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NASA's TEMPO

NASA launches device TEMPO to monitor air pollution across North America from space.

- The Tropospheric Emissions: Monitoring of Pollution (TEMPO) instrument was launched by NASA in a Falcon 9 rocket.
- The instrument will measure pollution and air quality across greater North America on an hourly basis during the daytime.
- TEMPO will have multiple applications
 1. measuring levels of various pollutants
 2. providing air quality forecasts
 3. helping the development of emission-control strategies
- Existing pollution-monitoring satellites are in low Earth orbit (LEO), but TEMPO will be hosted in geostationary orbit.
- TEMPO will allow scientists to monitor air pollutants and their emission sources from space more comprehensively than before.
- A geostationary orbit is 36,000 kilometers above the equator, where the orbiting satellite will match the rotation of the Earth. (meaning it will stay over the same location)

TEMPO will be part of a constellation of instruments measuring air quality over the Northern Hemisphere which includes the European Space Agency's Sentinel-4 (under development) and South Korea's Geostationary Environment Monitoring Spectrometer.

References

1. [IE - NASA launches device to monitor air pollution from space](#)
2. [NASA - Tropospheric Emissions: Monitoring of Pollution](#)

Genome India Project

The Genome India Project is about two-thirds through and will complete sequencing 10,000 Indian genomes by year-end.

- The 'Genome India: Cataloguing the Genetic Variation in Indians' is an initiative to sequence 10,000 Indian human genomes and create a database.
- The Department of Biotechnology (DBT) initiated the ambitious '[Genome India Project](#)' (GIP) in 2020 for 3 years.
- **Fund** - GIP is a national project funded by Department of Biotechnology (DBT),

Government of India.

- The project involves about 20 national institutions across India.
- The analysis and coordination is done by of the Centre for Brain Research, Indian Institute of Science (IISc), Bangalore.
- **Aim** - The project aims to identify genetic variations through whole genome sequencing of 10,000 representative individuals across India in the first phase of the study.
- So far close to 7,000 genomes have been sequenced and 3,000 of these are already available for public access by researchers.

Benefits of creating a database of Indian genomes

- Researchers anywhere can learn about genetic variants that are unique to India's population groups.
- Unique Indian genome can be used to customise drugs and therapies.
- It will help to develop precision healthcare and diagnostics for major diseases at affordable costs.
- The whole genome sequencing can facilitate future human genetics research in the country with greater precision.
- **Similar Topics** - [Human Genome Project](#), [Earth BioGenome Project](#)

References

1. [The Hindu - 10,000 Indian genomes to be sequenced by year-end](#)
2. [Centre for Brain Research, IISc Bengaluru - Genome India](#)

Mera Gaon Meri Dharohar

Under Mera Gaon Meri Dharohar survey, map rural India's cultural assets covers over one lakh villages.

- The mapping was carried out under the 'Mera Gaon Meri Dharohar' (My Village My Heritage) programme of the **National Mission for Cultural Mapping** (NMCM).
- The NMCM was launched by the [Ministry of Culture in 2017](#).
- The NMCM aims to develop a comprehensive database of art forms, artists and other resources across the country.
- The programme was handed over to the Indira Gandhi National Centre for Arts (IGNCA) in 2021.
- The 'Mera Gaon Meri Dharohar' survey documents the cultural identity of the villages by involving citizens to share what makes their village, Block or district unique.
- The survey is conducted in partnership with the [Common Services Centres](#) (CSC).
- **Process** - A CSC [Village Level Entrepreneur](#) (VLE) conducts meetings with locals.
- LVE then uploads interesting facts, related photos and videos about their village on to a special application.
- The details covered under the programme will be made available on a [web portal](#).
- Villages have been broadly divided into 7-8 categories based on their ecological, developmental and scholastical importance in this mapping.

References

1. [The Hindu - Mission to map rural India's cultural assets](#)
2. [Cultural Map - Mera Gaon Meri Dharohar Survey](#)
3. [Mera Gaon Meri Dharohar](#)

Principle of Natural Justice

The Supreme Court has mentioned about the significance of Principle of natural justice in its recent [Mediaone case judgement](#)

- Natural justice is an expression of English common law, and involves a procedural requirement of fairness.
- The principles of natural justice are not embodied rules and are not codified.
- They are judge made rules and are regarded as counterpart of the American procedural due process.
- **Principles of Natural Justice**
 1. **Nemo judex in causa sua** - No one should be made a judge in his own cause and the rule against bias.
 2. **Audi alteram partem** - To hear the other party or no one should be condemned unheard
- The principles of natural justice were constitutionalized in 1978 ruling in "*Maneka Gandhi vs Union of India*".
- In *Ex- Armymen's Protection Services Pvt. Ltd. vs. Union of India & Ors.* (2014) and *Digi Cable Network (India) Pvt vs Union of India* (2019), the court held that national security concerns overweigh the duty of fairness.

Menaka Gandhi vs Union of India (1978)

- In Menaka Gandhi Case, the Supreme Court overruled its judgement in the Gopalan case by taking a wider interpretation of the Article 21.

Observations from the ruling

- Right to life and personal liberty of a person can be deprived by a law provided the procedure is reasonable, fair and just.
- It introduced the American concept of 'due process of law'.
- Right to life as embodied in Article 21 includes the right to live with human dignity.

References

1. [NIOS | Principles of Natural Justice](#)

Long Term Integrated Perspective Plan (LTIPP)

- It is a long-term capacity building plan for Indian Armed Forces.
- It covers a period of **15 years** from **2012-2027**.
- It identifies the shape and size of the armed forces over the designated time period.

- It was prepared by the Headquarters Integrated Defence Staff (HQIDS).

HQ IDS is responsible for various issues pertaining to defence policies of the Services including policy and planning of force structure of the three Services, budget analysis and acquisition.

- LTIPP is further split into three 5-year Service Capital Acquisition Plans (SCAP) to achieve immediate requirements.
- SCAPs are further divided into 2-year roll-on Annual Acquisition Plans (AAP).
- The LTIPP and SCAP are approved by the Defence Acquisition Council (DAC) and AAP is approved by the Defence Procurement Board (DPB).

Defence Acquisition Council (DAC) is the highest decision-making body of the defence procurement headed by the Union Defence Minister.

Defence Procurement Board (DPB) is chaired by the Union Defence Secretary.

References

1. [Ministry of Defence | Technology Perspective & Capability Roadmap](#)
2. [Integrated Defence Staff | Defence Acquisition](#)

