



G7 Summit: Climate Goals, Gandhi Statue & Quad Climate Initiatives

For Prelims: [G7 Summit](#), [Quad Leaders' Summit](#), [G7 Countries](#), [Net-Zero Targets](#), [Indo-Pacific region](#).

For Mains: Role of the G7 summit in addressing global challenges, the significance of the Quad in promoting regional cooperation, India's foreign policy, the relationship between climate change and global security

Why in News?

During the recent **49th G7 summit**, [member countries](#) had outlined key milestones in their **climate Wishlist** in response to ongoing studies and reports that continue to raise alarms about the **worsening state of climate change, urging immediate action**.

- Furthermore, at the same summit, the **Prime Minister of India** unveiled a bust of [Mahatma Gandhi in Hiroshima, Japan](#).
- Additionally, the [Quad Leaders' Summit](#) also took place on the sidelines of the G7 summit, emphasizing shared democratic values, strategic interests, and initiatives for the [Indo-Pacific region](#).

What are the Main Climate Wishlist of the G7?

- **Global Peak in Emissions by 2025:**
 - The G7 emphasized the need for a **global peak in emissions by 2025**.
 - While this is not mandated under the [Paris Agreement](#), achieving it is not implausible.
 - Developed countries are witnessing a **decline in emissions**, although not at the required pace while developing countries' emissions are still increasing.
 - If all countries only fulfill their existing commitments, emissions in 2030 would be about **11% higher than 2010 levels**.
- **Ending Fossil Fuel Use:**
 - The G7 does not set a specific deadline for **ending fossil fuel** use but commits to accelerating the **phase-out of "unabated fossil fuels"** in line with [1.5 degree Celsius trajectories](#).
 - They aim to eliminate **"inefficient fossil fuel subsidies"** by 2025 or earlier without specifying the definition of **"inefficient subsidies."**
 - The G7 countries claim to have stopped financing new fossil fuel-based energy projects, except in limited circumstances.
- **Net-Zero Targets:**
 - The G7 reiterates its commitment to achieve [net-zero status by 2050](#) and urges other major economies to do the same.
 - The world as a whole must become **net-zero by mid-century to meet the 1.5-degree Celsius target**.
 - China aims for **net-zero by 2060, while India has set 2070 as its target**.
 - Post-2050 targets of major developing countries may change with evolving technologies

and cleaner energy adoption.

What are the Challenges in Implementing the G7 Climate Wishlist?

- **Insufficient Action and Inconsistencies:**
 - G7 countries account for **20% of [global emissions](#)** but have not effectively fulfilled their pledges.
 - Lack of sufficient and consistent actions to align with the **1.5-degree Celsius and [2-degree Celsius temperature goals](#)**.
 - G7 member countries Failure to update [nationally determined contributions \(NDCs\)](#) . **Paris Agreement targets**.
- **Inadequate Climate Finance Support:**
 - G7 countries have been **slow and insufficient in providing climate finance** to developing nations agreed under the **Paris Agreement targets**.
 - Developing countries, disproportionately affected by climate impacts, require support for adaptation and resilience.
 - Oxfam reports that only **20% of [climate finance](#) from rich countries in 2019** was allocated for adaptation, with minimal reaching least developed countries.
- **Continued Reliance on Fossil Fuels:**
 - Criticism directed at the G7 countries for their ongoing dependence on fossil fuels, particularly coal.
 - Fossil fuels, especially coal, are highly carbon-intensive energy sources exacerbating climate change.
 - Oil Change International highlights that G7 countries provided significant **public finance for fossil fuels, surpassing investments in clean energy**.

Why did the PM of India Unveil Gandhi's Bust in Hiroshima?

- Mahatma Gandhi was one of the most influential leaders of the twentieth century, who championed the principles of **non-violence, peace, justice and human dignity**. His statue was unveiled at Hiroshima Peace Memorial Park , as a tribute to his legacy and a reminder of his relevance in today's world.
- The symbolic gesture was meant to highlight the shared commitment of the **G7 and its partners to prevent another nuclear catastrophe** and to pursue [nuclear disarmament and non-proliferation](#).
- It was also meant to **acknowledge the suffering and resilience of the [Hibakusha](#), the survivors of the atomic bombings of Hiroshima and Nagasaki** in 1945.
- The statue was also seen as a recognition of **India's role and contribution to global peace and security**, as well as its [partnership with Japan on various issues, including climate change](#).
- The unveiling ceremony was attended by the **G7 leaders**, as well as **the Prime Minister of India**, who was invited as a guest to the summit along with other leaders from Australia, South Korea, and South Africa.

What Were the Outcomes of the Quad Leaders' Summit?

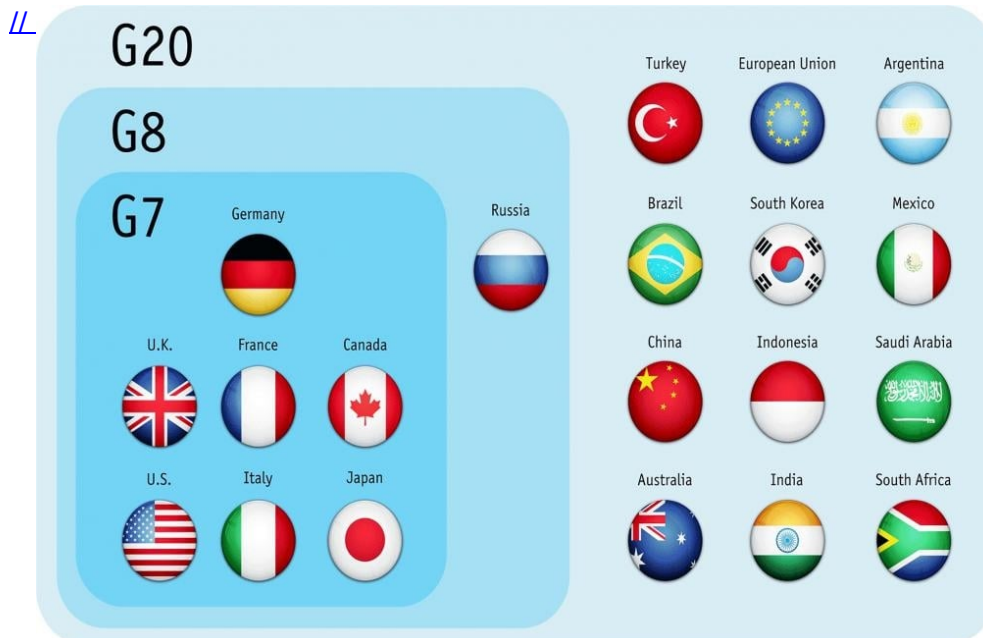
- The Quad Leaders' Summit was held on May 23, 2023, on the sidelines of the G7 summit. It was attended by the **Prime Minister of India, President Joe Biden of the US, Prime Minister Scott Morrison of Australia and Prime Minister Yoshihide Suga of Japan**.
- The Quad is an informal strategic dialogue among four democracies that share common interests and values in the **Indo-Pacific region**.
- One of the key areas of cooperation among the Quad members is [climate change](#). The leaders issued a joint statement that reaffirmed their **commitment to the Paris Agreement and its full implementation**.
- They also announced several initiatives to enhance collaboration on clean energy transition, innovation, adaptation, and resilience. Some of these initiatives are:
 - Launching a **new Quad Climate Working Group** to coordinate their efforts on domestic and international climate policies.
 - Establishing a **Quad Clean Energy Partnership** to support the deployment of clean

energy technologies in Indo-Pacific countries through technical assistance, capacity building, and financing mechanisms.

- Supporting a **Quad Green Shipping Network** to promote **decarbonization** of maritime transport through information sharing, best practices, and standards development.
- Expanding cooperation on **disaster risk reduction** and management through **joint exercises**, training, and information sharing.
- Supporting nature-based solutions for **climate mitigation** and adaptation through the conservation and restoration of **ecosystems** such as forests, [wetlands](#), and [mangroves](#).

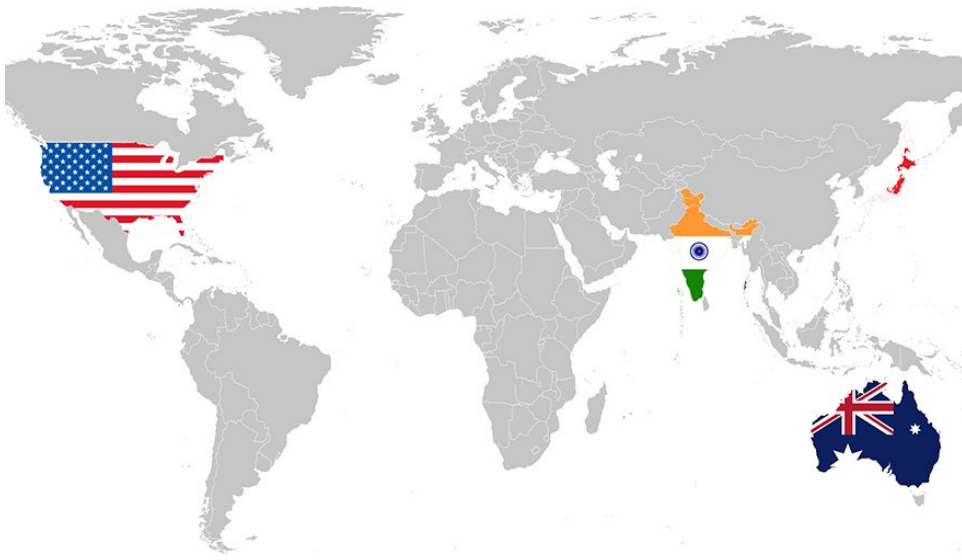
What is the Group of Seven (G7)?

- It is an **intergovernmental organization** that was **formed in 1975**.
- The bloc meets annually to discuss issues of common interest like **global economic governance, international security and energy policy**.
- The G7 countries are the **UK, Canada, France, Germany, Italy, Japan and the US**.
- **All the G7 countries and India are a part of G20.**
- **The G7 does not have a formal charter or a secretariat.** The presidency, which rotates among member countries each year, is in charge of setting the agenda. **Sherpas, ministers and envoys hammer out policy initiatives before the summit.**
- **The 49th G7 summit was held in Hiroshima, Japan.**



What is QUAD?

- It is the grouping of four democracies – **India, Australia, the US, and Japan**.
- All four nations find a common ground of being democratic nations and also support the common interest of unhindered maritime trade and security.
- The Quad is billed as four democracies with a **shared objective to ensure and support a “free, open, and prosperous” Indo-Pacific region**.
- The idea of Quad was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn't move ahead with Australia pulling out of it, apparently due to Chinese pressure.
- Finally in 2017, India, Australia, the US and Japan, came together and formed this “quadrilateral” coalition.



UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. The term 'Intended Nationally Determined Contributions' is sometimes seen in the news in the context of (2016)

- (a) pledges made by the European countries to rehabilitate refugees from the war-affected Middle East
- (b) plan of action outlined by the countries of the world to combat climate change
- (c) capital contributed by the member countries in the establishment of Asian Infrastructure Investment Bank
- (d) plan of action outlined by the countries of the world regarding Sustainable Development Goals

Answer: (b)

Q. With reference to the Agreement at the UNFCCC Meeting in Paris in 2015, which of the following statements is/are correct? (2016)

1. The Agreement was signed by all the member countries of the UN and it will go into effect in 2017.
2. The Agreement aims to limit the greenhouse gas emissions so that the rise in average global temperature by the end of this century does not exceed 2°C or even 1.5°C above pre-industrial levels.
3. Developed countries acknowledged their historical responsibility in global warming and committed to donate \$1000 billion a year from 2020 to help developing countries to cope with climate change.

Select the correct answer using the code given below.

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

Answer: (b)

Q. In which one of the following groups are all the four countries members of G20? (2020)

- (a) Argentina, Mexico, South Africa and Turkey
- (b) Australia, Canada, Malaysia and New Zealand
- (c) Brazil, Iran, Saudi Arabia and Vietnam
- (d) Indonesia, Japan, Singapore and South Korea

Ans: (a)

Mains

Q. 'Climate change' is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change? (2017)

Q. Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? (2021)

Source: TH

Human Pangenome Map

For Prelims: Human Pangenome Map, [Genome](#), [DNA](#), [Genes](#), [Reference Genome](#), [Genome India Project](#).

For Mains: Human Pangenome Map and its Significance.

Why in News?

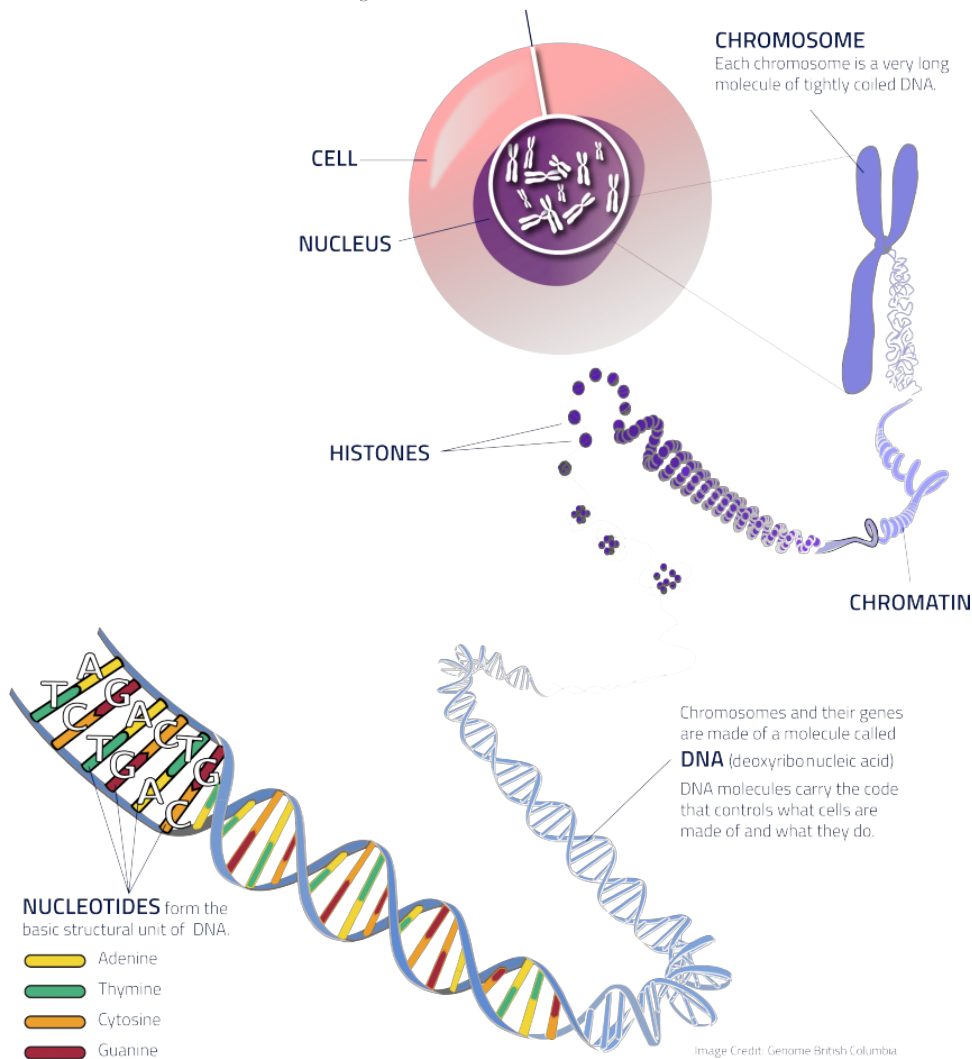
Recently, a new study has been published in the Nature journal describing a **Pangenome Reference Map**, built using genomes from 47 anonymous individuals (19 men and 28 women), mainly from Africa but also from the Caribbean, Americas, East Asia, and Europe.

What is Genome?

- **Genome:**
 - The **Genome** is like a blueprint or instruction manual for life. It contains all the **genes and the spaces between the genes that make up our chromosomes**.
 - Our chromosomes are made up of **DNA (Deoxyribonucleic Acid)**, which is a long string composed of four **building blocks called nucleotides or bases (A, T, G, and C)**. These building blocks are arranged in different combinations and repeated millions of times to create **23 pairs of chromosomes**.
 - The genome provides **valuable information about our genetic makeup** and helps researchers explore various aspects of human biology and health.
- **Genome sequencing:**
 - Genome sequencing is the method used to **determine the precise order of the four bases (A, T, G and C)** and how they are arranged in chromosomes.
 - By sequencing individual genomes, scientists can **learn about human genetic diversity and understand how certain diseases** may affect us.

THE GENOME

A genome is an organism's complete set of DNA—basically a blueprint for an organism's structure and function.



What is a Reference Genome?

- **About:**
 - A reference genome or reference map is like a standard map that scientists use when they sequence and study new genomes. It serves as a guide to **compare and understand the differences between the newly sequenced** genome and the reference genome.
- **Significance:**
 - The first reference genome created in **2001 was a significant scientific achievement.** It helped scientists discover disease-related genes, understand genetic aspects of diseases like cancer, and develop new diagnostic tests. However, it had limitations and wasn't perfect.
- **Drawback:**
 - It was mostly based on the genome of one individual with **mixed African and European ancestry**, and it had some gaps and errors.
 - While the new **reference genome or Pangenome** is comprehensive and error-free, it still doesn't represent the full diversity of human genetics.

What is a Pangenome Map?

- **Pangenome Map:**

- The pangenome, unlike the previous linear reference genome, is represented as a **graph**. Each chromosome in the pangenome **can be imagined as a bamboo stem with nodes**.
- These nodes represent stretches of sequences that are **similar among all 47 individuals**. The internodes between the nodes vary in length and represent genetic variations among individuals from different ancestries.
- To create complete and continuous maps of the chromosomes in the pangenome project, researchers used a technology called **long-read DNA sequencing, creating complete and continuous chromosome maps by producing accurate, long DNA strands**.
- **Significance of Pangenome Map:**
 - Although any two humans share more than 99% of their DNA, there is **still about a 0.4% difference between any two individuals**. This may seem small but considering the vast size of the human genome (3.2 billion nucleotides), the difference **amounts to around 12.8 million nucleotides**.
 - A complete and accurate pangenome map of the human genome can help better understand these **differences and explain the diversity among individuals**.
 - It will also assist in studying genetic **variations that contribute to underlying health conditions**.
 - Although the current map doesn't include genomes from Indians, it will still be beneficial in **comparing and mapping Indian genomes against the existing accurate reference genomes**.
 - Future pangenome maps that include high-quality Indian genomes, including those from diverse and isolated populations within the country, **will provide valuable insights into disease prevalence**, the discovery of new genes related to rare diseases, improved diagnostic methods, and the development of novel drugs for these diseases.
- **Drawbacks:**
 - However, the current pangenome map lacks representation from diverse populations like **Africa, the Indian subcontinent, indigenous groups in Asia** and Oceania, and West Asian regions.

Is there any Genome Mapping Initiative in India?

- In April 2023, the government announced that it aims to sequence 10,000 genomes by the end of the year 2023 under the **Genome India Project (GIP)**.
- The GIP aims to create a database of Indian genomes, researchers can learn about these unique **genetic variants and use the information to create personalized drugs** and therapies.
 - The United Kingdom, China, and the United States are among the countries that have programmes to sequence at least 1,00,000 of their genomes.

UPSC Civil Services Examination, Previous Year Question (PYQ)

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? (2017)

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

Ans: (d)

- Chinese scientists decoded rice genome in 2002. The Indian Agricultural Research Institute (IARI) scientists used the genome sequencing to develop better varieties of rice such as Pusa Basmati-1

and Pusa Basmati-1121, which currently makes up substantially in India's rice export. Several transgenic varieties have also been developed, including insect resistant cotton, herbicide tolerant soybean, and virus resistant papaya. **Hence, 1 is correct.**

- In conventional breeding, plant breeders scrutinize their fields and search for individual plants that exhibit desirable traits. These traits arise spontaneously through a process called mutation, but the natural rate of mutation is very slow and unreliable to produce all the plant traits that breeders would like to see. However, in genome sequencing it takes less time, thus it is more preferable. **Hence, 2 is correct.**
- The host-pathogen interaction is defined as how microbes or viruses sustain themselves within host organisms on a molecular, cellular, organism or population level. The genome sequencing enables the study of the entire DNA sequence of a crop, thus it aids in understanding of pathogens' survival or breeding zone. **Hence, 3 is correct.**
- **Therefore, option (d) is the correct answer.**

[Source: TH](#)

RBI to Withdraw Rs 2,000 Notes from Circulation

For Prelims: [Reserve Bank of India \(RBI\)](#), [Demonetization](#), [Corruption](#), [The Coinage Act, 2011](#), [RBI Act, 1934](#), [Finance Act 2017](#).

For Mains: RBI's Clean Note Policy, Impact of the Withdrawal of the 2000 Rupees Notes, Types of Legal Tender in India, Demonetization.

Why in News?

On May 19, 2023, the [Reserve Bank of India \(RBI\)](#) announced **that it will withdraw the Rs 2000 denomination banknotes from circulation.**

- While the **existing notes will remain legal tender.** The RBI has provided a generous timeframe, **allowing individuals to deposit or exchange the notes until September 30, 2023.**
- This move is part of the **RBI's Clean Note Policy**, which aims to provide the **public with high-quality currency notes** and coins with improved security features.

Why did the RBI Withdraw the 2000 Rupees Notes?

- **Withdrawal of 2000 Rupee Note:**
 - The RBI said that the withdrawal of the 2000 rupees notes is part of its **currency management operations.**
 - The Rs 2000 banknotes were introduced in **2016 to meet the immediate currency requirements** after the withdrawal of Rs 500 and Rs 1000 notes during the [demonetization exercise](#).
 - With an adequate supply of other denominations available, the **printing of Rs 2000 notes was stopped in 2018-19**, as the initial objective of expediting the currency requirement was achieved.
 - As of **March 31, 2023**, the value of Rs 2000 banknotes in circulation **has decreased to Rs 3.62 lakh crore, constituting only 10.8% of the total notes in circulation.**

- The last time India **demonetised currency** was in **November 2016** when the government **withdrew 500 and 1000 rupees notes in an effort to remove forgeries from circulation.**
- The move took away **86% of the economy's currency in circulation by value overnight.**
- **Exchanging and Depositing Rs 2000 Notes:**
 - The exchange limit for Rs 2000 banknotes is set at **Rs 20,000 at a time. Non-account holders can also exchange these banknotes at any bank branch.**
 - Deposits into bank accounts can be made without limitations, **subject to compliance with [Know Your Customer \(KYC\) norms](#)** and other applicable regulations.
- **Impact:**
 - The RBI governor stated that the impact of withdrawal of 2000 rupees notes will be **"very very marginal" on the economy** because it accounts for only **10.8% of currency in circulation.**
 - The withdrawal will not cause disruption **"either in normal life or in the economy"** as there is **an adequate stock of banknotes in other denominations.**
 - Some economists said that the **withdrawal of the higher-value note is "a sensible form of demonetization"** and could **boost [bank deposits](#)** at a time of high credit growth.
 - The withdrawal could **ease the pressure on deposit rate hikes** and could also result in **moderation in short-term interest rates and would help to curb [black money](#) and [corruption.](#)**

What is RBI's Clean Note Policy?

- The **Clean Note Policy** focuses on **providing the public with currency notes and coins that have enhanced security features while withdrawing soiled or old notes from circulation.**
 - A **'soiled note'** means a note which has **become dirty due to normal wear and tear and also includes a two piece note pasted together** wherein both the pieces presented belong to the same note and form the entire note with no essential feature missing.
- The **RBI had withdrawn all banknotes issued before 2005 due to their fewer security features** as compared to banknotes printed after 2005. However, these **older notes are still legal tender** and have been withdrawn to align with international practices.

What is Demonetization in India?

- **About:**
 - Demonetization is the act of **stripping a currency unit of its status as legal tender.** The current form or forms of money is **pulled from circulation and retired, often to be replaced with new notes or coins.**
- **Legality in India:**
 - The legal basis for demonetization in India is **Section 26(2) of the Reserve Bank of India Act, 1934**, which empowers the **central government to declare any series of banknotes** as ceasing to be legal tender by notification in the Official Gazette, **on the recommendation of RBI.**
 - The **legality of demonetization was challenged** in several petitions filed in various courts across India.
 - However, the **Supreme Court** upheld the demonetisation as valid and stated that **demonetisation of currency notes of Rs 500 and Rs 1,000 satisfied the [test of proportionality.](#)**
 - The **test of proportionality refers to whether the benefits of demonetisation outweigh the costs.**
 - To satisfy the test of proportionality, the **benefits of demonetisation must be significant enough to justify the costs and disruptions that**

it may cause.

▪ **Advantages:**

- **Stabilization of Currency:** Demonetization has been used as a **tool to stabilize the currency and fight inflation, facilitate trade, curb counterfeiting and access to markets, and** push informal economic activity into more **transparency and away from black and gray markets.**
- **Curbing Black Money:** The government argued that demonetization would flush out the black money or unaccounted income held in cash by **tax evaders, corrupt officials, criminals and terrorists.**
 - This would **increase the tax base** and revenue of the government and **reduce corruption and crime in the country.**
- **Promotes Digitization:** It also **encourages digitisation of commercial transactions,** formalizes the economy and so, boosts government tax revenues. It also improves **transparency, efficiency and convenience in the payment system** and reduces the cost of printing and managing currency.
 - The **formalization of the economy means bringing companies under the regulatory regime of government** and subject to laws related to manufacturing and income tax.

▪ **Disadvantages:**

- **Temporary Slowdown:** The conversion process during demonetization can lead to a **temporary slowdown in economic activity.**
 - The disruption caused by the sudden withdrawal of old currency and the **limited availability of new currency** can **hamper business transactions, consumer spending, and overall economic productivity.**
- **Administrative Cost:** Implementing demonetization **involves substantial administrative costs.** Printing **new currency notes, recalibrating ATMs, and disseminating information about the changes can be expensive.**
 - These costs are typically **borne by the government,** which can strain public finances and **divert resources from other essential sectors or public welfare programs.**
- **Impact on Cash Driven Sectors:** Cash-driven sectors, such as **retail, hospitality, and small businesses, can suffer significantly during demonetization.**
 - Small businesses, especially those operating on **thin profit margins,** may struggle to adapt to the new payment systems, **resulting in reduced sales, layoffs, and, in extreme cases, business closures.**

What is Legal Tender in India?

▪ **About:**

- A legal tender is a form of currency that is **recognised by law as an acceptable means for settling debts or obligations .**
 - RBI is responsible for determining which **forms of currency are considered valid for transactions.**
- It consists of **coins issued by the Government of India under Section 6 of [The Coinage Act, 2011](#),** and banknotes issued by the Reserve Bank of India under **Section 26 of the [RBI Act, 1934](#).**
 - Govt **issues all coins upto ₹ 1,000, and 1 Rupee Note.**
 - RBI issues **currency notes other than ₹ 1 Note.**

▪ **Types:**

- Legal tender can be **limited or unlimited in character.**
 - In India, coins function as **limited legal tender. Coins with denominations equal to or higher than one rupee can be used as legal tender** for amounts up to **one thousand rupees.**
 - Additionally, **fifty paise (half a rupee) coins** can be used as legal tender for **amounts up to ten rupees.**
 - Banknotes function as **unlimited legal tender** for any amount stated on them.
 - However, A **new Section 269ST** was added to the **[Income Tax Act](#)** as a result of the measures taken by the **[Finance Act 2017](#) to curb black money.**

- A cash transaction was restricted by **Section 269ST** and was **only allowed to be worth up to Rs. 2 Lakh per day.**

[Source: IE](#)

The International Day for Biological Diversity 2023

For Prelims: [Biological Diversity Day](#), [UNFCCC COP 15](#), [Kunming-Montreal Global Biodiversity Framework](#)

For Mains: [Kunming-Montreal Global Biodiversity Framework](#), [Outcomes of COP 15](#), Environmental Pollution & Degradation, Importance of Green Finance in sustainable development

Why in News?

The [International Day for Biological Diversity \(IDB\)](#), celebrated on **22nd May** 2023, raises awareness about the importance of biodiversity for sustaining life on Earth.

- The Global Assessment Report on Biodiversity and Ecosystem Services highlights the **risk of extinction for around one million species.**
- To address the biodiversity crisis, the [Kunming-Montreal Global Biodiversity Framework](#) was adopted at the [15th Conference of Parties](#) (COP 15) to the [Convention on Biological Diversity](#)
 - This framework sets ambitious targets for 2030 and provides a roadmap for conservation, restoration, and sustainable use of biodiversity.

What is International Day for Biological Diversity?

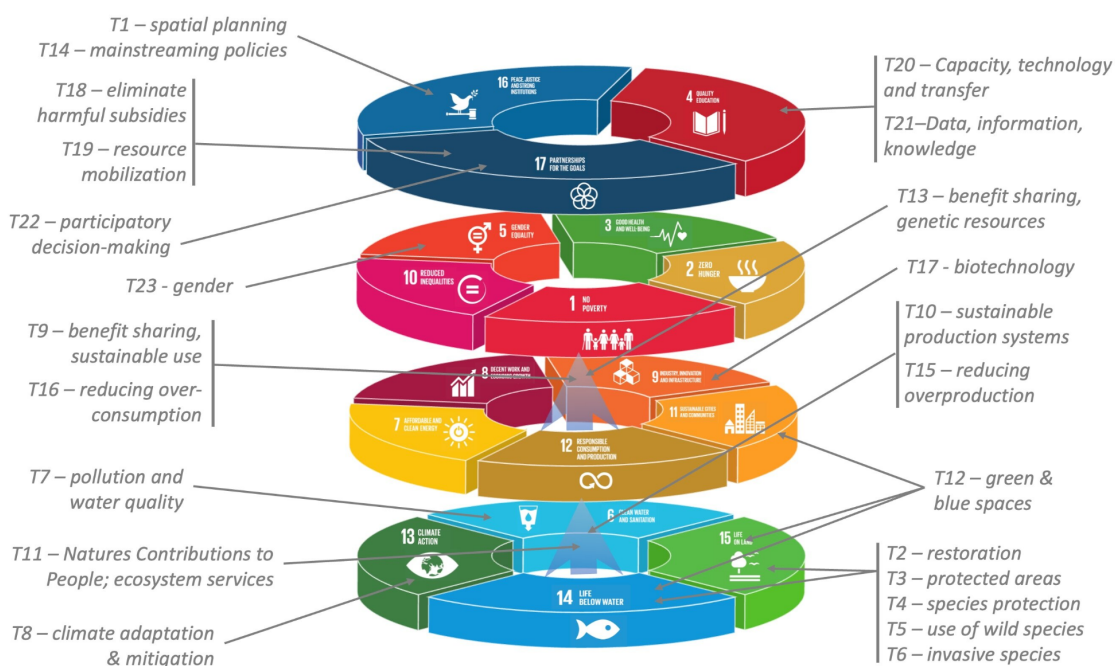
- **About:**
 - The [United Nations General Assembly \(UNGA\)](#) in 1993 proclaimed **22nd May** as IDB to increase understanding and awareness of biodiversity issues.
 - The UNGA also declared the period **2011-2020** as the **United Nations (UN) Decade on Biodiversity** to promote the implementation of a strategic plan on biodiversity and its overall vision of living in harmony with nature.
 - It also declared **2021-2030** as the **UN Decade of Ocean Science for Sustainable Development** and the **UN Decade on Ecosystem Restoration.**
- **Theme:**
 - The theme for 2023 is **“From Agreement to Action: Build Back Biodiversity”**, which signifies the **pressing requirement to go beyond mere commitments and transform them into concrete actions** aimed at revitalizing and safeguarding biodiversity.

What is Kunming-Montreal Global Biodiversity Framework?

- **About:**
 - It calls for **urgent and integrated action** to reflect **biodiversity considerations in all sectors of the global economy** but crucial issues - like funding conservation in poorer countries and committing to biodiversity-friendly supply chains have been left to discuss

later.

- It is **not a binding international agreement**.
 - It **calls upon the parties to mainstream biodiversity protection in decision-making** and recognise the importance of conservation in protecting human health.
 - The theme of the declaration is **Ecological Civilization: Building a Shared Future for All Life on Earth**.
 - By adopting this, the **nations have committed themselves to support the development, adoption and implementation** of an effective post-2020 implementation plan, a capacity building action plan for the [Cartagena Protocol on biosafety](#).
 - The Protocol seeks to protect biological diversity from the potential risks posed by **living modified organisms** resulting from modern biotechnology.
 - As per the declaration the signatory nations will ensure that the **post-pandemic recovery policies, programmes and plans contribute to the conservation** and sustainable use of biodiversity, promoting sustainable and inclusive development.
- **30 by 30 Target:**
 - The declaration made a reference to the '30 by 30' target which is a **key proposal being debated at the COP15**, that would afford **30% of the Earth's land and oceans protected status by 2030**.
 - **Main targets:**
 - The framework consists of **four goals and 23 targets for 2030**.
 - **The four goals are:**
 - **Conserve and restore biodiversity.**
 - **Ensure sustainable use of biodiversity.**
 - **Share benefits fairly and equitably.**
 - **Enable transformative change.**
 - **The 23 targets are:**



- **Challenges with Implementation:**

- **Limited Timeframe and Urgency:**
 - With just seven years remaining to meet the GBF targets, immediate action is imperative due to the **critical state of around one million animal and plant species threatened with extinction**.
 - The urgent need to address biodiversity loss requires **accelerated efforts and comprehensive implementation strategies**.
- **Funding Gap:**
 - The Signatories aim to **ensure 200 billion USD per year is channelled to conservation initiatives**, from public and private sources. Raising international

financial flows from developed to developing countries to at least USD 30 billion per year by 2025, and at least 30 billion USD a year by 2030. But this **funding has yet to be fulfilled**.

- **Lack of specific funding commitments for biodiversity**, as seen in recent **statements from the G7**, hinders the financial support required for effective implementation.
- **National Biodiversity Strategy and Action Plans (NBSAP):**
 - Member states agreed to realign their [NBSAPs to the GBE](#), but progress in submitting the revised plans has been slow.
 - **Spain is the only country that has submitted its realigned NBSAP** so far, highlighting the need for more countries to develop and submit their plans to the CBD secretariat before COP16 in 2024.
- **Balancing Conservation and Indigenous Rights:**
 - The **target of protecting 30% of land and water has raised concerns regarding potential infringements on the rights of indigenous communities**.
 - Striking a balance between conservation efforts and respecting the rights and traditional knowledge of indigenous peoples is essential for successful implementation.

[Source: DTE](#)

World Bee Day

For Prelims: [World Bee Day](#), [United Nations General Assembly](#), [National Bee Board](#), [Western Ghats](#), [Indian black honeybee](#), Sweet Revolution

For Mains: Significance of Bees, Threats and Challenges Related to Bees, Status of Beekeeping in India, Sweet Revolution.

Why in News?

The **Ministry of Agriculture and Farmers Welfare (MoA&FW)**, recently celebrated [World Bee Day](#) on **May 20th, 2023** at Balaghat, Madhya Pradesh.

- The event aimed to **promote and popularise beekeeping nationwide** through the [National Beekeeping & Honey Mission \(NBHM\)](#) under the Atma-Nirbhar Bharat initiative.
- The Theme of 2023 is **“Bee engaged in pollinator-friendly agricultural production”**.

What is World Bee Day and Why is it Important?

- **About:**
 - **World Bee Day** is an annual event that is celebrated on **May 20th to raise awareness about the importance of bees** and other [pollinators](#) for the environment, food security and biodiversity.
 - The date was chosen to **commemorate the birthday of Anton Janša, a pioneer of modern beekeeping from Slovenia**.
 - The [United Nations General Assembly](#) declared **World Bee Day in 2017, following a proposal by Slovenia and the support of 115 countries**.

Note: Pollinators are agents that assist in the process of pollination. Pollination is the **transfer of pollen grains from the male reproductive organs (anthers) of a flower to the female reproductive organs (stigma) of the same or a different flower**, leading to fertilization and the production of seeds.

▪ **Significance of Bees:**

◦ **Pollination:**

- Bees are vital for the **survival of many plants and animals**, as they pollinate about **one-third of the world's crops and 90% of the wild flowering plants**.
- They also produce **honey, wax, propolis and other valuable products** that have nutritional, medicinal and economic benefits.

◦ **Tackling with Climate Change:**

- Bees **help plants to grow faster and healthier**, which increases their carbon uptake and storage. Bees also reduce the **need for chemical fertilizers and pesticides, which emit harmful gases into the atmosphere**.
 - They are also **indicators of the health of ecosystems**, as they respond to changes in the environment such as **climate change, pollution, habitat loss and [pesticides](#)**.

◦ **Enhancing Crop Productivity:**

- They help in **enhancing crop productivity and quality** by providing pollination services to various crops such as fruits, vegetables, oilseeds, pulses etc.
- It is estimated that **bee pollination can increase crop yields by 20-30% on average**.

◦ **Generating Employment Opportunity:**

- Generating **income and employment opportunities for rural households by producing honey and other bee products** such as wax, propolis etc.
 - Honey is a high-value product that has a huge demand in domestic and international markets. It is also a source of **nutrition and health for consumers**.
- It can also help in **empowering women and youth** by involving them in beekeeping activities as **entrepreneurs or [self-help groups](#)**.

▪ **Threats and Challenges:**

- **Loss and fragmentation of natural habitats** due to urbanization, agriculture and deforestation
- **Intensive and monoculture farming practices** that reduce floral diversity and expose bees to pesticides and herbicides
- **Diseases, pests and invasive species** that affect bee health and productivity
- **Climate change that alters the flowering seasons**, distribution and availability of plants.
- **Lack of awareness, knowledge and support for beekeeping** among farmers and consumers

What is the Status of Beekeeping in India?

▪ **Production Statistics:**

- India is **one of the largest producers and consumers of honey in the world**, with an estimated annual production of **1.2 lakh metric tonnes**. India has a rich tradition and culture of beekeeping, dating back to ancient times.
- At present, about **12,699 Beekeepers and 19.34 lakhs honey bees colonies** are registered with the [National Bee Board](#) and India is producing about 1,33,200 Metric tonnes of Honey (**2021-22 estimate**).
- In **November 2022**, a new species of endemic honeybee named [Indian black honeybee \(Apis karinjodian\)](#) was discovered in the [Western Ghats](#) after a **gap of more than 200 years**.

▪ **Exports:**

- India is one of the **major honey exporting countries in the World** and has exported 74,413 MT of Honey during 2021-22.

- More than **50% of the honey production in India is being exported** to other countries.
- India exports honey to about **83 countries**. The major markets for Indian honey are the **USA, Saudi Arabia, United Arab Emirates, Bangladesh, Canada, etc.**
- **Honey Producing States:**
 - As per the National Horticulture Board (NHB), **Uttar Pradesh, West Bengal, Punjab, Bihar, Rajasthan, Himachal Pradesh, Haryana, Uttarakhand, Madhya Pradesh and Karnataka** were the **top ten honey-producing states in 2021-22**.

What is National Beekeeping & Honey Mission (NBHM)?

- The NBHM, implemented through the **National Bee Board**, focuses on promoting **scientific beekeeping and entrepreneurship among small and marginal farmers**.
- It encompasses infrastructure development for post-harvest management, support for research and development, and aims to achieve the goal of a **"Sweet Revolution."**
- The scheme is aligned with the **Atma-Nirbhar Bharat initiative** and plays a crucial role in increasing farmer incomes and enhancing agricultural productivity.

SWEET REVOLUTION

BEEKEEPING IN INDIA (APICULTURE)

- An ambitious initiative of the GoI for **promoting apiculture**
- Launched in 2016 under **Khadi and Village Industries Commission (KVIC)** (Ministry of MSME)
- Along its lines, the **Honey Mission** was launched in 2017

About Beekeeping

- An agro-based activity undertaken by farmers/ landless labourers in rural areas as a part of **Integrated Farming System (IFS)**

Significance

- Useful in **pollination** of crops
- **Increases income** of the farmers
- **High value beehive products** - honey, beeswax, bee pollen, etc.

World Bee Day

- 20 May

NATIONAL BEEKEEPING AND HONEY MISSION (NBHM)

About

- Central Sector (CS) Scheme
- Announced as a part of **Atmanirbhar Bharat Scheme** (for 2020-21-2022-23)
- Implemented by the **National Bee Board (NBB)** (under MoA&FW)

Objectives

- Development of scientific beekeeping to **achieve the goal of 'Sweet Revolution'**
- Enhance **agri/ horticulture production**
- Set up **Integrated Beekeeping Development Centre (IBDC)**, Api-therapy centres and Bee disease diagnostic labs
- **Empowerment of women** through beekeeping

Way Forward

- **Awareness Among Farmers:** There is a need to create **awareness among farmers about the benefits of beekeeping through mass media campaigns, demonstrations, field visits etc.**
 - Also it's time to encourage farmers to adopt beekeeping as an **integral part of their cropping system through incentives, awards etc.**
- **Strengthening the Supply Chain:** There is a need to strengthen the supply chain of inputs such as **bee colonies, hives etc.** through **public-private partnerships, cooperatives etc.** Ensuring quality control of inputs through **standardization and certification mechanisms such as BIS marks etc.** Making inputs affordable to farmers through subsidies or vouchers etc.
- **Developing Market Linkages:** There is a need to develop market linkages for honey or other bee products through platforms such as **e-NAM (National Agriculture Market), APEDA**

([Agricultural & Processed Food Products Export Development Authority](#)) etc.

- Also, value added products can also be promoted for honey or other bee products through processing units such as **Honey Parks etc.**

UPSC Civil Services Examination, Previous Year Questions (PYQ)

Prelims:

Q. Consider the following kinds of organisms: (2012)

1. Bat
2. Bee
3. Bird

Which of the above is/are pollinating agent/agents?

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

Ans: (d)

Mains:

Q. Assess the role of National Horticulture Mission (NHM) in boosting the production, productivity and income of horticulture farms. How far has it succeeded in increasing the income of farmers? (2018)

[Source: PIB](#)

Alderman

For Prelims: Alderman, [Lieutenant-Governor](#), [MCD](#), [Delhi Municipal Corporation Act, 1957](#), [Article 239AA of the Constitution](#), [Transaction of Business Rules 1961](#).

For Mains: Issue over the appointment of Alderman in Delhi.

Why in News?

The Supreme Court, while considering the Delhi government's plea against the [Lieutenant-Governor's \(LG\)](#) appointment of Aldermen, observed that granting the LG the authority to nominate [MCD \(Municipal Corporation of Delhi\)](#) members could destabilize the Elected Civic Body.

What is Alderman?

- **About:**

- Etymologically, the word comes from the combination of “old” and “man”, meaning older man or experienced person.
- The word originally referred to **elders of a clan or tribe**, though soon it became a term for **king’s viceroys, regardless of age**. Soon, it denoted a more specific title – “chief magistrate of a county,” having both civil and military duties.
- In the 12th century CE, as guilds became increasingly associated with municipal governments, the term **came to be used for officers of municipal bodies**. This is the sense **in which it is used till date**.
- **Case of Delhi:**
 - As per the [Delhi Municipal Corporation Act, 1957](#), ten people, over the age of 25 can be nominated to the corporation by the administrator (the LG).
 - These people are **expected to have special knowledge or experience** in municipal administration.
 - They are meant to **assist the house in taking decisions** of public importance.

What are the Concerns Related to the Appointment of Aldermen?

- The first concern is related to the **suitability of the nominated individuals**. After the recommendations were submitted to LG, it was discovered that **two out of the 10 nominees were deemed technically unfit** for the position. This raises questions **about the thoroughness and transparency of the nomination process**, as individuals who are not qualified or suitable for the role should not be appointed.
- The second concern revolves around the perception that the appointment of aldermen by the LG is an attempt to maintain **control and influence within the Municipal Corporation of Delhi (MCD)** despite their electoral defeat. This raises concerns about the democratic principles of representation and the fairness of power dynamics within the MCD.

What is the SC’s Observation?

- The Additional Solicitor General, representing LG argued that there is a distinction between the powers of the **L-G under Article 239AA of the Constitution and their role as an Administrator** of the national capital. He claimed that the L-G has an active role in the **nomination of aldermen based on the law**.
- However, the SC stated that by giving this power to the L-G, it could potentially destabilize the democratically elected MCD, as they **would have voting power**.
- The SC has clarified that the **L-G does not have extensive executive powers** in the national capital, which operates under a unique "**Asymmetric Federal Model**" of governance.
 - The term "Asymmetric Federal Model" refers to a system of governance in which different regions or components within a federation possess varying degrees of autonomy and powers.
- The court specified that the L-G can exercise **executive power at their discretion only in three specific areas**, under Article 239AA(3)(a).
 - Public order
 - Police
 - Land in Delhi.
- The court also stated that if the L-G disagrees with the Council of Ministers of the Government of the National Capital Territory of Delhi, they should follow the procedure outlined in the **Transaction of Business (ToB) Rules 1961**.
 - The ToB rules emerge from **Article 77(3) of the Constitution**, which provides a **framework for the allocation of work and responsibilities among various departments** and ministries of the government. They outline the procedures for the formulation, approval, and implementation of government policies, decisions, and actions.

What is the Tussle between Delhi Government and Centre?

- **Background:**
 - Due to the co-existence of [Article 239](#) and [239AA](#), there is a jurisdictional conflict between the **government of NCT and the Union Government** and its representative, the LG.

- According to the Union government, New Delhi being a Union Territory **Article 239 empowers the LG to act independently** of its Council of Ministers.
- However, the state government of Delhi held that **Article 239AA of the Constitution bestows special status** to Delhi of having its own legislatively elected government.
- This creates a **tussle around the administrative powers of the LG and state government** of NCT of Delhi.
- **Centre and State Governments Arguments:**
 - The central government believes that as **Delhi is the national capital and represents the country**, it should have **authority over administrative services**, including appointments and transfers.
 - However, the Delhi government argues that in the spirit of [Federalism](#), **elected representatives should have the power to decide on transfers** and postings.
- **Legal Issues:**
 - The first issue emerged **from a two-judge Bench in February 2019** when deciding on the allocation of powers between the Delhi government and the center.
 - They left the **question of administrative service control to be decided by a larger Bench.**
 - In **May 2022**, a three-judge Bench had referred this case to a larger Bench on the Central government's plea.
 - The three-judge Bench had decided that the question of control over administrative services required **"further examination"**.
 - The second issue involves the [Government of National Capital Territory of Delhi \(Amendment\) Act 2021](#), passed by Parliament.
 - The Act states that the term **"government"** mentioned in any law made by the **Delhi Legislative Assembly will refer to the Lieutenant Governor (L-G)**.

[Source: TH](#)

Air Pollution

For Prelims: [Air Pollution](#), Sentinel-5P satellite, Google Earth Engine, [AQI](#), [Covid-19](#), [NCAP](#), [SAFAR](#).

For Mains: Air Pollution.

Why in News?

Recently, a research has been published in the journal Nature titled- **"Machine learning-based country-level annual air pollutants exploration using Sentinel-5P and Google Earth Engine"**, showing that, during 2018-2021, India witnessed the maximum levels of human-induced [Air Pollution](#).

What Methodology did the Researchers Use?

- Researchers carried out machine learning-based country-level annual air pollution monitoring using **Sentinel-5P satellite and Google Earth Engine (GEE)**.
 - Sentinel-5P satellite is a European satellite tracking the levels of air pollutants around the world.
- While **Sentinel-5P monitored** the atmospheric air pollutants and chemical conditions (from 2018-21), the **cloud computing-based GEE platform was used to analyse** the two factors.

What are the Findings of the Study?

- **Air Quality Index:**
 - The years 2020 and 2021 saw drastic changes in [Air Quality Index \(AQI\)](#), whereas 2018 and 2019 saw **low AQI throughout** the year.
 - AQI has been developed for eight pollutants viz. **PM2.5, PM10, Ammonia, Lead, nitrogen oxides, sulphur dioxide, ozone, and carbon monoxide.**
 - Delhi, Kolkata, Mumbai, Pune and Chennai recorded **huge fluctuations in terms of air pollution during the study period.**
 - High levels of nitrogen dioxide were observed in seven AQI monitoring stations of Kolkata: **102 in 2018, 48 in 2019, 26 in 2020 and 98 in 2021.**
 - Delhi also recorded high NO2 variations; 99 in 2018, 49 in 2019, 37 in 2020), and 107 in 2021.
- **Causes:**
 - This period, traversing the three phases of the [Covid-19 Pandemic](#) (pre, during and post), saw a surge in air pollution owing to the **development of transportation, industrial power plants, green space dynamics** and unplanned urbanization in the country.
 - Anthropogenic actions are the **foremost reason for climatic conditions** and atmospheric changes, and India is the country **most affected by such activities.**
 - In terms of rural air pollution, agricultural waste burning is also the main reason.
- **Implications:**
 - Anthropogenic activities in India are **causing an increase in health problems** and pollution-related diseases such as [Asthma](#), [Respiratory disease](#), [Lung cancer](#), and **skin-related** diseases. The main pollutants of concern are NO2, carbon monoxide, ozone, sulphur dioxide, and methane.
 - Air pollution and extreme weather conditions are interconnected. Air pollutants like [Methane](#), [Ozone](#), and aerosols affect sunlight.
 - The discharge of high voltage electricity has transformed oxygen into ozone, leading to **depletion of the ozone layer and increased penetration of ultraviolet rays.**
- **Recommendations:**
 - Awareness and planning are much needed for protecting the environment.
 - Proper planning, management and development strategies **can help protect the environment.**

What are the Government Initiatives to Combat Air Pollution?

- [Graded Response Action Plan \(Delhi\)](#)
- [Polluter Pay principle](#)
- [Smog Tower](#)
- [Tallest Air Purifier](#)
- [National Clean Air Programme \(NCAP\)](#)
- [BS-VI vehicles](#)
- [New Commission for Air Quality Management](#)
- [Turbo Happy Seeder \(THS\)](#)
- [Air Quality and Weather Forecasting and Research \(SAFAR\)](#)
- [Dashboard for Monitoring Air Quality](#)
- [National Air Quality Index \(AQI\)](#)
- [Air \(Prevention and Control of Pollution\) Act, 1981](#)
- [Pradhan Mantri Ujjwala Yojana \(PMUY\)](#)

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. In the cities of our country, which among the following atmospheric gases are normally considered in calculating the value of Air Quality Index? (2016)

1. Carbon dioxide
2. Carbon monoxide
3. Nitrogen dioxide
4. Sulfur dioxide
5. Methane

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only
(b) 2, 3 and 4 only
(c) 1, 4 and 5 only
(d) 1, 2, 3, 4 and 5

Ans: (b)

Mains

Q. Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by the World Health Organisation (WHO). How are these different from its last update in 2005? What changes in India's National Clean Air Programme are required to achieve revised standards? **(2021)**

Source: DTE

Dotted Lands

For Prelims: Dotted lands, [SVAMITVA](#), [PARIVESH](#), [Bhumi Samvaad](#)

For Mains: Issues related to land ownership disputes and the concept of dotted lands, significance of Digitization of land records

Why in News?

Recently, the **Andhra Pradesh government** has initiated a significant step to **release "dotted lands"** from the prohibited list, allowing farmers to exercise their full rights over these disputed lands.

- This move aims to **resolve ownership disputes** and provide **clear land ownership** documents to eligible farmers.

What are Dotted Lands?

- **About:**
 - Dotted lands are **disputed lands for which there are no clear ownership documents.**
 - Typically, one or more individuals as well as the government's Revenue Department lay claim over the land.
 - These lands came to be known as "dotted lands" because when, during the **British era**, land ownership surveys and resettlement of land records were taken up, local revenue

officials who were tasked with identifying government-owned and privately-owned lands **put dots in the ownership column if more than one person claimed ownership, or if ownership could not be clearly established.**

▪ **Causes of Ownership Disputes:**

- Ownership disputes often arise when **landowners fail to establish clear inheritance** through wills or when **multiple heirs claim the same land.**
- In some cases, the government identifies land as **state-owned** but finds it occupied by private parties.

▪ **Government's Initiative to Resolve Dotted Lands Issue:**

- The Andhra Pradesh government introduced a Bill to grant land titles to **farmers cultivating dotted lands for over 12 years.**
 - Removal of dots and entries from land registers will provide clear land ownership documents to approximately 97,000 farmers.
- Landowners/farmers can utilize the lands as **collateral for obtaining loans**, in **urban areas, dotted lands have been illegally sold** and houses have been constructed, which cannot be taxed. **apply for financial assistance for crop support, sell the lands, or gift them to family members.**
- Through **“Jagananna Saswatha Bhu Hakku Bhu Raksha Scheme”** of Andhra Pradesh Government, **digital records of this land will be prepared** so that **no one can tamper with the records in the future.**
 - Under this **Scheme, Andhra Pradesh government** has provided 7,92,238 permanent title deeds to farmers in 2,000 villages in the first phase.

▪ **Rationale behind the Government's Action:**

- The Chief Commissioner of Land Ceiling **received over 1 lakh applications to resolve dotted land disputes**, indicating the pressing need for a resolution.
- Urban areas faced issues related to illegal sale and construction on dotted lands, **leading to tax evasion and revenue loss for the government.**
- The registration value of the 2,06,171 acres exceeds Rs 8,000 crore, while the land value surpasses Rs 20,000 crore.

What are India's Initiatives for Digital Land Records to Reduce Land Disputes?

▪ **SVAMITVA:**

- **SVAMITVA** is a Central Sector Scheme of the **Ministry of Panchayati Raj** for **mapping the land parcels in rural inhabited areas** using **drone technology** and **Continuously Operating Reference Station (CORS).**
- The mapping will be done across the country in a phase-wise manner over a period of four years - from 2020 to 2024.

▪ **PARIVESH Portal:**

- **PARIVESH** is a web-based application which has been developed for **online submission and monitoring** of the proposals submitted by the proponents for seeking **Environment, Forest, Wildlife and Coastal Regulation Zones (CRZ)** Clearances from Central, State and district level authorities.

▪ **Bhumi Samvaad:**

- **Bhumi Samvaad** is a **National Workshop on Digital India Land Record Modernisation Programme (DILRMP).**
- It attempts to build upon the commonalities that exist in the arena of land records in various States to develop an appropriate **Integrated Land Information Management System (ILIMS)** across the country, on which different States can also add State-specific needs as they may deem relevant and appropriate.

▪ **National Generic Document Registration System:**

- It is a major shift from the existing manual registration system to online registration of all transactions in sale-purchase and transfer of land.
- It is a big step towards National Integration and a leap towards 'One Nation One Software'.

▪ **Unique Land Parcel Identification Number:**

- Being described as “the **Aadhaar** for land”, **Unique Land Parcel Identification Number** is a number that would uniquely identify every surveyed parcel of land and prevent land fraud, especially in the hinterlands of rural India, where land records are outdated and often disputed.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. With reference to land reforms in independent India, which one of the following statements is correct? (2019)

- (a) The ceiling laws were aimed at family holdings and not individual holdings.
- (b) The major aim of land reforms was providing agricultural land to all the landless.
- (c) It resulted in cultivation of cash crops as a predominant form of cultivation.
- (d) Land reforms permitted no exemptions to the ceiling limits.

Ans: (b)

Mains:

Q. Discuss the role of land reforms in agricultural development Identify the factors that were responsible for the success of land reforms in India. (2016)

[Source: IE](#)

RBI Surplus Transfer

Why in News?

The [Reserve Bank of India \(RBI\)](#) has approved a significant [transfer of surplus funds](#) to the Union Government, providing a major boost to the fiscal position.

- The surplus transfer for the accounting year **2022-23 amounts to Rs 87,416 crore, a 188% increase compared to the previous year.**

REVENUE BOOST

RBI's surplus transfer to govt in past years

Amt (₹ cr)



What Factors Contributed and Implications to the Surge in Surplus Transfer?

▪ Factors Contributed:

- **Higher dividends** from public sector banks and oil marketing companies.
- Increased earnings on investments, **valuation changes on dollar holdings**, **revaluation of forex assets** and adjustments in reserves as per the **Bimal Jalan Committee** recommendations and currency printing fees.
- **Rupee depreciation** against the dollar impacting the surplus transfer.
- Higher rates on the surplus distribution framework contributing to increased payouts.
- Higher earnings on the sale of foreign exchange and investments in US treasuries.

▪ Implications due to Surplus Transfer:

- **Fiscal relief for the government**, particularly in managing fiscal numbers amid uncertainties in the divestment program.
- Helps **compensate for potential shortfalls in tax buoyancy** and other revenue sources.
 - When a tax is buoyant, its revenue increases without increasing the tax rate.
- Provides a **fiscal buffer to support the budget targets**.

▪ Surplus Transfer Impact on Disinvestment program:

- Assists in offsetting potential losses due to lower **disinvestment**, telecom pay-outs, or tax revenues.
- Enhances the government's ability to manage **fiscal deficits** with relative ease.

▪ Implications for Liquidity and Monetary Policy:

- **Frictional liquidity is expected to ease** in the near term due to dividend inflows and seasonal moderation in currency demand.
- **Tight liquidity conditions may persist in the future**, requiring the RBI to conduct open market operations worth Rs 1.5 lakh crore in the second half of FY24.

How does RBI Generate Surplus?

▪ **RBI's Income:**

- Interest on holdings of domestic and foreign securities.
- Fees and commissions from its services.
- Profits from foreign exchange transactions.
- Returns from subsidiaries and associates.

▪ **Expenditure of RBI:**

- Printing of currency notes.
- Payment of interest on deposits and borrowings.
- Salaries and pensions of staff.
- Operational expenses of offices and branches.
- Provisions for contingencies and depreciation.

▪ **Surplus:**

- The difference between RBI's income and expenditure is Surplus.
- **RBI transfers the surplus to the government** after making provisions for reserves and retained earnings.
- RBI transfers the surplus, in accordance with **Section 47** (Allocation of Surplus Profits) of the **Reserve Bank of India Act, 1934**.
 - A technical Committee of the RBI Board headed by Y H Malegam (2013), which reviewed the adequacy of reserves and surplus distribution policy, recommended a higher transfer to the government.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q1. If the RBI decides to adopt an expansionist monetary policy, which of the following would it not do (2020)

1. Cut and optimize the Statutory Liquidity Ratio
2. Increase the Marginal Standing Facility Rate
3. Cut the Bank Rate and Repo Rate

Select the correct answer using the code given below:

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

Ans: (b)

Q2. With reference to Indian economy, consider the following: (2015)

1. Bank rate
2. Open market operations
3. Public debt
4. Public revenue

Which of the above is/are component/ components of Monetary Policy?

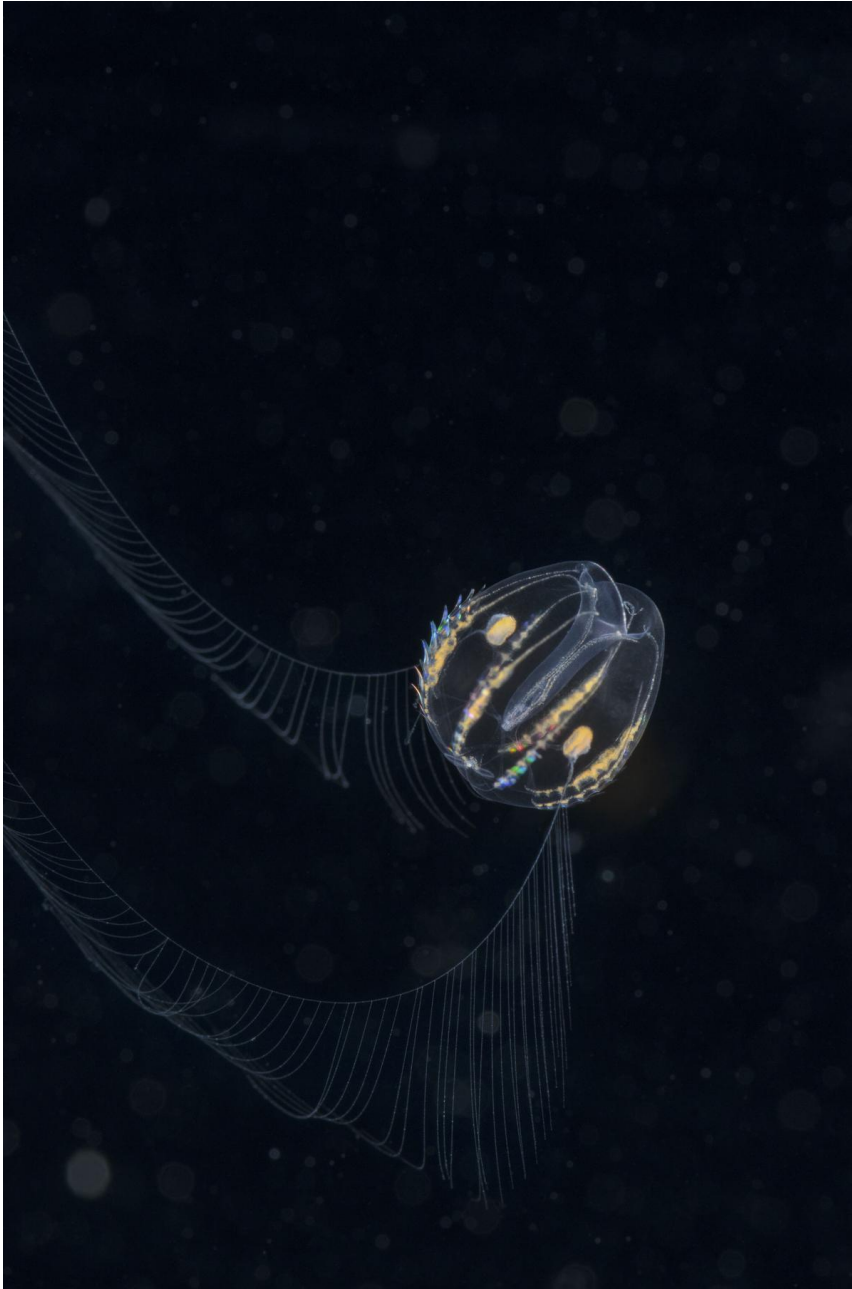
- (a) 1 only
(b) 2, 3 and 4
(c) 1 and 2
(d) 1, 3 and 4

Ans: (c)

Mysterious Nervous System of Comb Jellies

Why in News?

Comb jellies, or ctenophores, are **ancient [marine animals](#)** with unique features that have **sparked scientific curiosity**. Recent research has discovered a **surprising aspect of the comb jelly's [nervous system](#)**.



What are Comb Jellies?

- **Comb jellies** are marine animals that have fascinated scientists for decades due to their unique features and evolutionary history.

- They are among the **earliest branching extant lineages of the animal kingdom** and have **a complex nervous system that differs from other animals.**
- **They are transparent, gelatinous animals** that use **long ciliary comb** plates to **propel their body through the water column.**
 - They range in size from a few millimetres to over a metre in length and have diverse shapes and colours. **Some of them can produce [bioluminescence](#), a phenomenon where living organisms emit light.**
- They belong to the **phylum Ctenophora**, which contains about **200 species.** They are found in **all oceans and habitats, from polar to tropical regions**, from shallow coastal waters to deep-sea trenches.
 - They **feed on [plankton](#), small fish and other [invertebrates](#)**, using sticky tentacles or oral lobes to capture their prey.
 - **Invertebrates are animals that do not possess a backbone** or vertebral column.

How does the Comb Jelly Nervous System Work?

- Unlike most animals, comb jellies **do not have a brain.** Instead, they have a **nerve net that consists of interconnected neurons distributed throughout their body.**
 - The nerve net controls various functions such as **locomotion, feeding, sensory perception and bioluminescence.**
- The neurons in the nerve net are **not connected by synaptic junctions**, as would be expected in the nervous system of any other animal.
 - Instead, **they are fused and share a continuous membrane, forming what scientists call a syncytium.** This means that **there are no gaps between nerve cells and that electrical signals** can flow freely along the network.
- However, **not all [neurons](#) in the comb jelly nervous system are fused.** Some of them still connect with other nerve cells through synapses.
 - This suggests that **comb jellies use two different modes of communication between their nerve cells: a synaptic mode and a syncytial mode (i.e., without any synapses).**

Note: Synapses are the **places where neurons connect and communicate with each other.** Each neuron has anywhere between a **few to hundreds of thousands of synaptic connections**, and these connections can be with itself, neighbouring neurons, or neurons in other regions of the brain.

- The **discovery of syncytia** in comb jellies has **profound implications for understanding the evolution of nervous systems and neurons.**
 - It challenges the **traditional view that synapses are essential for neural communication** and that they evolved only once in the common ancestor of all animals.

[Source: TH](#)

Rapid Fire Current Affairs

Meta's EU Privacy Case: Fine and Data Transfer Restrictions

Meta, the parent company of Facebook and Instagram, has been hit with a record-breaking fine of 1.3 billion USD by the **European Union (EU)** for violating its privacy law. The fine, imposed by the **Irish Data Protection Commission (DPC)**, comes after two lengthy investigations that **began in 2018.** The DPC found that **Meta had breached the [General Data Protection Regulation \(GDPR\)](#)**, the EU's flagship

privacy law that **grants users greater control over their personal data**. Additionally, Meta has been **ordered to cease using standard contractual clauses (SCCs) to transfer data from the EU to the U.S.** SCCs are **contracts that ensure companies adhere to EU privacy standards** when transferring data across borders.

Meta has been instructed to **either delete or relocate the data of European Facebook users** that have been transferred and stored in the U.S. since 2020 by November 2023. This decision could potentially **disrupt Meta's services in Europe and impact millions of users**.

Read more: [Digital Personal Data Protection Bill 2022](#)

INS Sindhuratna

The **Kilo-class submarine INS Sindhuratna** has successfully reached Mumbai, India, after undergoing a significant upgrade in Russia. INS Sindhuratna, a **diesel-electric submarine** belonging to the **Sindhughosh-class**, has a rich history and has served the Indian Navy for over three decades. Commissioned in 1988, it has undergone several upgrades and refits to extend its operational life and capabilities. Notably, in 2010, it was equipped with the **Klub-S cruise missile system**, enhancing its striking range. In 2018, it underwent a comprehensive **Medium Refit Life Certification (MRLC) process in Russia**, involving the replacement of crucial systems.

INS Sindhuratna plays a significant role in enhancing the force level and **operational readiness of the Western Naval Command**. With its modernized weapon and sensor suite, the submarine strengthens India's maritime capabilities and contributes to safeguarding the nation's interests and security in the **Indian Ocean Region**.

The Kilo-class submarines **have a displacement of 2,300 tonnes, a maximum diving depth of 300 metres** and a top speed of 18 knots.

The **Navy** has 16 conventional submarines in service. These are seven Russian Kilo-class submarines, four German-origin HDW submarines and five French Scorpene-class submarines.

Read more: [INS Sindhukesari in Indonesia](#)

INSV Tarini Crew Returns Home After Historic Voyage

A **17000-nm long trans-ocean inter-continental voyage** by the crew of **INSV Tarini** is reaching its completion, marking a remarkable achievement in the field of ocean sailing. A grand **'Flag in' ceremony will be held on 23 May 2023** at the **Indian Naval Watermanship Training Centre (INWTC), INS Mandovi, Goa**, to honour the **six-member crew, including two exceptional women officers**.

The **Navika Sagar Parikrama**, a previous **sailing expedition by six women naval officers**, further **increased the popularity of ocean sailing** within the navy and the country. The current voyage of INSV Tarini is a significant step towards the **Navy's upcoming endeavour to send a woman on a solo circumnavigation of the globe**.

INSV Tarini is the second sailboat of the Indian Navy that was constructed at **Aquarius Shipyard in Goa**. She was **commissioned to Indian Navy service on 18 February 2017 and named after the Tara Tarini Temple in Odisha**, which was the patron deity for sailors and merchants of ancient Odisha.

Read More: [Tara Tarini Temple in Odisha](#)

Drying Trend in Major Lakes of India Raises Concerns

New research reveals a **concerning trend of more than 30 large lakes in India** experiencing a **drying trend from 1992 to 2020**. Among these lakes, **16 are major lakes located in southern India**, including **Mettur** (Tamil Nadu), **Krishnarajasagar** (Karnataka), **Nagarjuna Sagar** (between Guntur district of Andhra Pradesh state and Nalgonda district of Telangana state), and

Idamalayar(Kerela). It suggests that **recent droughts may have contributed to the decline in reservoir storage in southern India.**

Lakes, covering **3% of the global land area, play a crucial role in regulating climate through carbon cycling.** Despite their importance, lakes are often not well managed and **receive less attention compared to rivers,** which have a higher profile.

Satellite observations have recorded a **loss of 90,000 square kilometers of permanent water area globally,** but the factors driving these losses remain unclear.

A recent study reveals that **53% of the world's largest lakes have been losing water, while 24% have experienced an increase.** Approximately **33% of the global population resides in a basin with a large, dry lake.** A more **pronounced drying trend is observed in Arctic lakes and suggests that climate change, along with human [water consumption](#), plays a significant role in driving these changes.**

Understanding the drivers of lake decline, such as **temperature, precipitation, runoff, and human consumption,** is crucial for effective **lake management and recognizing their importance in sustaining societies** and water supplies worldwide.

Read More: [Lakes in India](#)

PDF Refernece URL: <https://www.drishtias.com/current-affairs-news-analysis-editorials/news-analysis/23-05-2023/print>