



28 February, 2024

Rajya Sabha Polls

Context: The Rajya Sabha elections in Uttar Pradesh and Himachal Pradesh were held.

➤ Introduction to Rajya Sabha:

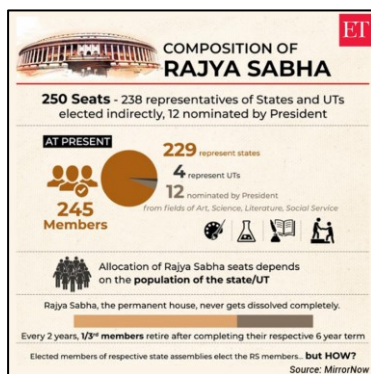
- The Constituent Assembly of India recognized the need for a second chamber, known as the 'Council of States', to complement the directly elected House of the People.
- This chamber, the Rajya Sabha, was envisaged as a federal chamber representing the states and union territories, with a different composition and method of election.

➤ Composition of Rajya Sabha:

- As per Article 80 of the Constitution, the maximum strength of the Rajya Sabha is 250, including 12 members nominated by the President and 238 representatives of states and union territories.
- Currently, the Rajya Sabha consists of 245 members, with 233 representing states and union territories and 12 being nominated by the President.
- The nominated members are individuals with expertise in literature, science, art, and social service.

➤ Allocation of Seats:

- The Fourth Schedule of the Constitution outlines the allocation of seats to states and union territories in the Rajya Sabha based on population.
- The number of seats allotted to states and union territories has changed over time due to reorganization and the formation of new states since 1952.



➤ Representation by States:

- States like Uttar Pradesh, Maharashtra, and Tamil Nadu have significant representation with 31, 19, and 18 seats respectively.
- Smaller states like Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura have one seat each.
- Additionally, there are three representatives from the National Capital Territory of Delhi and one from Puducherry.
- Twelve members are nominated by the President, adding to the diversity of expertise in the Rajya Sabha.

➤ Election Process to Rajya Sabha:

- **Indirect Election:** Unlike Lok Sabha members who are elected directly by voters, Rajya Sabha members are indirectly elected by the elected Members of a state's Legislative Assembly (MLAs).
- **Representation based on Population:** The number of Rajya Sabha members a state can send depends on its population, ensuring proportional representation.

- **Proportional Representation with Single Transferable Vote (STV) System:** MLAs vote in the Rajya Sabha elections using the STV system, where each MLA's vote is counted only once.
- **Order of Preference:** MLAs rank the candidates in order of preference by marking numbers against their names on the ballot paper.
- **Transparency Measures:** While the ballot is open, MLAs must show their ballots to an authorized agent from their party to prevent malpractices. Independent MLAs cannot show their ballot to anyone.
- **Election Criteria:** If a candidate receives the required number of first-preference votes, they are elected. The remaining votes are transferred to other candidates based on the preferences.
- **Quota or Preference Vote:** A candidate needs to secure a specific number of first-preference votes to win, known as the quota or preference vote. The formula for calculating this quota depends on the strength of the state Assembly and the number of Rajya Sabha seats.
- **Calculation for Multiple Seats:** In case more than one seat needs to be filled, the formula for the total number of votes required for a candidate is adjusted accordingly.

Green Credit Rules 2023

Context: Experts have highlighted that the newly released Green Credit Rules could have adverse effects on the ecological aspects of forests, labeling them as "disastrous" and "detrimental".

➤ Background:

- India's commitment to reduce carbon emissions intensity by 45% aligns with global goals like the Paris Agreement.
- The nation targets net-zero emissions by 2070 and emphasizes eco-friendly practices, including the LIFE campaign.

➤ Introduction of Green Credit Programme (GCP):

- The GCP, initiated in October by the MoEFCC, establishes a market-based incentive system to promote environment-positive actions.
- It incentivizes individuals, organizations, and industries to undertake diverse environmental measures beyond carbon emissions reduction.

➤ Objectives of Green Credit Rules 2023:

- Launch a national-level Green Credit (GC) programme to incentivize voluntary environmental actions.
- Complement the proposed Carbon Credit Trading Scheme (CCTS) introduced by the Energy Conservation (Amendment) Act, 2022.
- Promote industries to purchase green credits to meet obligations under existing laws.
- Key objectives include incentivizing environmentally positive actions, promoting sustainability, and increasing green cover.

➤ Framework of Green Credit Rules 2023:

- The framework aims to improve sustainable practices accessible to all, akin to a stock exchange for trading credits earned from verified environmental contributions.
- Individuals and businesses can participate by registering green initiatives, creating a market for sustainability.

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➤ **Eligibility Criteria for Green Credit:**

- The programme is inclusive, allowing participation from individuals, communities, businesses, and industries.
- Activities eligible for Green Credits include tree plantation, water management, sustainable agriculture, waste management, air pollution reduction, mangrove conservation, eco-mark labelling, and sustainable building.

➤ **Benefits and Challenges:**

- Participants are rewarded for eco-conscious efforts, contributing to a greener future.
- Challenges include potential conflicts with the CCTS and addressing registration and verification issues.
- Awareness campaigns are necessary to mitigate challenges and ensure equitable market participation.

➤ **Green Credit Programme Overview:**

- The Ministry of Environment, Forest and Climate Change launched the Green Credit Programme (GCP) in 2023 to advance the 'LiFE' - 'Lifestyle for Environment' movement initiated by the Prime Minister.
- GCP aims to incentivize voluntary environmental actions across various sectors through a market-based mechanism involving individuals, communities, private sector industries, and companies.
- **Governance Framework:**
 - The GCP's governance is supported by an inter-ministerial Steering Committee.
 - The Indian Council of Forestry Research and Education (ICFRE) acts as the GCP Administrator, overseeing program implementation, management, monitoring, and operation.

S.No.	Sector	Objectives/Activity
1.	Tree Plantation-based GC	Increase of green cover through tree plantation and related efforts.
2.	Water-based GC	Water conservation, harvesting, efficiency, and wastewater treatment and reuse.
3.	Sustainable Agriculture based GC	Natural and regenerative agricultural practices, and land restoration.
4.	Waste Management based GC	Sustainable and improved waste management practices.
5.	Air Pollution Reduction based GC	Reduction of air pollution and other pollution abatement activities.
6.	Mangrove Conservation and Restoration based GC	Conservation and restoration of mangroves.
7.	Ecomark based GC	Encouragement to manufacturers to obtain the Ecomark label for their goods and services.
8.	Sustainable building and infrastructure based GC	Construction of sustainable buildings and infrastructure using eco-friendly technologies and materials.

• **Initial Focus Areas:**

- Initially, the GCP prioritizes two key activities: water conservation and afforestation.
- Draft methodologies for awarding Green Credits have been developed and will undergo stakeholder consultation.

• **Green Credit Registry and Trading Platform:**

- ICFRE, in collaboration with experts, is developing the Green Credit Registry and trading platform.
- This platform will facilitate the registration, buying, and selling of Green Credits, enhancing transparency and efficiency in credit transactions.

Stratospheric Aerosol Intervention (SAI)

Context: A recent study by the European Geosciences Union projected future water storage changes in the Mediterranean, Middle East, and North Africa in response to global warming and a climate intervention method.

➤ **Purpose and Method:**

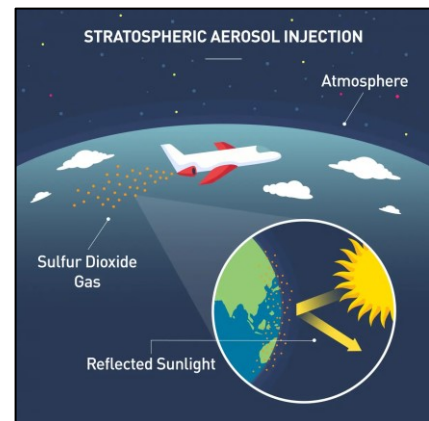
- Stratospheric aerosol injection is proposed as a method of solar geoengineering to mitigate global warming.
- It involves introducing aerosols into the stratosphere to induce a cooling effect, akin to the natural cooling effect observed after volcanic eruptions.
- The aim is to increase the planet's albedo and achieve global dimming, ultimately reducing temperatures.

➤ **Benefits and Considerations:**

- Stratospheric aerosol injection, if implemented at a moderate intensity, has the potential to counteract most changes in temperature and precipitation.
- It can take effect rapidly, has relatively low direct implementation costs, and is reversible in its direct climatic effects.
- The method is considered the most-researched solar geoengineering method and has high agreement among experts that it could limit global warming to below 1.5 °C (2.7 °F).

➤ **Scientific Basis:**

- Various forms of sulphur and other materials are under consideration for injection into the stratosphere.



- Sulphate aerosols, formed from sulphur compounds reacting with water vapor, are well-studied for their cooling effects after volcanic eruptions.
- However, there is limited research on existing natural aerosols in the stratosphere, posing challenges in material selection.

➤ **Delivery Methods:**

- Custom aircraft are proposed as the leading method of delivering aerosols into the stratosphere.
- Other potential delivery methods include high-altitude balloons and modified artillery, although custom aircraft are considered the most feasible option.

➤ **Impact on Atmospheric Chemistry:**

- Sulphur compounds react to form sulphate aerosols, which can significantly impact atmospheric composition and dynamics.

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- Reductions in atmospheric sulphur emissions due to pollution controls have led to changes in sunlight reaching the Earth's surface, highlighting the interconnected nature of aerosol chemistry and climate.
- **Welsbach Seeding:**
 - Welsbach seeding is a patented climate engineering method that involves seeding the stratosphere with small metal oxide particles (e.g., thorium dioxide, aluminium oxide) to reduce atmospheric warming caused by the greenhouse effect.
 - The purpose is to convert radiative energy at near-infrared wavelengths into radiation at far-infrared wavelengths, allowing some of the converted radiation to escape into space, thereby cooling the atmosphere.
 - Patented by Hughes Aircraft Company in 1991 (US patent 5003186), the method aims to address concerns about global warming by manipulating atmospheric composition.
 - The patent describes the seeding process to be performed by airplanes at altitudes between 7 and 13 kilometers.

NEWS IN BETWEEN THE LINES

National Science Day



National Science Day is celebrated in India on February 28 every year to mark the discovery of the Raman Effect by Indian scientist and physician Chandrasekhara Venkata Raman.

About National Science Day:

- National Science Day aims to raise awareness about how science affects daily life and to showcase **Indian scientists' achievements**.
- The idea to observe February 28 as National Science Day was **proposed by the National Council for Science and Technology Communication (NCSTC) in 1986**, which was subsequently accepted by the Government of India.
- The first National Science Day was celebrated on **February 28, 1987**.
- The **theme** of 2024 National Science Day is **“Indigenous Technology for Viksit Bharat.”**

Raman Effect:

- Sir CV Raman's groundbreaking discovery in **1928** unveiled the phenomenon known as the Raman Effect.
- The Raman Effect is a physical phenomenon that occurs when **light interacts with matter and changes wavelength**.
- It involves the **scattering of light by molecules of gases, liquids or solids**.
- This Effect is caused by a change in the wavelength of light that occurs when a light beam is deflected by molecules.
- The Raman lines in the scattered light are weaker than the light at the original wavelength.
- This discovery not only earned Sir **CV Raman the Nobel Prize in Physics in 1930** but also laid the foundation for advancements in various scientific disciplines.

The United Nations Environment Assembly



Recently, the sixth assembly of the United Nations Environmental Programme (UNEA-6) commenced in Nairobi, Kenya with a call for multilateral actions to address the rising environmental crisis fuelled by climate change.

About the United Nations Environment Assembly:

- The governing body of the UNEP is called the United Nations Environment Assembly (UNEA) which is the **highest decision-making body on environmental matters** within the United Nations system.
- It was established in **2012** and convenes biennially, once every two years.
- Its aim is to **establish priorities for international environmental policies and develop global environmental law**.
- It emphasizes the importance of effective, inclusive and sustainable **multilateral actions** to combat environmental challenges.
- The theme of UNEA-6 is **“effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution”**.
- It comprises **193 member states**, representing all United Nations member countries.
- Over 7,000 delegates from **182 UN member states** and 170+ ministers enrolled for UNEA-6.

Madurai Meenakshi Amman Temple



Recently, the Prime Minister of India offered prayers at Madurai Meenakshi Amman Temple

About Madurai Meenakshi Amman Temple:

- The Madurai Meenakshi Amman Temple is a **historic Hindu temple** in Madurai, **Tamil Nadu on the southern bank of the Vaigai River**.
- The temple is dedicated to the **goddess Meenakshi**, the wife of Lord Shiva.
- The temple is an example of **Dravidian architecture**.
- The temple was built by **King Kulasekara Pandyan**, who was guided by teachings from Lord Shiva in a dream.

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Similipal Tiger Reserve



Recently, Odisha government has expressed concern over the significant number of pseudo-melanistic tigers in Similipal Tiger Reserve (STR) due to inbreeding and requested the National Tiger Conservation Authority (NTCA) to introduce female tigers from other regions for genetic diversification

About Similipal Tiger Reserve:

- Similipal National Park is a tiger reserve and national park in the Mayurbhanj district of **Odisha**.
- This Reserve boasts the **world's highest sightings of melanistic or black, tigers**, known for their exceptionally dark skin due to increased pigment levels.
- It was declared a 'Tiger Reserve' in the year **1956** and brought under the '**Project Tiger**' in **1973**.
- **Flora:** Similipal has 1078 plant species, including 94 types of orchids, with Sal trees being the most common.
- **Fauna:** The reserve has **leopards, gaurs, elephants, langurs, deer, bears, etc.**

Melanistic Tigers:

- Melanistic tigers are **also known as black tigers** and have a dark black or nearly black coat with faint or almost invisible stripes.
- Their stripes are still visible, albeit much darker than those of a normal tiger.
- They have a **genetic condition known as melanism**, where there is an excessive development of dark pigmentation (melanin) in the skin and fur.
- The **largest population of melanistic tigers is found in the Similipal National Park** in India.

Place in News

Peru

Recently, Peru has declared health emergency in most of its provinces due to a growing number of dengue cases that are occurring at a time of higher than usual temperatures caused by the El Nino weather pattern.

Peru (Capital: Lima)

Location: Peru, officially known as the Republic of Peru is a country located on the western coast of **South America**.

Boundaries: Peru shares its border with Ecuador and **Colombia** (North), **Brazil** (East), **Bolivia** (Southeast), **Chile** (south) and **Pacific Ocean** (South and West).

Physical Features:

- The highest point in Peru is **Huascaran**, which is also the highest peak in the country.
- **Lake Titicaca**, situated between Peru and Bolivia, is the largest lake in South America.
- Peru has a diverse economy with key sectors including **mining (copper, gold, zinc)**, agriculture (**quinoa, avocado, coffee**) and manufacturing.
- Peru's major rivers include the Amazon, **Ucayali, Marañon, Madre de Dios, Huallaga and Mantaro**, each contributing to the country's diverse ecosystems and hydrology.



POINTS TO PONDER

- Between which two countries is the 'DHARMA GUARDIAN' exercise conducted? - **India & Japan**
- In which state is the Attukal Pongala festival celebrated? - **Kerala**
- With which bank did the Bihar state government sign an agreement to promote the startup ecosystem? - **SIDBI**
- In which state has Solar Energy Corporation of India Limited (SECI) commissioned India's largest Battery Energy Storage System? - **Chhattisgarh**
- Which state recently established a special fund to save the Purple Frog in the Western Ghats? - **Tamil Nadu**

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