My Notes....

NATIONAL

INDIA'S ENVIRONMENT REPORT 2022

India has **slipped three spots** from last year's **117 to rank 120** on the **17 Sustainable Development Goals** adopted as a part of the 2030 agenda by 192 United Nations member states in 2015, a new report said. India's overall Sustainable Development Goals (SDG) score was 66 out of 100. According to the **Centre for Science and Environment's State of India's Environment Report, 2022**, released by Union Environment Minister Bhupender Yadav on 1 March 2022.

According to the report

1. **India is now behind all south Asian nations** except Pakistan, which stands at 129.

2. The south Asian countries ahead of India are **Bhutan ranked 75**, **Sri Lanka 87**, **Nepal 96** and **Bangladesh 109**.

3. India's rank dropped primarily because of major challenges in **11 SDGs** including **zero hunger**, **good health and wellbeing**, **gender equality** and **sustainable cities and communities**.

4. India also performed **poorly in dealing with quality education** and life on land aspects.

5. **The previous year**, India had suffered on the **fronts of ending hunger** and achieving **food security**, **achieving gender equality** and building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation.

Flashback

1. The **2030 Agenda for Sustainable Development**, was adopted by all United Nations Member States in 2015, which provides a **shared blueprint for peace and prosperity for people** and the planet.

2. There are **17 Sustainable Development Goals** which are an urgent call for action by all countries in a global partnership.

3. Some of these goals are **no poverty**, **zero hunger**, **good health and wellbeing**, **quality education**, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure.

4. It also includes, **reduced inequalities**, **sustainable cities and communities**, **responsible consumption and production**, climate action, life below water, life on land, peace, justice and strong institutions and lastly strengthening global partnerships for the goals.
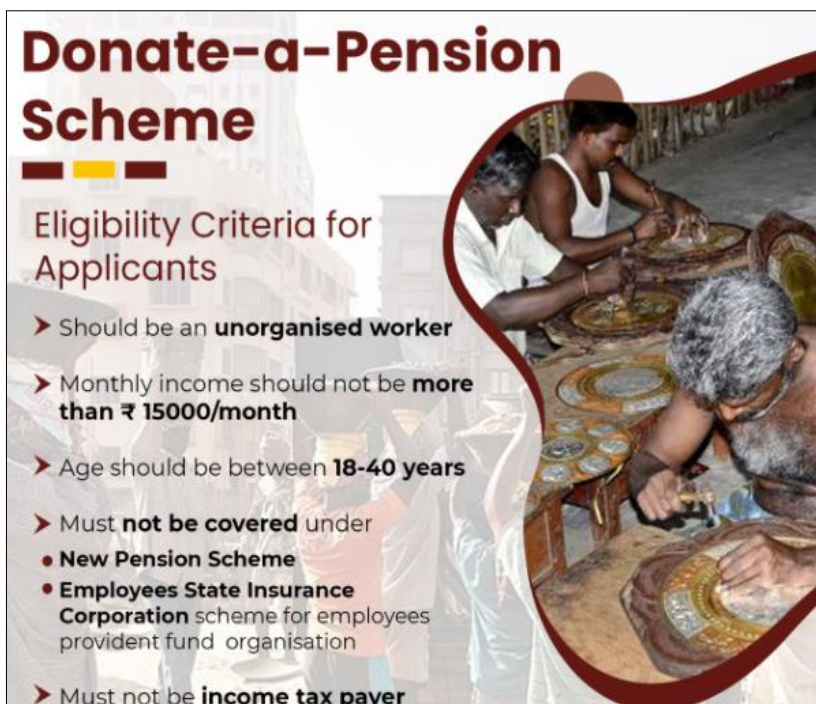
Among State and Union Territories

1. The report said **Jharkhand and Bihar are the least prepared** to meet the SDGs by the target year 2030.

2. **Kerala ranked first**, followed by **Tamil Nadu and Himachal Pradesh** in the second position. The **third position** was shared by **Goa, Karnataka, Andhra Pradesh and Uttarakhand**.

3. Among the Union Territories**, Chandigarh was ranked first**, followed by **Delhi**, **Lakshadweep** and **Puducherry** in the second place and the Andaman and Nicobar Islands on the third.

'DONATE-A-PENSION' INITIATIVE LAUNCHED

Union Labour and Employment Minister Bhupender Yadav launched the '**Donate-a-Pension**' program under **Pradhan Mantri Shram** on 7 March 2022. This move is to make the process of creating and **contributing to a pension fund** for support staff easier.

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What

1. It is an **initiative under (PM-SYM) pension scheme** where **citizens can donate the premium contribution of their immediate support staff** such as domestic workers, drivers, helpers etc.

2. The **Pradhan Mantri Shram Yogi Maandhan (PM-SYM)** is a **50:50 voluntary** and contributory pension scheme in which the beneficiary makes a stipulated **age-specific contribution** and the Central Government matches it.

Donate-a-Pension Scheme

Eligibility Criteria for Applicants

➤ Should be an **unorganised worker**

➤ Monthly income should not be **more than ₹ 15000/month**

➤ Age should be between **18-40 years**

➤ Must **not be covered** under
  ● **New Pension Scheme**
  ● **Employees State Insurance Corporation** scheme for employees provident fund organisation

➤ Must not be **income tax payer**

3. For example, if a person joins the system at the age of 29, he must give **Rs 100 per month until he reaches the age of 60**, at which point the Central Government would contribute an **equal amount of Rs 100.** The subscriber will get the assured monthly pension of **Rs.3000/- with benefit of family pension**, as the case may be.

4. The **PM-SYM** will be implemented by **Life Insurance Corporation of India** and **CSC eGovernance Services India Limited (CSC SPV)**.

5. The Pension Fund Manager will be LIC, and they will be in charge of paying out the pensions. The money collected under the PM-SYM pension system would be invested according to the **Government of India's investment pattern**.

WHO GCTM FOR TRADITIONAL MEDICINE APPROVED

The **Government of India** on 9 March 2022 announced that the Union Cabinet chaired has approved the establishment of a **WHO Global Centre for Traditional Medicine (WHO GCTM)** in Jamnagar, Gujarat. This would be the **first and only global outposted Centre (office)** for traditional medicine across the globe.

What

1. This deal was done between the **Government of India** and the **World Health Organization (WHO)** by signing a **Host Country agreement**.

2. The **WHO GCTM** will be established **under the Ministry of Ayush** in India; the upcoming WHO- GCTM and various other initiatives in collaboration with WHO will aid India in positioning **traditional medicine across the globe**.

3. **The Ministry of AYUSH** has collaborated with WHO on many fronts including developing benchmarks documents on training and **practice of Ayurveda and Unani System**, introducing a second module in the Traditional Medicine Chapter of the **International classification of Diseases-11**, developing apps like **M-yoga**, supporting the work of **International Pharmacopeia of Herbal Medicine (IPHM)** and other research studies etc.

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4. **Traditional medicine** is a **key pillar of health care delivery systems** and plays a crucial role in maintaining good health and well-being.

5. **Safe and effective traditional medicine** will play a significant role in ensuring all people have access to quality essential health care services and safe, effective and affordable essential medicines as the world approach the **ten-year milestone for Sustainable Development Goals in 2030**.

> **Benefits of WHO GCTM**
>
> 1. **To position AYUSH systems across the globe**
> 2. To provide **leadership on global health matters** pertaining to traditional medicine.
> 3. To ensure quality, safety and efficacy, accessibility and rational use of traditional medicine.
> 4. To develop norms, standards, and guidelines in relevant technical areas, tools and methodologies, for collecting data undertaking analytics, and assess impact. Envisage **WHO TM Informatics centre** creating a collaborative of **existing TM Data banks**, virtual libraries, and academic and research institutes.
> 5. **To develop specific capacity building and training programmes** in the areas of relevance to the objectives and conduct training programmes in campus, residential, or web-based, and through partnerships with the WHO Academy and other strategic partners.

6. The WHO-GCTM will identify various challenges faced by the countries in regulating, integrating and further **positioning Traditional Medicine** in respective countries.

NINTH STATE TO WITHDRAW CONSENT TO CBI

Meghalaya has **withdrawn consent to the CBI**, becoming the **ninth state** to do so in the past few years. **Barring Mizoram**, all other states that have withdrawn consent to the CBI are ruled by Opposition parties. Earlier, besides Mizoram, **Maharashtra**, **Punjab**, **Rajasthan**, West Bengal, Jharkhand, Chhattisgarh and Kerala had withdrawn consent to the central probe agency.

What is general consent?

1. The **CBI** is governed by **The Delhi Special Police Establishment (DSPE) Act, 1946**, and it must mandatorily obtain the consent of the state government concerned before beginning to investigate a crime in a state.

2. **Section 6 of The DSPE Act** says: "Nothing contained in section 5 (titled "Extension of powers and jurisdiction of special police establishment to other areas") shall be deemed to enable any member of the Delhi Special Police Establishment to exercise powers and jurisdiction in any area in a State, not being a Union territory or railway area, without the consent of the Government of that State."

3. The CBI's position is in this respect different from that of the **National Investigation Agency (NIA)**, which is **governed by The NIA Act, 2008**, and has jurisdiction across the country.

4. The consent of the state government to CBI can be either **case-specific or general**.

5. **General consent** is normally given by states to help the CBI in seamless investigation of cases of corruption against central government employees in their states.

6. This is consent by default, in the absence of which the CBI would have to apply to the state government in every case, and before taking even small actions.

7. The **withdrawal of consent** means that **the agency will not be able to investigate any case in the state** without the state government's permission. **Mizoram was the first state** to withdraw this in 2015.

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WATER QUALITY OF TWO GANGA STRETCHES IMPROVED

The **water quality** of **two stretches of the Ganga** passing through **Bihar and Uttarakhand**, which were polluted earlier, has now improved and is of bathing standard with the **biological oxygen demand (BOD)**, which ascertains the health of a river, found to be in check, according to official data.

What

1. The **BOD is an important parameter** for assessing water quality. It deals with the **amount of oxygen consumption by biological organisms**. The **lower the value,** the **better the water quality**.

2. The water quality of the Ganga is assessed in accordance with the **primary water quality standard for outdoor bathing**, which is when the **BOD is less than 3 mg per litre**, along with other factors.

3. The **Ganga river water quality** comparison between 2015 and 2021, the BOD level of the river flowing through **Uttarakhand (Haridwar to Sultanpur)** and Bihar (Buxar to Bhagalpur) is below 3 mg per litre, which falls in the unpolluted category.

4. Even in the other two stretches of the Ganga flowing in Uttar Pradesh (Kannauj to Varanasi) and West Bengal (Triveni to Diamond Harbour), the **BOD level is in the lowest of the pollution category** — category-5 (3-6 mg per litre), **National Mission for Clean Ganga (NMCG)** said.

5. The water bodies that **have a BOD level of more than 6 mg per litre** are considered as polluted and identified for remedial action.

INTERNATIONAL

HUMANITARIAN CORRIDORS IN UKRAINE

Russia's military hold fire and open **humanitarian corridors** in several Ukrainian cities on 7 March 2022, the Defence Ministry said, after fighting halted **weekend evacuation efforts** and civilian casualties from Russia's invasion mounted. The corridors open from the **capital Kyiv** as well as the **cities of Kharkiv and Sumy** and are being set up at the personal request of **French President Emmanuel Macron**.

What are humanitarian corridors?

1. The **United Nations** considers **humanitarian corridors** to be one of several possible forms of a **temporary pause of armed conflict**.

2. They are **demilitarized zones**, in a specific area and for a specific time — and both sides of an armed conflict agree to them.

3. **Via these corridors**, **either food or medical aid** can be brought to areas of conflict, or civilians can be evacuated.

4. The corridors are necessary when **cities are under siege** and the population is cut off from basic food supplies, electricity and water.

5. In cases where a humanitarian catastrophe unfolds because the **international law of war** is being

Who sets them up?

1. In most cases, **humanitarian corridors** are negotiated by the **United Nations**. Sometimes they're also set up by local groups. Since all sides need to agree to set up the corridors, there is a **risk of military or political abuse**. For example, the corridors can be used to **smuggle weapons** and fuel into besieged cities.

2. On the other hand, they can also be used by **UN observers**, **NGOs** and **journalists** to gain access to contested areas where war crimes are being committed.

violated — for example through **large-scale bombing of civilian targets** — humanitarian corridors can provide crucial relief.

UNEA ENDS WITH RESOLUTIONS TO SAVE NATURE

The **Fifth UN Environment Assembly (UNEA)** concluded **in Nairobi** with **14 resolutions** to strengthen actions for nature to achieve the **Sustainable Development Goals**. The Assembly is made up of the 193 UN Member States and convenes **every two years** to advance global environmental governance.

These are the 14 resolutions

1. Resolution **to End plastic pollution:** Towards an international legally binding instrument

2. Resolution on an **Enhancing Circular Economy** as a contribution to achieving sustainable consumption and production

3. Resolution on **Sustainable Lake Management**

4. Resolution on Nature-based Solutions for **Supporting Sustainable Development**

5. Resolution on the **environmental dimension of a sustainable, resilient and inclusive** post COVID-19 recovery

6. Resolution on **Biodiversity and Health**

7. Resolution-**Animal Welfare – Environment – Sustainable Development Nexus**

8. Resolution on **Sustainable Nitrogen Management**

9. Resolution on **Sustainable and Resilient Infrastructure**

10. Resolution on the Sound Management of **Chemicals and Waste**

11. Resolution for a **Science-Policy Panel** to contribute further to the sound management of chemicals and waste and to prevent pollution

12. Resolution text on **environmental aspects of minerals and metals management**

13. Resolution on the Future of the **Global Environment Outlook**

14. Resolution due regard to the principle of equitable geographical distribution, in accordance with paragraph 3 of **article 101 of the Charter of the UN**

PAKISTAN REMAINS ON FATF'S GREY LIST

The global money laundering and **terrorist financing watchdog FATF** has **retained Pakistan** on its terrorism financing "**grey list**" and asked Islamabad to address at the earliest the remaining deficiencies in its financial system. **Pakistan has been on the grey list** of the Paris-based **Financial Action Task Force (FATF) since June 2018** for failing to check money laundering, leading to terror financing, and was given a plan of action to complete it by October 2019.

What

1. The country **continues to be on that list** due to its failure to comply with the **FATF mandates**.

2. The plenary on 4 March 2022 decided against existing Pakistan from the category despite the **country meeting 32 out of 34 action points**.

3. Pakistan has so far avoided being on the **black list** with the help of close allies like **China**, **Turkey** and **Malaysia**.

4. The **FATF is an inter-governmental body** established **in 1989** to combat money laundering, **terrorist financing** and other related threats to the integrity of the international financial system.

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5. The **FATF currently has 39 members** including **two regional organisations** -- the European Commission and Gulf Cooperation Council.

6. **India is a member of the FATF** consultations and its **Asia Pacific Group**.

CERN SUSPENDS RUSSIA'S OBSERVER STATUS

The **international scientific laboratory** that is home to the **world's largest atom smasher** says it is **suspending Russia's observer status** and halting any new collaboration with Russia or its institutions "until further notice." **The European Organization for Nuclear Research**, known as **CERN**, said its **23 member states** - all European, plus Israel - condemned Russia's invasion of Ukraine.

What

1. **Ukraine is one of seven associate member** states, and Russia, like the United States, Japan and the European Union, has had observer status.

2. The **CERN council made the decisions** about Russia at a special meeting on 8 March 2022 and expressed its support "to the many members of **CERN's Russian scientific community** who reject this invasion."

3. CERN is home to the **Large Hadron Collider**, the **world's largest particle accelerator**.

4. **CERN began in the 1950s** as the European Organization for Nuclear Research. Today it is also known as the European Laboratory for Particle Physics.

5. It is one of the **world's most prestigious research centres**. Its business is fundamental physics - finding out **what makes our Universe work**, where it came from and where it is going.

6. At CERN, some of the **world's biggest and most complex machines** are used to study nature's tiniest building blocks, the fundamental particles.

7. By colliding these minute particles of matter physicists unravel the **basic laws of nature**.

ECONOMY

123PAY LAUNCHED FOR FEATURE PHONE USERS

RBI Governor Shaktikanta Das on 8 March 2022 launched a **new service**, which will **enable over 40 crore feature phone users** to undertake digital payments in a secure way. The service christened **UPI (unified payments interface) '123PAY**' is a three-step method to initiate and execute services for users which will work on simple phones which **do not have an internet connection**.

More about 123PAY

1. As of now, the **multifaceted features of UPI** are mostly available **only on smartphones**, which excludes people from the lower rung of the society from an economic perspective, especially in the **rural areas**, from accessing the popular service, even though the smartphone prices are going down.

2. The **UPI volumes** have **touched to Rs 76 lakh crore in FY22** so far, as against Rs 41 lakh crore in FY21, and added that the day is not far when the overall volumes will touch Rs 100 lakh crore.

3. There are an **estimated 40 crore mobile phone users** who possess feature phones.

4. At present, **UPI services** are available for such users through the **USSD-based services**, but the same has been found to be cumbersome and all the mobile operators do not allow such services.

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5. **Feature phone users** will now be able to undertake a host of transactions based on **four technology alternatives**. They include calling an **IVR (interactive voice response)** number, **app functionality in feature phones**, **missed call-based approach** and also **proximity sound-based payments**.

6. A 24x7 helpline for digital payments was also launched by RBI on 8 March 2022, which has also been set up by the **National Payments Corporation of India (NPCI)**.

7. The helpline christened '**Digisaathi**' will assist the callers/users with all their queries on digital payments via website and **chatbot**.

> **Flashback**
>
> 1. **Feature phones are basic phones**, which typically provide **voice calling** and **text messaging functionalities**. Some of these devices also have basic multimedia and internet options.
>
> 2. Such users can initiate payments to friends and family, **pay utility bills**, recharge the FAST Tags of their vehicles, pay mobile bills and also allow users to check account balances and customers will also be able to **link bank accounts**, set or change UPI PINs.

INTELLECT DESIGN BAGS DEAL FROM RBI

Fintech firm **Intellect Design Arena Ltd** announced on 4 March 2022 that the **Reserve Bank of India (RBI)** has chosen Intellect to implement the **upgraded version** of the **Cloud-Native Intellect Quantum Core Banking solution** to power the next stage of their digital transformation agenda. **Intellect** continues to be the trusted partner for the **Central Banking Transformation** at Reserve Bank of India.

What

1. RBI provides the **financial backbone** for the **world's sixth-largest economy** by implementing various monetary policy tools.

2. **Managing foreign exchange reserves**, managing **currency in circulation**, regulating the banking industry and managing public debt, collections, and payments to the federal government, state governments, and union territories through **RBI's 30 regional offices**.

3. The entire **central banking operation of RBI** is currently being supported by **Intellect's Quantum Central Banking Solution**, popularly called as **e-Kuber** in RBI, Government of India & in the Indian Financial Systems.

4. Benchmarked to support **over 100 million transactions** and **30+ million** ISO20022 payment messages on a peak day, the platform supports **250+ commercial banks**, 35 state government and union territories along with a number of Central Government ministries.

5. With the launch of the **Digital India initiative** by the government, various direct benefit schemes of government, digital payments, GSTN & other varied monetary policy implementations, **RBI transaction volumes** are expected to grow several fold over the next decade and the next stage of the **bank's digital transformation project**, **e-Kuber 2.0** has to be designed & engineered to support this growth.

INDIA TOP NATION TO GET EDTECH PATENTS

India has emerged as the top nation to receive the **highest number of patents** in the field of **education technology**, with **Microsoft leading the race**, intellectual property research and consulting firm **Sagacious IP** said on 8 March 2022.

According to the report

1. **Microsoft Corporation**, **Mesbro Technology**, SRM Institute of Science and Technology, and Meenakshi Academy of Higher Education and Research are the leading companies in

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the **Ed-tech domain** with the most number of patent filings at a count of 12, 9, 6, and 4, respectively, in India.

2. **Patent ownership** reflects on research and development capabilities and innovation done by companies.

3. Among India-based edtech firms -- **Mindlogicx**, **iNurture**, **Vedantu**, and **Next education** lead the race with an Indian filing count of 6, 3, and 2, respectively.

4. India Companies have also **been active globally**, with **Mindlogicx**, Practically, and Pesto leading the race with patent filing counts of 16, 11 and 8, respectively," the report said.

5. The data compiled by Sagacious IP as of 28 February 2022, shows that **India received 272 patent filings**, which is the **highest compared to other geographies**.

NABFID TO BE REGULATED AS AIFI UNDER RBI ACT

The Reserve Bank on 8 March 2022 said **NaBFID will be regulated and supervised** as an **All India Financial Institution by it** under the **RBI Act, 1934**. The **National Bank for Financing Infrastructure and Development (NaBFID) Act, 2021**, received the assent of the President on 28 March 2021. It came to force with effect from 19 April 2021.

As per RBI

1. **NaBFID** has been set up as a **Development Financial Institution (DFI)** to support the development of long-term infrastructure financing in India.

2. NaBFID shall be regulated and supervised as an All India Financial Institution (AIFI) by the Reserve Bank under **Sections 45L and 45N of the Reserve Bank of India Act**, 1934.

3. It shall be the **fifth AIFI** after **EXIM Bank**, **NABARD**, **NHB** and **SIDBI**, said the apex bank.

4. The objective of the **National Bank for Financing Infrastructure and Development (NaBFID)** to support the development of **long term non-recourse infrastructure financing in India**, including development of the bonds and derivatives markets necessary for infrastructure financing and to carry on the business of financing infrastructure.

SCIENCE AND TECHNOLOGY

ISRO SUCCESSFULLY CONDUCTS TEST FOR SSLV

THE **INDIAN Space Research Organisation (ISRO)** on 14 March 2022 successfully completed the ground test of the **solid-fuel based booster stage (SS1)** of its new **Small Satellite Launch Vehicle (SSLV)**, completing the ground testing of all three stages of the launch vehicle. The new launch vehicle is now ready for its **first development flight**, which is scheduled for May this year.

More about the test

1. The successful test of **solid booster stage** has given sufficient confidence to proceed with the first developmental flight of **SSLV (SSLV-D1)**, which is scheduled in May 2022.

2. The remaining stages of SSLV i.e. **SS2 & SS3 stages** have successfully undergone necessary ground tests and are ready for integration, the space agency said. The space agency usually declares a **launch vehicle operational** after two successful development flights.

3. The **SSLV** was designed to be **smaller**, **cheaper**, and **quickly assembled** for commercial launches on demand. The **SSLV is likely to cost R 30 crore** as compared to R 120 crore for each **Polar Satellite Launch Vehicle (PSLV)**, which is India's workhorse.

4. It can be assembled by a **team of six within seven days** in comparison to a team of 600 that takes a couple of months to assemble a PSLV.

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5. The launch vehicle will carry **smaller payloads of about 500 kg** in comparison to **1,750 kg carried by PSLV**.

6. The **SSLV launch**, which was initially planned for 2020 end, has been repeatedly pushed as the pandemic resulted in fewer missions for ISRO – just four launches in the last two years. The delays, experts say, will result in India losing its global market share.

7. With the space sector being the domain of the government's **department of space**, India accounted for **less than 2% of the global space market**. After the sector was opened up, the chairperson of the newly created body **Indian National Space Promotion & Authorisation Centre (IN-SPACe)** meant to regulate private space sector Dr Pawan Goenka said that the aim was to **increase the share to 9%**.

ARTPARK LAUNCHED IN IISC

AI and Robotics Technology Park (ARTPARK), an Indian government-funded not-for-profit organization, opened on 14 March 2022 an '**Innovation Lab**' at the **Indian Institute of Science (IISc)**, Bengaluru to provide support to researchers and startups working in **artificial intelligence (AI) and robotics** with the aim of helping them build products that are ready to go to market.

About the ARTPARK

1. The lab will focus on **three areas**—digital and physical connectivity using 5G and drones, making healthcare services available at people's doorsteps, and using AI for inclusive learning.

2. **In the age of AI**, knowledge will be everywhere. Students won't have to cram information anymore and can focus on applying it to create things.

3. The lab has technical teams working in **collaboration with multiple labs at IISc**. It will also work with other technical institutes and bodies, including the Indian Institute of Technology (IIT) Kanpur, IIT Jodhpur, **the University of Aalto in Finland**, Indian Council of Medical Research and the All India Institute of Medical Sciences.

4. **ARTPARK**, intending to use **futuristic technologies** to connect the unconnected, would work on creating a globally leading **Artificial Intelligence(AI)** and **Robotics Innovation ecosystem** in the country.

5. ARTPARK has been set up to effectively use technology, **specifically AI and robotics**, for the country's betterment.

6. The ARTPARK has the objective of **channelising innovations** to create a societal impact by executing ambitious mission-mode R&D projects in **healthcare**, **education**, mobility, infrastructure, agriculture, retail, and cyber-security aiming to solve problems unique to India.

INDIGENOUS ANTI-COLLISION SYSTEM

The **Indian Railways** conducted a live demonstration of **Kavach**, an **automatic anti-collision system**, for trains near Secunderabad with both railway minister Ashwini Vaishnaw and railway board chairman V K Tripthi on board in two locomotives coming from opposite directions on the same track. But both the locos **stopped automatically at 380 metre distance** from each other and avoided a collision because of this **new technology**.

What

1. The Indian Railways aims to achieve "**zero accidents**" by deploying the **anti-collision and Automatic Train Protection (ATP) system**.

2. **Kavach** will soon be deployed on **Delhi-Mumbai** and **Delhi-Kolkata corridors**, which are being upgraded to allow trains to run at 160 kmph.

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3. As of now, the **Kavach has been deployed on nearly 1,200 km of railway track** and in the next two months another 264 kms will be covered.

4. **Kavach** is a **set of electronic devices**, **GPS** and **RFIDs tags** which are in locomotives, signalling systems and tracks.

5. Using the **high radio frequencies**, these devices talk to each other and the programmed system initiates action without any human intervention.

6. The **locos fitted with Kavach** will automatically stop if the system detects any manual error by the pilot or any other malfunction such as inadvertently jumping the red signal.

Flashback

1. The system is designed in a manner to ensure that **it brings the train to a halt automatically** if Kavach notices another train on the same track.

2. The **current avataar of Kavach** adheres to the highest level of safety and reliability standard called Safety Integrity Level 4.

3. The government started the process for developing **India's own ATP in 2012** under the name **Train Collision Avoidance System (TCAS)** and test trials started in 2014.

CHANDRAYAAN-2 MAKES FIRST OBSERVATIONS ARGON-40

The **Chandra's Atmospheric Composition Explorer-2 (CHACE-2)**, a **quadrupole mass spectrometer** onboard **Chandrayaan-2 mission**, has made the **first-of-its-kind observations** of the global distribution of **Argon-40** in the tenuous lunar exosphere, according to the Indian Space Research Organisation.

More about the observation

1. These observations provide **insight on the dynamics of the lunar exospheric species**, as well as on the **radiogenic activities** in the first few tens of metres below the lunar surface.

2. '**Exosphere**' is the **outermost region of the upper atmosphere of a celestial body** where the constituent atoms and molecules rarely collide with each other and can escape into space.

3. Earth's Moon features a **surface-boundary-exosphere**. For Moon, different constituents in the exosphere are fed from the surface by a variety of processes, such as **thermal desorption**, **solar wind sputtering**, **photo-stimulated desorption**, and micrometeorite impact vaporisation.

4. The exospheric atoms may be lost to space by the **thermal escape** (also known as the Jean's escape). Also, the **atoms get ionised by photo-ionisation** and charge exchange with the solar wind ions.

Flashback

1. The uniqueness of this result from **Chandrayaan-2 mission** lies in the fact that although **Apollo-17** and **LADEE missions** have detected the **presence of Ar-40** in the lunar exosphere, the measurements were confined to the near-equatorial region of the Moon.

2. CHACE-2 observations reveal an increase in the **number density of Ar-40** near the sunrise terminator, a decrease through the dayside, a secondary peak near sunset terminator and a night-side minima.

3. CHACE-2 was a sequel to the **CHACE experiment on the Moon Impact Probe (MIP)** of Chandrayaan-1 mission and also draws heritage from the **Mars Exospheric Neutral Composition Analyser (MENCA) experiment** aboard the **Indian Mars Orbiter Mission**.

5. Subsequently, they can be swept away by the **convective electric field of the solar wind**. Some of these atoms/ions can also be deposited back on the lunar surface. Thus, the lunar exosphere exists as a result of a **dynamic equilibrium** between several sources and sink processes.

6. **Noble gases serve as important tracers** to understand the processes of surface-exosphere interaction, and **Argon-40 (Ar-40)** is such an important tracer atom to study the dynamics of the lunar exospheric species.

7. **Ar-40 originates from the radioactive disintegration** of **Potassium-40 (K-40)** present below the lunar surface. Once formed, it diffuses through the inter-granular space and makes way up to the lunar exosphere through seepages and faults.

8. The **CHACE-2 observations** provide the diurnal and spatial variation of Ar-40 covering the equatorial and mid latitude regions of the Moon, according to ISRO.

HANSA-NG COMPLETES SEA-LEVEL TRIALS

India's first indigenous **flying trainer HANSA-NG**, designed and developed by the **National Aerospace Laboratories (NAL)** in Bengaluru, has successfully completed the **sea-level trials at Puducherry** between 19 February and 5 March 2022.

What

1. **NAL**, which operates under the **aegis of the Council of Scientific and Industrial Research (CSIR)** said in a statement issued on 5 March 2022 that the aircraft was flown to Puducherry covering a **distance of 140 nautical miles** in one-and-half hours at a cruising speed of 155km/hr on 19 February 2022.

2. The **objective of these trials** were to evaluate **handling qualities**, climb / cruise performance, baulked landing, structural performance including positive and **negative G (gravitational pull)**, power plant and other systems performance at sea-level.

3. **All objectives of the sea-level trials have been met** and the aircraft has been ferried back to Bengaluru after completing 18 hours flying at Puducherry.

4. **HANSA-NG** is one of the **most advanced flying trainer** powered by Rotax Digital Control engine with unique features like **Just-In-Time Prepreg (JIPREG)** Composite lightweight Airframe, Glass Cockpit, Bubble Canopy with wide panoramic view, electrically operated flaps etc.

5. NAL said the aircraft will see a few more flights before getting type certification by DGCA. It is expected to be **completed by April 2022** after which the manufacturing will be initiated with public/private industry.

'PARAM GANGA' DEPLOYED UNDER NSM

The **National Supercomputing Mission (NSM)** has deployed '**PARAM Ganga**', a **supercomputer** at IIT Roorkee, with a supercomputing capacity of **1.66 Petaflops**. The system is designed and commissioned by **C-DAC under Phase 2** of the build approach of the NSM.

More about PARAM Ganga

1. **Substantial components** utilised to build this system are **manufactured and assembled within India** along with an indigenous software stack developed by C-DAC, which is a step towards the '**Make in India' initiative** of the government, the Ministry of Electronics & Information Technology (MeiTY) said.

2. The **NSM**, which is being steered jointly by **MeiTY and the Department of Science and Technology (DST)** and implemented by the **Centre for Development of Advanced Computing (C-DAC)** and **Indian Institute of Science (IISc)**, is progressing significantly in the right direction.

3. **Infrastructure**, **applications**, **R&D**, **HRD** being the **four main pillar of the NSM** have been functioning efficiently to realise the goal of developing indigenous **supercomputing ecosystem of the nation**.

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4. The **availability of PARAM Ganga** will accelerate the research and development activities in multidisciplinary domains of science and engineering with a focus to provide **computational power to user community of IIT Roorkee** and neighbouring academic institutions, it added.

5. **C-DAC** has been entrusted the responsibility for design, development, deployment and commissioning of the supercomputing systems under the **build approach of Mission**.

Mission plans of C-DAC

1. The **Mission plans** to build and deploy **24 facilities with cumulative compute power of more than 64 Petaflops**.

2. Till now, **C-DAC has deployed 11 systems** at IISc, IITs, IISER Pune, JNCASR, NABI-Mohali and C-DAC under NSM Phase-1 and Phase-2 with a cumulative compute power of more than 20 Petaflops.

3. The **supercomputer infrastructure** installed at various Institutes across the country has helped the **R&D community** to achieve major milestones, objectives and products for scientific and societal applications.

LATEST GENERATION WEATHER GOES-T LAUNCHED

NASA has successfully launched the **third in a series** of **next-generation weather satellites** for the **National Oceanic and Atmospheric Administration (NOAA)**. The newest **Geostationary Operational Environmental Satellite**, **GOES-T**, was launched on a United Launch Alliance Atlas V rocket from Cape Canaveral Space Force Station. It has been confirmed that the **spacecraft's solar arrays** were successfully deployed and the spacecraft was operating on its own power.

What

1. **NOAA**, and their mission to provide **critical data and imagery** to forecasters and researchers tracking hazardous weather.

2. The **GOES-R series satellites**' main job is to help with **weather prediction**, these satellites produce observations that also help with NASA science.

3. The satellite will be providing **continuous coverage of weather and hazardous environmental conditions** in the Western Hemisphere.

4. For the unversed, the **GOES program predicts space weather near earth** that can interfere with **satellite electronics**, **GPS**, and **radio communications**.

5. Once **GOES-T** is positioned in a **geostationary orbit 22,300 miles above earth**, it will be **renamed GOES-18**.

6. Following a successful orbital checkout of its instruments and systems, GOES-18 will go into service over the **U.S. West Coast and Pacific Ocean**.

7. This position puts it in a key spot where it can observe **weather sweeping in from the west to the east** over the U.S. - giving forecasters an upstream view of what is coming.

8. **GOES satellites** help us every day. They bring advanced new capabilities to help forecaster's better monitor and predict dangerous environmental conditions like **hurricanes**, **thunderstorms**, **floods**, and **fires**.

9. NASA's Goddard Space Flight Center in Greenbelt, Maryland, oversees the acquisition of the **GOES-R spacecraft** and instruments and built the Magnetometer instrument for **GOES-T**, as well as for the future **GOES-U satellite**.

MISCELLANEOUS

MGNREGA OMBUDSPERSON IN DISTRICTS

From the next fiscal, the Centre will **not give funds** for employment guarantee scheme **MGNREGS to states** that **do not appoint ombudspersons in 80 per cent of their districts** where the scheme has been applied, the Government said on 27 February 2022.

What the government said

1. As per details available with the **Union Rural Development Ministry**, states such as **Gujarat**, **Arunachal Pradesh, Goa**, and **Telangana**, and union territories such as **Puducherry**, **Andaman and Nicobar Islands**, **Lakshadweep**, and **Dadra and Nagar Haveli** do not a single ombudsperson for the **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)**.

2. Similarly, there are states that have **appointed ombudspersons in very few districts** such as **Rajasthan**, where **only four out of the 33 districts** under the scheme have ombudspersons.

3. In **West Bengal**, **ombudspersons** have been appointed in **four out of 23 districts** under the scheme.

4. The situation is similar in **Haryana and Punjab**. Both have 22 districts each under the scheme, but **only four such districts** in Haryana and seven in Punjab have ombudspersons.

5. **Ideally**, states should **appoint ombudspersons in all their districts** under the MGNREGS.

6. The states which don't appoint ombudspersons in **at least 80 per cent of the total districts** under MGENREGS, which is the **minimum threshold limit**, would not get funds from the next financial year for the implementation of the employment guarantee scheme.

Flashback

1. According to the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**, states are mandated to **appoint an ombudsperson** for each district for **receiving grievances**, **enquiring and passing awards** as per guidelines of the **Union Rural Development Ministry**, which is the nodal ministry for implementation of the employment guarantee programme.

2. MGNREGA is aimed at **enhancing livelihood security of households in rural areas** of the country by **providing at least 100 days of guaranteed wage employment** in a financial year to every household whose adult members volunteer to do unskilled manual work.

ICJ TO LAUNCH PROBE INTO UKRAINE'S SITUATION

Ukraine has filed an application before the **International Court of Justice (ICJ)**, instituting proceedings against the **Russian Federation** concerning "a dispute...relating to the interpretation, application and fulfilment of the **1948 Convention on the Prevention and Punishment of the Crime of Genocide**" (the "Genocide Convention").

What

1. **Ukraine** has accused Russia of falsely claiming that "**acts of genocide** have occurred in the **Luhansk** and **Donetsk oblasts of Ukraine**", and of using that as a pretext to recognise the independence of these regions and of going to war against Ukraine.

2. The **ICJ is the principal judicial organ of the United Nations (UN)**. It was established in June 1945 by the **Charter of the United Nations** and began work **in April 1946**.

3. The court is the successor to the **Permanent Court of International Justice (PCIJ)**, which was brought into being through, and by, the **League of Nations**, and which held its inaugural sitting at the **Peace Palace in The Hague**, Netherlands, in **February 1922**.

4. After World War II, the **League of Nations and PCIJ** were replaced by the **United Nations and ICJ respectively**.

5. The **PCIJ was formally dissolved in April 1946**, and its last president, **Judge José Gustavo Guerrero** of El Salvador, became the first president of the ICJ.

6. The first case, which was brought by the **UK against Albania** and concerned incidents in the Corfu channel — the narrow strait of the Ionian Sea between the Greek island of Corfu and Albania on the European mainland — was submitted in May 1947.

7. The ICJ is the **only one of the six principal organs of the UN** that is **not located in New York City**. (The other five organs are the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, and the Secretariat.)

8. The judges of the court are **assisted by a Registry**, the administrative organ of the ICJ. **English and French** are the ICJ's official languages.

9. **India has been a party** to a case at the ICJ on six occasions, four of which have involved Pakistan.

SAGAR PARIKRAMA LAUNCHED

Union Minister Parshottam Rupala on 5 March 2022 launched the **Sagar Parikrama initiative** from the **coast of Mandvi** in Gujarat's Kutch district along the Arabian Sea. The Union fisheries, animal husbandry and dairy minister offered tributes to freedom fighter **Shyamji Krishna Varma** at his memorial at Mandvi where he was born in 1857.

What

1. **Sagar Parikrama** was flagged off from Mandvi and reached Okha in Devbhumi Dwarka district on the first day.

2. The **first leg of Sagar Parikrama** will end at Mahatma Gandhi's birthplace **Porbandar** on 6 March 2022.

3. **Sagar Parikrama** is being organised as part of **Azadi Ka Amrit Mahotsav**, with the participation of senior ministers, government officials, fishermen representatives, entrepreneurs, stakeholders, professionals and scientists from across the country.

4. The initiative will focus on **sustainable balance** between the **utilisation of marine fisheries resources** for food security and livelihoods of coastal fishing communities and protection of marine ecosystems.

5. **Sagar Parikrama** is proposed to be conducted in **all coastal states and Union Territories** through a pre-decided sea route, from Gujarat, Diu, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Andaman and Nicobar and Lakshadweep Islands.

INDIA WINS THIRD GOLD ISSF

The **Indian trio** of **Rahi Sarnobat**, **Esha Singh** and **Rhythm Sangwan** clinched gold in the **women's 25m pistol team** event on the penultimate day of the **International Shooting Sport Federation (ISSF)** World Cup Rifle/Pistol competition in Cairo on 6 March 2022.

What

1. The Indian team registered a **17-13 victory over Singapore** in a thrilling match-up to claim the **country's third gold** of the tournament.

2. This was **Esha's second gold** and **third medal of the World Cup as well**, as she had earlier clinched a yellow metal in the women's 10m air pistol team event to add to the silver she won in the women's 10m air pistol individual event.

3. The Indian women's team began the gold medal match with six hits out of 15 to Singapore's four to take a 2-0 lead but drama unfolded after that.

4. In the **men's 25m rapid fire pistol event**, India fell short of the **medal rounds** with Bhavesh Shekhawat finishing 12th with 576 while Anish Bhanwala ended 18th with 571. Gurpreet Singh, with 554, was further behind at 32nd spot.

DPRS FOR REJUVENATION OF 13 RIVERS

The **Ministry of Environment, Forest and Climate Change** released **Detailed Project Reports (DPRs)** on rejuvenation of **thirteen major rivers** through forestry interventions on 14 March 2022. The report has proposed the **rejuvenation of 13 major rivers** across the country, including **Himalayan**, **Peninsular rivers** as well as one inland river – **Luni**.

More about the report

1. The rivers identified for the project run through **24 states** and **two Union Territories** and will be rejuvenated through "**forestry interventions**" with an outlay of Rs 19,343 crore set aside by the government.

2. The **rivers identified for forestry interventions** include **Jhelum**, **Chenab**, **Ravi**, **Beas**, **Sutlej**, **Yamuna**, **Brahmaputra**, **Luni**, Narmada, Godavari, Mahanadi, Krishna, and Cauvery and will be funded by the **National Afforestation and Eco-development Board** under the Ministry and the DPRs have been prepared by the **Indian Council of Forestry Research and Education, Dehradun (ICFRE)**.

3. In developing the DPRs, we have not only planned for the rivers, but their tributaries as well. **Each river has numerous tributaries – Jhelum has 24**, **Chenab has 17**, **Rabi has 6**, **Brahmaputra has 30**, Mahanadi has 7 and Krishna has 13 etc – so we have looked at the entire network of the rivers.

4. Apart from the **rejuvenation of the rivers** themselves, there are several other important issues which will be tackled through the project including **reversal of desertification**, the **preservation of biodiversity** and the **protection of wildlife** in these areas.

5. There are **three major landscapes** along the rivers – **natural**, **agricultural** and **urban** – and plans have been created specifically for these different landscapes including specific plans for each river.

6. The most common problems which have been identified include **reduced water flow in the rivers**, **deforestation in the catchment area**, **fragile ecology**, bank and soil erosion, siltation and shifting cultivation.

7. The **different models of forestry plantations** including **timber species**, **medicinal plants**, **grasses**, **shrubs** and fuel fodder and fruit trees are aimed to augment water, ground water recharge and contain erosion.

8. A **total of 667 treatment** and plantation models are proposed in all the **13 DPRs** and in all, 283 treatment models have been proposed for the natural landscapes, 97 treatments models in agriculture landscapes and 116 different treatment models in urban landscapes.

FACT TO REMEMBER:

1. **INDIA'S ENVIRONMENT REPORT 2022**

2. **WHO GCTM FOR TRADITIONAL MEDICINE APPROVED**

3. **NINTH STATE TO WITHDRAW CONSENT TO CBI**

4. **HUMANITARIAN CORRIDORS IN UKRAINE**

5. UNEA ENDS WITH RESOLUTIONS TO SAVE NATURE
6. 123PAY LAUNCHED FOR FEATURE PHONE USERS
7. ISRO SUCCESSFULLY CONDUCTS TEST FOR SSLV
8. ARTPARK LAUNCHED IN IISC
9. CHANDRAYAAN-2 MAKES FIRST OBSERVATIONS ARGON-40
10. 'PARAM GANGA' DEPLOYED UNDER NSM

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