing temperatures and heat waves resulting from climate change could cause a mass population collapse of bats

#### About Bats

- Bats are **mammals** with their forelimbs being adapted as wings
- They are the **only mammals capable of true and sustained flight**.
- South Asia has **123 species of bats**, and almost all of them reside in India. They account for **one-fourth of India's** mammal fauna
- **Heat tolerance:** Bats on an average can tolerate about 40 degrees Celsius of heat, but temperatures above 42°C could lead to their deaths.
- **Lifecycle:** They live for about 15-20 years and produce **one pup a year**.
- **Status:** According to the IUCN, about 5 per cent of bats are categorised as endangered and another 11 per cent are data deficient.

#### Ecological Significance of Bats and impact Mass population collapse

	Impact of Mass Population Collapse
Pollination	Reduced pollination, <b>affecting plant reproduction</b> and crop yields
Spread of Zoonotic diseases	A live bat does not harm as it is immune to such viruses it harbours. But if <b>carcass of these bats come in contact with humans/domesticated animals</b> , it may increase the probability of zoonotic diseases
Insect control	Increased insect populations, leading to crop damage and potential spread of insect-borne diseases
Seed dispersal	Seeds of certain plant species, such as <b>figs, jackfruit and banana</b> , only germinate after passing through the digestive system of bats
Nutrient cycling	<b>Reduced nutrient cycling</b> , affecting soil health and fertility
Predator-prey balance	If a mass population collapse occurs, the <b>local population may go extinct</b> , thereby <b>affecting a 40-kilometre radius of the ecosystem</b> and disrupting predator-prey balance


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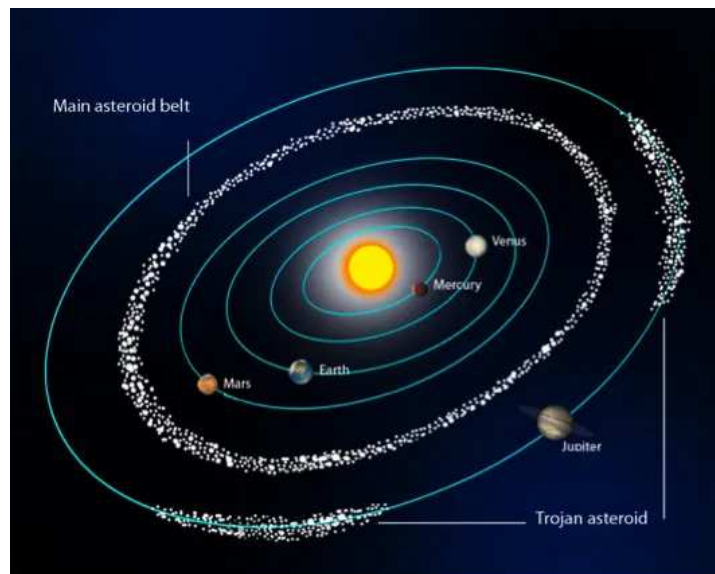
## 30. INDIAN SKIMMERS

### Context:

The Satkosia wildlife sanctuary in India has recorded the breeding of Indian Skimmers for the first time

## About Indian Skimmers:

	Information
<b>Common Name</b> 	Indian Skimmer, Indian Scissors-bill ( <i>Rynchops albicollis</i> )
<b>Native</b>	The Indian Skimmer is native to <b>India, Bangladesh, Myanmar, Nepal, Pakistan</b> and Vietnam.
<b>Habitat</b>	Coastal estuaries, sandy lowland rivers, lakes, marshes, estuaries
<b>Distribution</b>	Western and eastern India, with breeding locations mostly along the Chambal River in Central India
<b>IUCN</b>	Endangered
<b>CITES Status</b>	Not listed
<b>Threats</b>	Habitat degradation, disturbances near rivers
<b>About Satkosia wildlife sanctuary</b>	Located in <b>Odisha</b> on the banks of the <b>Mahanadi River</b> , the sanctuary is one of the <b>critical tiger habitats</b> by the National Tiger Conservation Authority (NTCA).



**Significance:** These asteroids are believed to be **ancient remnants from the early days** of the solar system, and studying them can provide insight into the formation and evolution of the planets. They hold clues to the formation of our solar system as they are gravitationally stable for billions of years.

### About Lucy mission

The Lucy mission is a **12-year-long solar-powered mission** to study eight asteroids, covering a distance of over 6 billion km, to deepen the understanding of the “**young solar system**”. The mission is named after ‘**Lucy**’ (a **3.2-million-year-old species of hominins**).

The mission is designed to understand the composition of the diverse asteroids that are a part of the Trojan asteroid swarms. It is the first spacecraft to be sent to study these Trojan asteroids up close.

## SPACE

### 31. TROJAN ASTEROIDS

#### Context:

[NASA's Lucy mission](#) has captured its **first images of the Jupiter and Trojan asteroids** using its high-resolution L'ORRI camera

#### What are Trojan asteroids?

Trojan asteroids are a group of asteroids that **share Jupiter's orbit around the sun**. There are two groups of Trojan asteroids, the “**Greeks**,” which lead Jupiter in its orbit, and the “**Trojans**,” which follow behind it.

## DEFENCE/SECURITY

### 32. PRALAY MISSILES

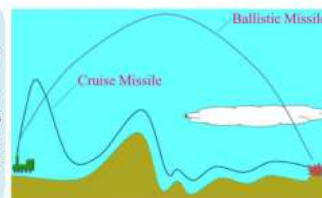


#### Pralay missiles

**Context:** Indian Armed Forces plans to acquire around 250 more units of Pralay Quasi-ballistic missiles.

#### What are Quasi-Ballistic Missiles?

A quasi-ballistic missile is a type of missile that combines characteristics of ballistic missiles and cruise missiles. It is designed to follow a ballistic trajectory for part of its flight and then transition to a low-altitude, high-speed cruise trajectory.



Feature	Ballistic Missiles	Quasi-Ballistic Missiles	Cruise Missiles
Flight Path	High-altitude ballistic trajectory	Combines ballistic and low-altitude cruise paths	Low-altitude cruise trajectory
Manoeuvrability	Limited	Can change course mid-flight	High
Propulsion	Solid or liquid rocket motor	Solid or liquid rocket motor	Turbofan or turbojet engines
Range	Long-range capability	Medium-range capability	Short to medium-range capability
Accuracy	Highly accurate in hitting stationary targets	Accurate in hitting moving targets	Accurate in hitting moving and stationary targets
Interception Resistance	Difficult to intercept due to high speed	Can change course to evade missile defence	Can be intercepted by advanced missile defence



### About Pralay Missiles:

Feature	Description
Missile Type	Quasi-ballistic Surface-to-Surface missile
Range	150-500 km
Propulsion	Solid-propellant rocket motor
Capabilities	Ability to change path mid-air, evading interceptor missiles
Target	Designed to destroy enemy radar, communication centres, airfields, and command centres
Developed by	Defence Research and Development Organisation (DRDO)
Deployment	Indian Air Force and Indian Army
Significance	Pralay will be <b>India's first tactical quasi-ballistic missile</b> and will give the armed forces the capability to hit enemy positions and key installations in actual battlefield areas.

## 33. HARPOON MISSILES

### Context:

Taiwan to buy 400 US anti-ship missiles to face China threat

### About the Missile:

	Description
Missile Type	All-weather, over-the-horizon, anti-ship missile
Manufacturer	McDonnell Douglas (now Boeing Defense, USA)
Range of Fire	93 to 280 km
Flight Path	Low-level, sea-skimming cruise trajectory
Solid-fuel Rocket Booster	Used in surface ships, submarines, and coastal defence batteries
Users	About 30 nations, including India
Other Anti-ship missiles with India	Anti-ship version of the BrahMos supersonic cruise missile; indigenous Naval Anti-Ship Missile (Short Range) or NASM-SR MIS-SILE



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<b>STUDY</b>	A day before the class, we will give you the syllabus to study: chapters & sources. You must study and come to the class.
<b>CLASSES</b>	The next day, the teacher will conduct the class on that particular syllabus.
<b>PRACTICE</b>	After the class, there will be a prelims & mains test (5-10 MCQs + 1 Mains question) based on topics taught. This will be a home assignment.
<b>DISCUSSION</b>	Our teachers will discuss the answers in the class the next day. This will quell your doubts and help you gain conceptual clarity.
<b>REVISION</b>	After the class, students should discuss and revise the day's class for one hour in a group. This will be compulsory.
<b>STUDY GROUPS</b>	Groups will be formed based on common optional subjects.
<b>STUDY</b>	After group discussion, you will proceed to prepare for the next class and tests.
<b>CURRENT AFFAIRS CLASSES</b>	Will be conducted on a weekly basis every Saturday.
<b>SECURE</b>	Value-added material from our Mains Answer-Writing initiative: SECURE will be provided on Saturdays. You will write a minimum of 2 answers from our SECURE initiative daily.
<b>WEEKLY FULL-LENGTH IRPM (INTEGRATED REVISION PRELIMS CUM MAINS) TESTS</b>	The IRPM Full-length Tests will be conducted every week on Sundays.
<b>WEEKLY ESSAY TESTS</b>	Essay FLTs will be conducted on alternate Saturdays.
<b>WEEKLY ETHICS TESTS</b>	Ethics Tests will be conducted on alternate Saturdays.
<b>CURRENT AFFAIRS TESTS</b>	CA FLTs will be conducted after each subject is completed.
<b>STUDY BREAKS</b>	We will give nearly a week's break after each subject is completed. This will enable you to revise the subject fully.



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## MAPPING

### 1. IMPORTANT PLACES IN NEWS: INDIA AND THE WORLD

#### *Places in news - India*

##### Reasi District (Jammu & Kashmir)

Geological Survey of India says that the Lithium reserves found could extend well beyond the original location. Other potential sites of Lithium are Marlagalla–Allapatna region of Karnataka's Mandya district, Sambhar (Rajasthan) and Pachpadra areas (Rann of Kutch, Gujarat).

##### Maa Kamakhya corridor (Guwahati, Assam)

On the lines of Kashi Vishwanath Dham (Banaras) and Shree Mahakal Mahalok corridor (Ujjain), the Government of Assam will construct Maa Kamakhya corridor (Guwahati). Kamakhya Temple at Nilachal Hills in Guwahati, Assam is one of the oldest and most revered centres of Tantric practices, dedicated to the goddess Kamakhya. The temple is the site of the Ambubachi Mela, an annual festival that celebrates the menstruation of the goddess. It is also one of the oldest of the 51 pithas in the Shakta tradition.

Recently both states signed an MoU to end inter-state border disputes. Both states share an 804 km long boundary. However, the dispute remains over 123 villages, which span 12 districts of Arunachal Pradesh and 8 districts of Assam.

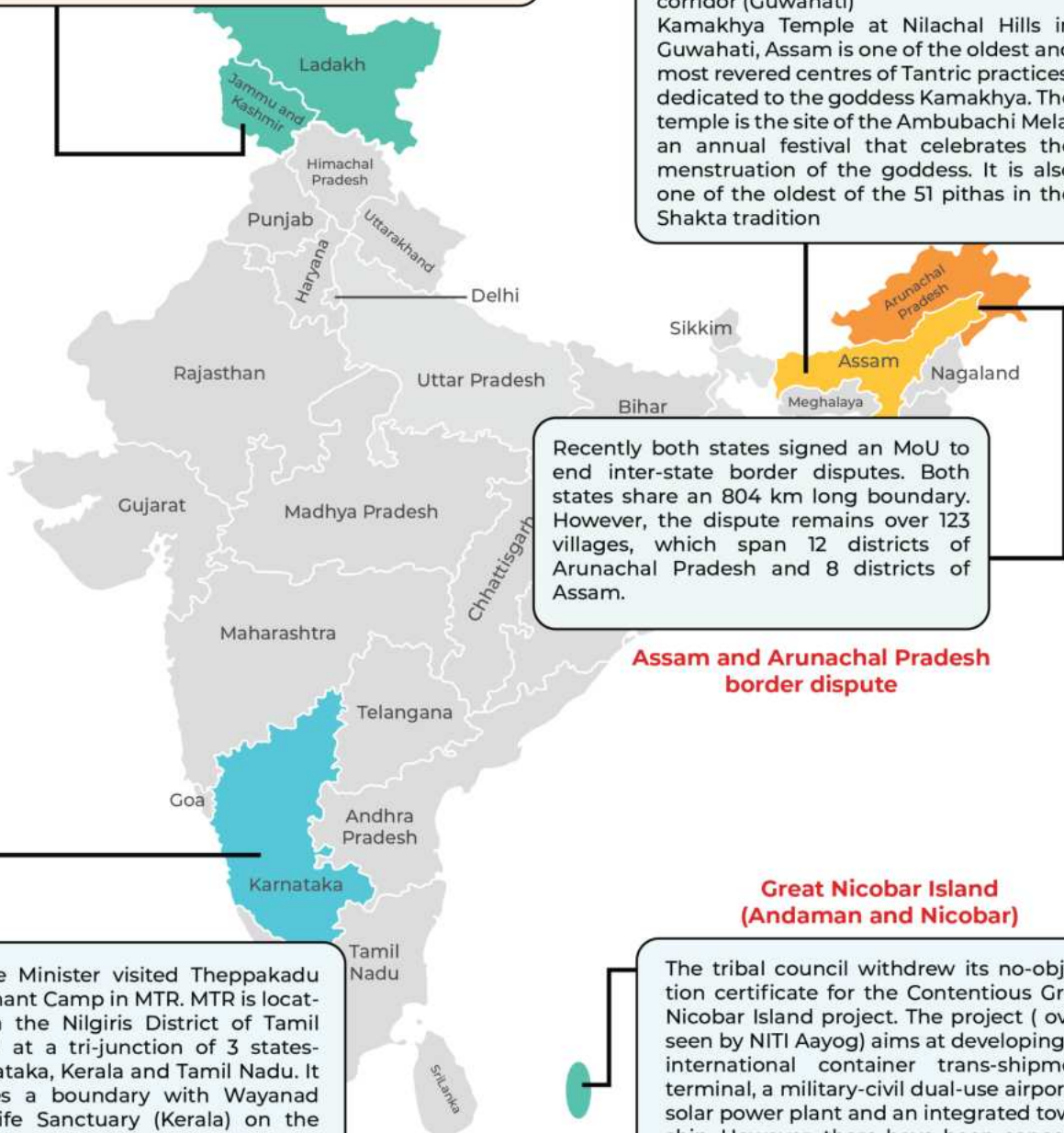
##### Assam and Arunachal Pradesh border dispute

##### Great Nicobar Island (Andaman and Nicobar)

The tribal council withdrew its no-objection certificate for the Contentious Great Nicobar Island project. The project (overseen by NITI Aayog) aims at developing an international container trans-shipment terminal, a military-civil dual-use airport, a solar power plant and an integrated township. However, there have been concerns regarding its impact on coral reefs, indigenous species and mangroves.

Prime Minister visited Theppakadu Elephant Camp in MTR. MTR is located in the Nilgiris District of Tamil Nadu at a tri-junction of 3 states- Karnataka, Kerala and Tamil Nadu. It shares a boundary with Wayanad Wildlife Sanctuary (Kerala) on the West and Bandipur Tiger Reserve (Karnataka) on the North. It is part of the Nilgiris Biosphere Reserve.

##### Mudumalai Tiger Reserve (MTR)





## Places in news - World

### USA: New Commitment for Electric Vehicles

USA has made new commitments to support the transition to cleaner energy in the US, including promoting the use of electric vehicles (EVs) and setting new vehicle pollution standards. The US is responsible for the largest share of historical CO<sub>2</sub> emissions since the start of the Industrial Revolution at around 20%.

### Sapporo (Japan)

G7 climate and environment ministers concluded in Japan. They targeted 2040 for reducing additional plastic pollution to zero. Japan is an archipelagic country comprising a stratovolcano archipelago over 3,000 km (1,900 mi) along the Pacific coast of East Asia. The G7 is an informal group consisting of the world's leading industrialized nations - the United States, Britain, Canada, France, Germany, Italy, and Japan. They meet annually to discuss issues such as global economic governance, international security, energy policy, and other current issues.

### Syria (Arab League)

A recent meeting to debate Syria's readmission to Arab League has ended without agreement (Syria suspended since 2011). Arab League is an intergovernmental pan-Arab organisation of Arab states in the Middle East and North Africa. It was established in opposition to the emergence of a Jewish state on Palestinian territory. Syria is located in Western Asia, north of the Arabian Peninsula, at the eastern end of the Mediterranean Sea.

### Sudan

Sudan Army and Paramilitary are fighting over power. Amidst the fighting, over 100 people from the Hakki-Pikki ("bird-hunters") tribe - a nomadic tribe from the southern state of Karnataka—are stranded. They sell medicinal products from plants in countries like Sudan, Malaysia and Singapore. Sudan shares its border with Egypt, Libya, Chad, Central African Republic, South Sudan, Ethiopia and Eritrea. South Sudan was bifurcated from it in 2011. Major River: Nile River (White Nile and Blue Nile merge in Khartoum).

### Ecuador's Galapagos islands

Scientists have newly discovered a deep-sea coral reef in previously unexplored waters off Ecuador's Galapagos islands. Galápagos Islands (a world heritage site) is a volcanic archipelago in the Pacific Ocean. It is situated at the confluence of three ocean currents—Humboldt Current, Panama Flow and Cromwell Current. Charles Darwin visited in 1835, and his observation of Galápagos' species later inspired his theory of evolution.

### Coco Islands (Myanmar)

China is expanding its ground stations in the Indian Ocean region (IOR) by building a military facility on Coco Islands (Myanmar) which is close to Andaman and Nicobar Island chain. China, through its String of Pearl doctrine, has been practising strategic encirclement around India. The Coco Islands are a small group of islands in the northeastern Bay of Bengal. They are part of the Yangon Region of Myanmar.

### Zojila Tunnel

Zojila tunnel (Asia's longest tunnel) will provide year-round connectivity between Kashmir Valley and Ladakh. It will pass under the Zojila Pass in the Himalayas between Ganderbal in Kashmir and Drass town in the Kargil district of Ladakh. This tunnel will provide year-round connectivity between the Kashmir Valley and Ladakh.

## Places in news - India

### Bongaigaon, Assam

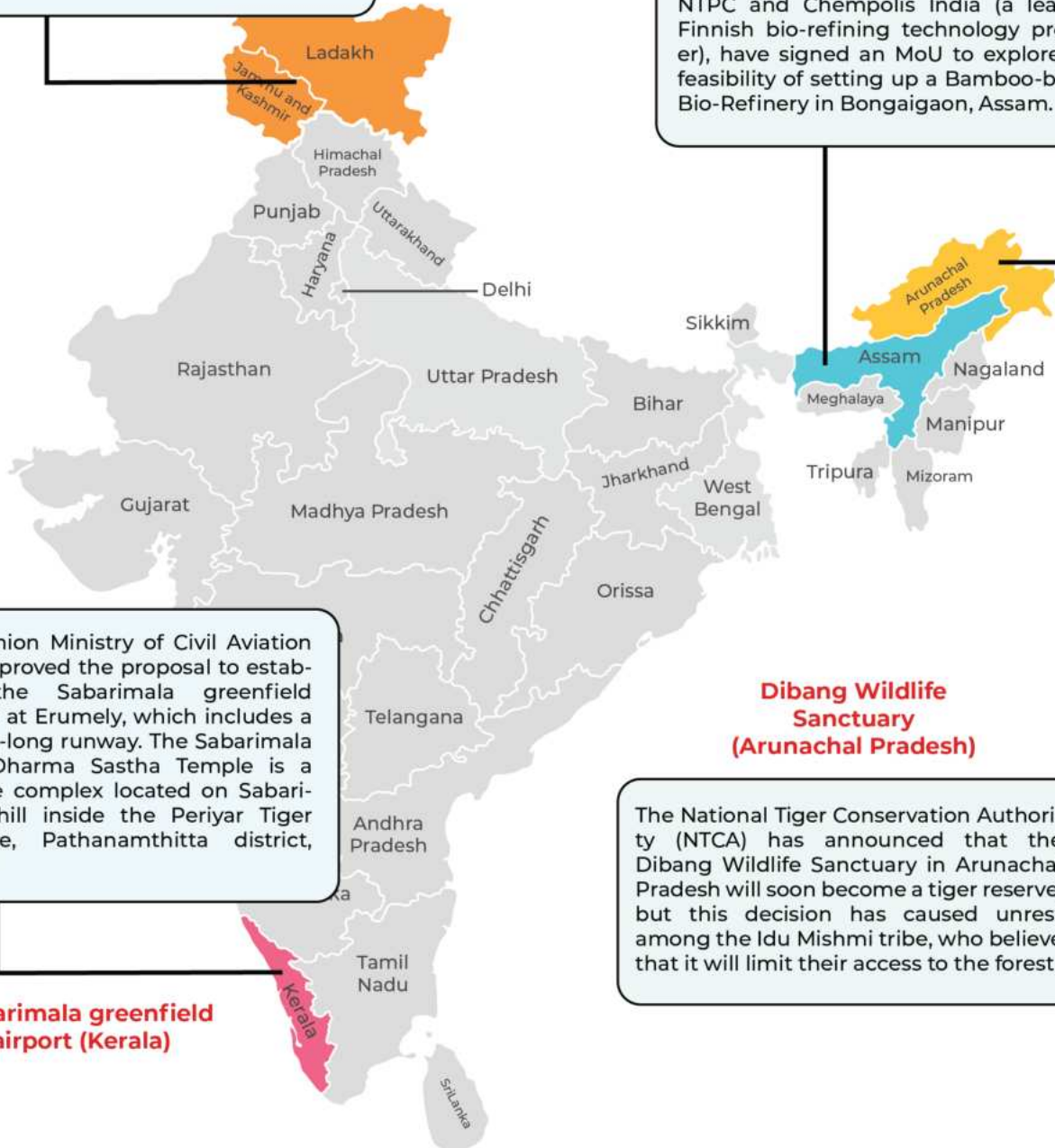
NTPC and Chempolis India (a leading Finnish bio-refining technology provider), have signed an MoU to explore the feasibility of setting up a Bamboo-based Bio-Refinery in Bongaigaon, Assam.

### Dibang Wildlife Sanctuary (Arunachal Pradesh)

The National Tiger Conservation Authority (NTCA) has announced that the Dibang Wildlife Sanctuary in Arunachal Pradesh will soon become a tiger reserve, but this decision has caused unrest among the Idu Mishmi tribe, who believe that it will limit their access to the forest.

The Union Ministry of Civil Aviation has approved the proposal to establish the Sabarimala greenfield airport at Erumely, which includes a 3.5-km-long runway. The Sabarimala Sree Dharma Sastha Temple is a temple complex located on Sabarimala hill inside the Periyar Tiger Reserve, Pathanamthitta district, Kerala

### Sabarimala greenfield airport (Kerala)





## Places in news - World

### Olkiluoto 3 reactor (Finland)

The Olkiluoto 3 reactor, which has a 1,600-megawatt capacity, (Europe's most powerful by production capacity) is ready. Finland is a Northern European nation bordering Sweden, Norway and Russia. Its capital, Helsinki, occupies a peninsula and surrounding islands in the Baltic Sea. The Northern Lights can be seen from the country's Arctic Lapland province, a vast wilderness with national parks and ski resorts.

### Northern Ireland

Recently, US President visited Northern Ireland to mark the 25th anniversary of the Good Friday Agreement. The agreement was signed in 1998, between factions of Northern Ireland, and the governments of Britain and Ireland, to end 30 years of violence known as 'The Troubles'. Ireland is an island nation on the westernmost edge of Europe in the Atlantic Ocean.

### Taiwan

China has conducted a military drill targeted at Taiwan. Both countries have a contentious relationship that has its roots in aftermath of the Chinese Civil War, which ended in 1949 with the defeat of the Nationalist government by the Communist Party of China (CPC).

Taiwan, officially the Republic of China, is a country in East Asia. It is located at the junction of the East and South China Seas in the north-western Pacific Ocean, with the People's Republic of China to the northwest, Japan to the northeast, and the Philippines to the south.

Recently India and Vietnam made the commitment to deepen their strategic partnership. Vietnam is located on the eastern margin of the Indochinese peninsula. It borders the Gulf of Tonkin, the Gulf of Thailand, and the Pacific Ocean, along with China, Laos, and Cambodia.

### Vietnam

### Ghana

Ghana became the first country to approve a new malaria vaccine - R21/Matrix-M vaccine - developed at Oxford University. It is being. It has exceeded the WHO target of 75% efficacy. It is being manufactured by India's Serum Institute.

Ghana is a country in West Africa, encompassing Lake Volta, Dodi Island and Bobowasi Island on the South Atlantic Ocean coast.

### Uganda

Recently, India's Minister of External Affairs visited Uganda. Uganda is a landlocked country in East Africa. It lies almost completely within the Nile basin. The Victoria Nile drains from the lake into Lake Kyoga and thence into Lake Albert on the Congolese border.

### Mount Annapurna (Nepal)

Indian mountaineer who went missing on Nepal's Mount Annapurna has been found alive. Mt. Annapurna I, at 8,091 metres, is the tenth-highest mountain in the world. It lies east of a great gorge cut through the Himalayas by the Kali Gandaki River, which separates it from the other large massif, the Dhaulagiri.

Nepal is a landlocked country in South Asia. It is mainly situated in the Himalayas, but also includes parts of the Indo-Gangetic Plain.





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STARTS ON **5th JUNE 2023**

Early Bird Discount: 10% valid till 25th May 2023



Program	Price	SUPER OGP	
Foundation Course: OGP (Offline & Online Guidance Program)	₹ 1,15,000	 WITH A COMPREHENSIVE RANGE OF TESTS THAT SURPASSES ALL OTHER PROGRAMS COMBINED, <b>SUPER OGP 2024</b> IS AN EXCEPTIONAL PROGRAM THAT MANAGES TO MAINTAIN AN INCREDIBLY AFFORDABLE PRICE	<b>YOU WILL SAVE</b>  
Prelims Test Series	₹ 11,500		
YLM (Year-Long Mains Test Series)	₹ 29,500		
IPM (Integrated Prelims-cum-Mains) Test Series	₹ 39,500		
APEC (Advanced Prelims Enrichment Course)	₹ 16,000		
I-WIL (Insights- Writing Improvement & Leverage) Mains Test Series	₹ 24,000		
Total Price	₹ 2,35,500	<b>₹ 1,21,500</b> (After Early bird Discount of 10%)	<b>₹ 1,14,000</b>

The **Key to Success** in **SUPER OGP**:

Study+ Teaching+ Regular Tests (Practice)+ Group Discussions+ Revision



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