

My Notes....

NATIONAL

NER DISTRICT SDG INDEX REPORT

East Sikkim has topped in terms of **meeting sustainable development goals** in the Niti Aayog's **North Eastern Region (NER) District SDG Index Report 2021-22** and **Nagaland's Kiphire** featured at the bottom, as per the specified parameters. It was the release of the **first edition of the North Eastern Region (NER) District SDG Index Report and Dashboard 202122** by NITI Aayog and Ministry of Development of North Eastern Region (M/DoNER) on 26 August 2021.

What

- The index measures the **performance of the districts of the eight states** of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura on the **Sustainable Development Goals (SDGs)** and their corresponding targets and ranks the districts based on the same.
- East Sikkim**, with a score of 75.87, **ranks first** in the region followed by districts Gomati and North Tripura (score 75.73) at the second position.
- The score for the 103 districts ranges from 53 in Kiphire, Nagaland to 75.87 in East Sikkim, Sikkim.
- According to the report, **out of the 103 districts** considered for ranking, **64 districts belonged to the front runner category** while **39 districts were in the performer category** in the composite score and ranking of districts.
- All districts in Sikkim and Tripura** fall in the **Front Runner category** and there are **no districts in the aspirant or achiever** categories.

Flashback

- The **NER District SDG Index** and Dashboard 2021/22 tracks progress of the districts of **all eight states of the region on 84 indicators** that are aligned to the Ministry of Statistics and Programme Implementation's (MoSPI) **National Indicator Framework (NIF)**.
- The **84 indicators cover 15 of the global goals** across 50 targets. Among these 84 indicators considered for computation, 40 per cent have been sourced from Union ministries and national level surveys; and 60 per cent from state sources.
- It offers insights into the **social, economic, and environmental status of the region** and its districts in their march towards achieving the SDGs.

NEW RULES FOR DRONE OPERATION NOTIFIED

The **Ministry of Civil Aviation** has eased the rules regarding **drone operations** in the country **by reducing the number of forms** that need to be filled to operate them from **25 to 5** and **decreasing the types of fees charged** from the operator **from 72 to 4**. The rules are based on the **premise of trust and self-certification**. Approvals, **compliance requirements** and entry barriers have been significantly reduced.

What

- The **Drone Rules, 2021**, were issued on 25 August 2021. They **supersede the Unmanned Aircraft System (UAS) Rules, 2021**, which had come into force on 12 March 2021. The new rules will tremendously **help start-ups** and youth working in this sector.
- No pilot licence** will be **required for micro drones** (for non-commercial use) and nano drones, the rules mentioned, adding that the maximum penalty for violations have been reduced to Rs 1 lakh.

3. According to the new rules, the **type certificate and unique identification number** will be required only **when a drone is to be operated in India**.
4. If a drone is being **imported or manufactured only for export purposes**, it will be exempted from type certification and the requirement of unique identification number.
5. **Drone corridors** will be developed for cargo deliveries and a **drone promotion council will be set up** to facilitate drone-friendly regulatory regime in the country, according to the draft rules.
6. The rules also stated that **there would be no restriction on drone operations** by **foreign-owned companies** registered in India.
7. **Digital sky platform** will be developed as a business-friendly single-window online system, the new rules mentioned.
8. It (new drone rules) will also provide a **launchpad to our startups** who are ready to lead this revolution from the front.

Flashback

1. **Drone** here means an **unmanned aircraft system** which has been **categorised into five: Nano (weighing less than or equal to 250 grams), Micro** (weighing more than 250 grams, but less than or equal to 2 kilograms), **Small** (weighing more than 2 kilograms, but less than or equal to 25 kilograms), **Medium** (weighing more than 25 kilograms, but less than or equal to 150 kilograms) and **Large** weighing more than 150 kilograms).
2. The rules define '**green zone**' as airspace of up to a **vertical distance of 200 feet or 60 metres** above the area between a **lateral distance of 8 kilometres and 12 kilometres** from the perimeter of an operational airport. For other regions, the **vertical space could be 400 feet or 120 metres**.
3. The **airspace above 400 feet or 120 metre in the designated green zone** and the airspace above 200 feet or 60 metre in the area located between the **lateral distance of 8 kilometre and 12 kilometres** from the perimeter of an operational airport will be designated as '**yellow zone**'.
4. '**Red zone**' means the airspace of defined dimensions **above India's land areas or territorial waters**, or any installation or notified port limits specified by the Central Government beyond the territorial waters of India. Here unmanned **aircraft system operations** will be permitted **only by the Central Government**.

INDIA'S FIRST SMOG TOWER

The **country's first smog tower** in Delhi's Connaught Place was opened on 23 August 2021 with an aim **to improve the capital's air quality**. The tower has been set up as a **pilot project** and initial trends will be available within a month. If the pilot project is successful, more smog towers will be opened in the national capital.

What

1. The pilot project of setting up the **smog tower** was approved last year in October by the Delhi cabinet in a **bit to improve the air quality in Delhi**. The smog tower will be able **to purify 1,000 cubic metres of air per second**.
2. The smog tower is a **20-metre-tall structure** that can improve air quality in a **radius of around 1 km**.
3. **A control room has been set up** at the site to monitor the operations of the smog tower. **NBCC India Ltd.** has been appointed as project management consultant.
4. Another **25-metre-tall smog tower**, built by the central government at Anand Vihar, is expected **to become operational by 31 August 2021**.

5. **CPCB is the nodal agency** for the tower at Anand Vihar, while **Delhi Pollution Control Committee** is the nodal agency for the one coming up at Connaught Place.
6. **Tata Projects Limited (TPL)** is building the two smog towers with **technical support from IIT-Bombay**, which, in collaboration with IIT-Delhi, will validate their performance.
7. The two towers will have 1,200 air filters each developed by experts at the **University of Minnesota** in the United States — which also helped design a 100-metre-high smog tower in Xian, China.

Flashback

1. The idea to **install smog towers** to mitigate pollution was initially proposed by the **Central Pollution Control Board in 2018**.
2. The towers are estimated **to reduce the concentration of PM 2.5** up to 70 per cent in a 1-km radius around them.
3. The **Supreme Court** had in January last year directed the central government to construct a smog tower to reduce pollution at **Anand Vihar**, and the Delhi government to install another such structure at Connaught Place in three months.
4. **In August**, the apex court had reprimanded the Centre and the state government for missing the deadline for completing the construction of two smog towers.

SAMRIDH SCHEME LAUNCHED

The **Ministry of Electronics and Information Technology (MeitY)** launched **Startup Accelerators of MeitY for pProduct Innovation, Development and growth (SAMRIDH)** programme on 25 August 2021. **SAMRIDH** will create a **conductive platform for Indian software product startups** to enhance their products and secure investments for scaling their business. The programme is being **implemented by MeitY Start-up Hub (MSH)**.

What

1. The **SAMRIDH initiative** will not only provide **funding support to startups**, but will also help in **bringing skill sets together** which will help them become successful.
2. **Technology can play a role** in accelerating and in taking the quantum jump in reaching out to people which would have taken many years. Using the energy of startups these areas can be reached within months, the ministry said.
3. The **SAMRIDH scheme** will pick up startups that are ready for **acceleration stage** and will provide them with **funding support, mentorship** and a lot of other support that is required by startups at this stage.
4. The **SAMRIDH programme** will focus on **accelerating 300 start-ups** by providing **customer connect, investor connect**, and **international expansion opportunities** in the next three years.
5. Also, an **investment of up to Rs 40 lakh to startups**, based on their current valuation and growth stage will be provided through selected accelerators. It will also facilitate equal matching investment by the accelerator or investor.
6. The programme aims to further the **Indian startup growth** which has seen the **emergence of 63 unicorns** (Startups with over \$1 billion valuation), making **India the third largest unicorn hub globally** with a total valuation of \$168 billion.

DRAFT RULES ON CLEAN ENERGY

The **Ministry of Power** has circulated the "**Draft Electricity (promoting renewable energy through Green Energy Open Access) Rules, 2021**," on 16 August 2021 for seeking comments from stakeholders. The ministry has sought comments within 30 days. These rules

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are proposed for **purchase and consumption of green energy** including the **energy from waste-to-energy plants**.

What

1. The draft rules will provide in detail for **Renewable Purchase Obligation (RPO)**; **Green energy open access**; nodal agencies; **Procedure for grant of green energy open access**; banking; and cross subsidy surcharge.
2. These draft rules with regard to **tariff propose** that "the **tariff for the green energy** shall be determined by the Appropriate Commission, which may comprise of the average pooled power purchase cost of the renewable energy, cross-subsidy charges (if any) and service charges covering all prudent cost of the distribution licensee for providing the green energy".
3. The draft rules state **green hydrogen is the hydrogen produced using electricity from the renewable sources**.
4. The obligated entity including the industries can also meet their **Renewable Purchase Obligation** by **purchasing green hydrogen**.
5. The quantum of green hydrogen would be computed by considering the equivalence to the **green hydrogen produced from one MWh of electricity** from the renewable sources or its multiple. The norms shall be notified by the **Central Commission**.
6. As per draft rules, there shall be **no limit of supply of power for the captive consumers** taking power under **green energy open access**.

INDIA'S LARGEST FLOATING SOLAR PLANT

Andhra Pradesh can now boast of **India's largest floating solar power plant** after state-run **NTPC commissioned a 25 MW project on the reservoir** at its **Simhadri coal-fired power station** in Visakhapatnam on 21 August 2021. **Floating solar power projects** are seen as a game changer in India's quest for building **450 GW (gigawatts) renewable energy capacities** because of their inherent advantages over onland projects, which require large contiguous tracts of **non-farming, non-forest land**.

What

1. **Floating solar reduces temperature** related losses due to the **cooling effect of water** they float on, **reduce evaporation rate of water bodies** and have lower maintenance costs.
2. NTPC's floating solar installation covers **75 acres of the Simhadri reservoir's surface**.
3. It will produce power from **more than a lakh of solar PV modules** for lighting 7,000 households.
4. The project **will annually save 46,000 tonnes of CO2 emission and 1,364 million litres of water**, which is adequate to meet the requirement of 6,700 households in a year.
5. The **floating solar plant** is part of the **coal-burning behemoth's plan** to turn green by adding a **60 gigawatts renewable energy** capacity by 2032.
6. It is also the **first solar project** to be set up under the **power ministry's 2018 'flexibilisation' scheme** allowing generators to supply power from any of their sources, based on plant efficiency, to reduce discoms' cost.

Flashback

1. **NTPC is also building a 100 MW floating solar power** plant on the reservoir of its Ramagundam thermal power station in Tamil Nadu.
2. **Green Energy Development Corporation** of Odisha Ltd has tied up with NHPC to explore, plan and develop **commercially feasible floating solar power projects** with a total capacity of 500 MW in a phased manner on the state's reservoirs.

1.

ECONOMIC CRITERION FOR CREAMY LAYER

The **Supreme Court** has said states cannot determine "**creamy layer**" from backward classes, **solely on the basis of economic criterion or annual income**, as it quashed a notification issued by Haryana by which sections of backward classes earning above **Rs 6 lakh per annum** were to be **considered as a creamy layer**.

What

1. Citing the top court's judgment in **Indra Sawhney case (Mandal Commission case)** (1992), a bench of Justices L Nageswara Rao and Aniruddha Bose observed that "this Court directed state governments to identify '**creamy layer**' amongst the backward classes and exclude them from the **purview of reservation**".
2. The bench noted that the **Haryana Backward Classes (Reservation in Services and Admission in Educational Institutions) Act, 2016**, makes it mandatory for identification and exclusion of creamy layer to be on the basis of **social, economic, and other relevant factors**.
3. The State of Haryana has sought to determine 'creamy layer' from backward classes **solely on the basis of economic criterion** and has committed a grave error in doing so. On this ground alone, the notification dated 17 August 2016, requires to be set aside.
4. The Haryana government had **clubbed clubbing income from salaries or agricultural land**, while it decided on gross annual income for defining creamy lawyer, which was **rejected by the top court**.
5. The bench said the **August 2016 notification** was in **flagrant violation of the directions** issued by the top court in the **Indra Sawhney case** and it was also at variance with the memorandum dated 8 September 1993, issued by the Centre.
6. The top court judgment came on a petition by **Pichra Warg Kalyan Mahasabha**, challenging the 2016 notification, arguing that it breached the guidelines laid down by the top court in the **Indra Sawhney case**.

INTERNATIONAL

UNSC RESOLUTION UNDER INDIA'S PRESIDENCY

The **United Nations Security Council (UNSC)** on 30 August 2021 under **India's presidency** adopted a **strong resolution on Afghanistan** demanding that the Afghan territory 'not be used to threaten or attack any country or to shelter or train terrorists.' The **UNSC resolution** was adopted after **13 countries voted in favour** of it while **China and Russia**, both permanent members of the council, chose to **abstain from voting**.

What

1. The resolution was **proposed by the US, the UK and France** after the pullout of their respective troops from the war-torn nation.
2. It demanded that the **Taliban adhere to its assurances** and allow safe passage for Afghans and foreigners who want to leave.
3. Reaffirming its commitment to the **sovereignty, independence, territorial integrity, and national unity of Afghanistan**, the UNSC resolution has strongly condemned the attack at the Kabul Airport on 26 August 2021.
4. A **key aspect of the resolution** which has also been consistently highlighted by India is the demand that **Afghan territory not be used to threaten or attack any country** or to shelter, train terrorists, or plan or finance terrorist acts.
5. The resolution also calls for the strengthened efforts to provide **humanitarian assistance to Afghanistan** and calls on all parties to allow full, safe, and unhindered access for the United Nations.

6. Additionally, it reaffirms the **importance of upholding human rights** including those of women, children and minorities, and encourages all parties to seek an inclusive, negotiated political settlement with meaningful participation of women.

THE MALABAR EXERCISE OF QUAD NATIONS

Navies of the four member nations of the **Quadrilateral Security Dialogue**, or the **Quad — India, the United States, Japan, and Australia** — are participating in the **25th edition of the Malabar Exercise**, which began off the coast of Guam in the Pacific Ocean on 26 August 2021.

What is the Malabar Exercise?

1. **Malabar is a multilateral war-gaming naval exercise** that was **started in 1992**.
2. It began as a bilateral exercise between the **navies of India and the United States**. Two more editions of the exercise were carried out in **1995 and 1996**, after which **there was a break until 2002** in the aftermath of **India's nuclear tests**.
3. **From 2002 onward**, the exercise has been **conducted every year**. **Japan and Australia** first participated in 2007, and **since 2014**, India, the US and Japan have participated in the exercise every year.
4. **Last year**, the exercise was conducted in **two phases** — the first off the coast of **Vishakhapatnam in the Bay of Bengal**, and then in the **Arabian Sea** in November.
5. **In 2019**, the exercise had been conducted off the **coast of Japan**, and **in 2018**, in the **Philippine Sea**.

INDIA LAUNCHED UNITE AWARE WITH UN

India, in **collaboration with the UN**, on 18 August 2021, launched a **technology platform** to ensure the **safety and security of peacekeepers** who are operating in an increasingly complex and risky environments across the world. The name of this technology platform is the **UNITE AWARE**.

What

1. The launch of the **UNITE AWARE platform** came as India assumed the Presidency of the **15-nation UN Security Council** for the month of August.
2. The project, for which India has contributed **USD 1.64 million**, was launched in the presence of External Affairs Minister S Jaishankar at the UN headquarters.
3. The **UNITE Aware** is a **situational awareness software programme** that will utilise **modern surveillance technology for real time** threat assessments to peacekeepers and help them enhance their security.
4. This will access live video and satellite imagery, and in very volatile circumstances can also deliver early warnings to peacekeepers. It can also **record data on critical incidents** and events and follow daily operational activities.
5. Using the platform, the **entire peacekeeping operation can be visualised**, coordinated, and monitored on a real time basis.
6. India has developed the **technology platform** in partnership with the **UN Department of Peacekeeping Operations** and the **Department of Operational Support**.
7. India has partnered with the UN to roll out the **UNITE Aware platform** initially in four UN Peacekeeping Missions: **MINUSMA (Mali)**, **UNMISS (South Sudan)**, **UNFICYP (Cyprus)** and **AMISOM (Somalia)**.

AFGHANISTAN'S UNTAPPED MINERALS AND RESOURCES

Returning to power in Afghanistan after a **20-year absence**, the Taliban have regained **control of natural resources** that a former mines minister of the country once said could be **worth up to \$3 trillion**. That estimate was made toward the end of the last commodities supercycle in 2010 and could be worth even more now, after a global economic recovery from the coronavirus shock sent prices for everything from **copper to lithium soaring this year**.

What

1. **Afghanistan is rich in resources** like **copper, gold, oil, natural gas, uranium, bauxite, coal**, iron ore, rare earths, lithium, chromium, lead, zinc, gemstones, talc, sulphur, travertine, gypsum and marble.
2. A 2019 report by Afghanistan's Ministry of Mines and Petroleum put the **country's copper resource at almost 30 million tonnes**.
3. There were **another 28.5 million tonnes of copper** in undiscovered **porphyry deposits**. That would bring the total **close to 60 million tonnes**, worth hundreds of billions of dollars at current prices as demand for the metal grows.
4. An internal US Department of Defense memo in 2010 reportedly described Afghanistan as "**the Saudi Arabia of lithium**," meaning it could be as crucial for global supply of the **battery metal** as the **Middle Eastern country is for crude oil**.
5. The comparison was made at a time **lithium was already widely used in batteries for electronics devices** but before it had become apparent how much lithium would be needed for **electric vehicle (EV) batteries** and the world's low-carbon transition.

MARITIME EXERCISE WITH PHILIPPINE NAVY

Continuing with its deployment in **Western Pacific**, including in the **South China Sea**, the Indian Navy carried out a **Maritime Partnership Exercise with the Philippine Navy** on 23 August 2021. Two Indian warships, **INS Ranvijay, Guided Missile Destroyer, D55** and **INS Kora, Guided Missile Corvette, P61**, on deployment to the Western Pacific participated in the exercise with **BRP Antonio Luna, Frigate, FF 151** of the Philippine Navy in the **West Philippine Sea**.

What

1. Indian naval ships are "**currently deployed to the Western Pacific** with an aim to strengthen maritime security collaboration with partner nations".
2. The Navy mentioned that **India and the Philippines** "share a very robust defence and security partnership built over several years and spanning across all domains" and their navies "**remain committed to further strengthening bilateral collaboration** in the maritime domain towards a collective aim of ensuring a stable, peaceful and **prosperous Indo-Pacific**".
3. This is in a series of exercises that **India is conducting with littoral nations** that share their **maritime boundaries with China** as part of its deployment.
4. Two Indian warships had reached Guam to participate in the **multilateral Malabar Naval Exercise** starting later this week with the four member nations of the **Quad — India, the US, Japan and Australia** — participating.

ECONOMY

NMP LAUNCHED TILL FY25

Finance minister 23 August 2021 launched the **National Monetisation Pipeline (NMP)** which is expected to fetch the government an estimated revenue of Rs **6 lakh crore over four years** till FY25. The NMP, which will work in tandem with the **National Investment Pipeline (NIP)**, will bring in investment for underutilised or languishing **brownfield units**, generating greater value for the government which will in turn help India's economy.

What

1. The NMP will comprise of **brownfield assets** alone and **no land will be part of the monetisation process**. Further, assets will not change hands and ownership will remain with the government.
2. Assets put up for investment to the **private sector** and global investors will be mandatorily **handed back to the government after 25 years**.
3. All contractual partnerships that the government will enter into with private players will be executed with **full key-performance indicators** and performance standards that will be specified before the transition.
4. **NMP** is envisaged to serve as a **medium-term roadmap** for identifying potential monetisation- **ready projects, across various infrastructure sectors**, by way of structured contractual partnership as against privatization or slump sale of assets.
5. The aggregate asset pipeline under **NMP includes more than 12 line ministries and more than 20 asset classes**.
6. The sectors included are **roads, ports, airports, railways, warehousing, gas and product pipeline**, power generation and transmission, mining, telecom, stadium, hospitality and housing.

Flashback

1. The **philosophy of asset monetisation** is creation of new assets through monetisation.
2. The aim is to **unlock the value of government investments and public money in infrastructure** and take this country forward.
3. The **top five sectors** by estimated value capture about 83% of the aggregate pipeline value. These top **5 sectors** include roads with 27%, followed by **railways with 25%, power with 15%, oil & gas pipelines with 8%** and **telecom with 6%**.
4. In the **Union Budget 2021-22** the government had identified monetising operating public infrastructure assets as one of the **key pillars** for enhanced and sustainable infrastructure financing in the country. The key principle was economic growth through **private sector participation**.

RBI UNVEILS FI-INDEX

A **Financial Inclusion Index (FI-Index)** to capture the **extent of financial inclusion** is now ready. The Reserve Bank of India informed about its formation on 17 August 2021. The **annual FI-Index** for the period **ending March 2021 is 53.9** as against 43.4 for the period ending March 2017, showing **drastic improvement in the past four years**. The index will be published annually in **July every year**.

What

1. The information on various aspects of **financial inclusion** will be measured in a single value ranging **between 0 and 100**, where **0 represents complete financial exclusion** and **100 indicates full financial inclusion**.

2. The index will be responsive to **ease of access**, availability and usage of services, and quality of services, comprising **97 indicators**.
3. It will also capture the **quality aspect of financial inclusion** as reflected by **financial literacy, consumer protection, and inequalities** and deficiencies in services.
4. It will capture the details of **banking, investments, insurance, postal** as well as the pension sector details to understand the extent of financial inclusion.
5. The FI-Index comprises **three broad parameters** such as **access with 35% weightage, usage (45% weightage) and quality (20% weightage)** with each of these consisting of various dimensions, which are computed based on a number of indicators.
6. There is **no base year** and therefore it **would reflect cumulative efforts** of all stakeholders over the years towards financial inclusion.

FEMA RULE 2019 AMENDED

The government has amended the **Foreign Exchange Management (non-debt instruments) Rules, 2019** to enable the **increase in foreign direct investment limit** in the insurance sector **to 74 per cent**.

What

1. According to the **Foreign Exchange Management (non-debt instruments) (second amendment) Rules, 2021**, applications for FDI in private banks having joint ventures or subsidiaries in the insurance sector may be addressed to the Reserve Bank of India for consideration in consultation with the **Insurance Regulatory and Development Authority of India** to ensure that the **limit of foreign investment of 74 per cent for the insurance sector** is not breached.
2. In May, the finance ministry had notified the **Indian Insurance Companies (foreign investment) Amendment Rules, 2021** that require insurers with foreign ownership of **over 49 per cent** to maintain a **solvency margin of 180 per cent** if they declare dividend payments in a financial year.
3. According to the notified rules, if insurance companies--with **foreign ownership above 51 per cent**--repatriate profit in the form of dividend to their shareholders, but cannot meet the 180 per cent margin requirement, they will have to **set aside 50 per cent of their net profit** in a general reserve.
4. The rules also require such insurance companies **to have 50 per cent of their directors as independent directors** unless the chairperson of its board is herself or himself one.

NEW PALM OIL MISSION APPROVED

The Union Cabinet on 18 August 2021 approved a new Rs 11, 040 crore mission to **boost domestic palm oil production**, highlight of which was a **MSP-type mechanism** for ensuring a bench mark assured price to farmers along with deficiency price payment **through DBT**. The decision comes after Prime Minister announced the new central scheme on 15 August during his Independence Day speech at Red Fort.

What

1. Under the new assured price mechanism, the government said that it will give a price assurance to the oil palm farmers for their **Fresh Fruit Bunches (FFBs)**.
2. **FFBs** are those from which **palm oil is extracted by the industry**. This will be known as the **Viability Price (VP)**.
3. This VP shall be the annual average CPO price of the last 5 years adjusted with the wholesale price index to be multiplied by 14.3 per cent. This will be **fixed yearly for the oil palm year** from 1st November to 31st October.

4. This assurance will inculcate confidence in the **Indian oil palm farmers** to go for increased area and thereby more production of palm oil. A **Formula price (FP)** will also be fixed which will be **14.3 percent of CPO** and will be fixed on a monthly basis.
5. The **viability gap funding will be the VP-FP** and if the need arises, it would be paid directly to the farmers' accounts in the form of DBT.
6. The **Indian Council of Agriculture Research (ICAR)** has identified that around **2.8 million hectares of land** in the country is suitable for oil palm cultivation of which just around 0.9 million is in North-East India which won't be used by cutting standing forests or shifting farmers from other crops.

PACT BETWEEN ICAI AND IPAR

The Union Cabinet on 25 August 2021 approved **signing of a pact** between the **Institute of Chartered Accountants of India (ICAI)** and the **Institute of Professional Accountants of Russia (IPAR)** to strengthen cooperation in matters of accountancy profession. The pact would help in establishing **mutual co-operation** in the areas of **professional accountancy training, professional ethics, technical research**, advancement of accounting knowledge, professional and intellectual development.

What

1. The **aim of MoU** is to work together **to develop a mutually beneficial relationship** for the best interest of ICAI members and the two respective organizations.
2. With MoU, ICAI would be able to help strengthen the partnership with Russia by providing the **Export of Services in Accountancy profession**.
3. The memorandum of understanding (MoU) between ICAI and IPAR is expected to provide an additional impetus to prospects of the ICAI members to **get professional opportunities in Russia** in short to long term future.

SCIENCE AND TECHNOLOGY

PHASE DOWN OF HYDROFLUOROCARBONS APPROVED

The Union Cabinet on 18 August 2021 gave its nod for **ratification of the Kigali Amendment for phase down of hydrofluorocarbons (HFCs) by India** under the **Montreal Protocol on Substances that Deplete the Ozone Layer**. Montreal Protocol on Substances that **Deplete the Ozone Layer** was adopted by the parties to the Montreal Protocol at its **28th meeting in Kigali, Rwanda** in October, 2016.

What

1. A **national strategy** for phase down of **hydrofluorocarbons** will be developed after required consultation with all the industry stakeholders by 2023.
2. Amendments to the **existing legislation framework**, the **Ozone Depleting Substances (Regulation and Control) Rules** to allow appropriate control of the production and consumption of hydrofluorocarbons to ensure compliance with the Kigali Amendment will be done by mid-2024.
3. The **phase down of HFCs** is expected to prevent the emission of up to **105 million tonnes of carbondioxide** equivalent of greenhouse gases, helping to avoid up to **0.5 degree Celsius of global temperature rise by 2100**, while continuing to protect the ozone layer.
4. According to the amendment, **implementation of HFC phase down** through the **adoption of low-global warming potential and energy-efficient technologies** will achieve energy efficiency gains and carbon dioxide emissions reduction which is a "**climate co-benefit.**"

5. All amendments and **adjustments of the Montreal Protocol**, prior to the Kigali Amendment have universal support.

6. **India became a Party to the Montreal Protocol on Substances that Deplete the Ozone Layer** on 19 June 1992 and since then has ratified the amendments to the Montreal Protocol.

7. India has successfully met the phase out targets of **all the Ozone Depleting Substances** as per the **Montreal Protocol Schedule**.

Flashback

1. Recognising the growth in use of HFCs, especially in refrigeration and air-conditioning sector, the **Parties to the Montreal Protocol** reached agreement at their **28th Meeting of the Parties (MOP)** held in October 2016 in Kigali, Rwanda to add HFCs to the list of controlled substances and approved a timeline for their gradual reduction by 80-85 per cent by the late 2040s.
2. **Hydrofluorocarbons** were introduced as **non-ozone depleting alternative to chlorofluorocarbons (CFC)** such as **R-12** and **hydrochlorofluorocarbons (HCFC)** such as R-21. While **HFCs do not deplete the stratospheric ozone layer**, they have high global warming potential ranging from 12 to 14,000, which have adverse impact on climate.
3. The **stratospheric ozone layer protects humans** and the environment from harmful levels of ultraviolet radiation from the sun.
4. India will complete its **phase down of HFCs in four steps** from 2032 onwards with cumulative reduction of **10 per cent in 2032, 20 per cent in 2037, 30 per cent in 2042 and 80 per cent in 2047**, the government said.

PLATFORM TO TACKLE E-WASTE

Indian Institute of Technology (IIT), Madras is developing an innovative model to tackle **electronic wastes (e-waste)** by linking stakeholders in the formal and informal economy. It is called "**e-Source**", the **exchange platform** that will serve as an **online marketplace** for **Waste Electrical and Electronic Equipment (WEEE)** and facilitate a formal supply chain between various stakeholders (buyers and sellers). The initiative is being spearheaded by **Indo-German Centre for Sustainability (IGCS)**.

What

1. The initiative aims to make '**Waste Electrical Electronic Equipment**' (**WEEE**) a key resource in the **evolution of a circular economy** by establishing traceability and recovery of post-consumer e-waste in the market.
2. A novel **open-source solution** is needed that is data enriched, leveraging the potential of transparency in **formalised e-waste handling and management**.
3. **E-wastes** are typically either completely stripped down for precious metals and other high-value materials or dumped in landfills, without exploring potential re-use and repurposing options. **Unscientific recycling methods** are harmful for waste handlers and the environment.
4. **E-Source** is a **unique open-source platform** that will evolve towards using **machine learning** for better traceability of e-waste in compliance with guidelines and help increase the opportunities for **repair and re-use of e-waste**.

HOT TEST TO THE SDM SUCCESSFULLY TESTED

As part of its preparations for the ambitious **India's first human spaceflight mission (Gaganyaan)**, the **Indian Space Research Organisation (Isro)** on 28 August 2021 said it

successfully conducted a **hot test of the system demonstration model (SDM)** of the service module propulsion system.

What

1. The **first hot test** of the **SDM of the Gaganyaan Service Module Propulsion System (SMPS)** was for **duration of 450 seconds** at **Isro Propulsion Complex (IPRC)** in Mahendragiri, Tamil Nadu.
2. The system performance met the **test objectives** and there was a close match with the pre-test predictions.
3. A **series of hot tests are planned** to simulate various mission conditions as well as **off-nominal conditions** in the coming months.
4. The **service module is part of the Gaganyaan Orbital module** and is **located below the crew module** and remains connected to it until re-entry.
5. The **service propulsion system** consists of a **unified bi-propellant system** consisting of five 440-N thrust engines and 16 100-N reaction control system (RCS) thrusters with **MON-3 and MMH as Oxidizer and Fuel** respectively.
6. The **SDM**, consisting of **five 440-N engines and eight 100-N thrusters**, was realised (designed) to qualify the **propulsion system** performance in ground. A new test facility was established at IPRC, for testing the SDM.

HYCEAN COULD SUPPORT LIFE

Astronomers have identified a **new class of habitable planets**, which could greatly **accelerate the search for life** outside our Solar System. Dubbed as '**Hycean**' -- **hot, ocean-covered planets** with **hydrogen-rich atmospheres**, the new classes of exoplanets are more numerous and observable than **Earth-like planets**, and can support life, said astronomers from the University of Cambridge in the UK.

What

1. **Hycean planets open a whole new avenue** in our search for life elsewhere, said Cambridge's Institute of Astronomy, who led the research.
2. **Hycean planets** can be up to **2.6 times larger than Earth** and have **atmospheric temperatures** up to nearly **200 degrees Celsius**, but their oceanic conditions could be similar to those conducive for **microbial life in Earth's oceans**.
3. Such planets also include **tidally locked 'dark' Hycean worlds** that may have habitable conditions only on their permanent night sides, and **'cold' Hycean worlds** that receive little radiation from their stars.
4. Planets of this size dominate the known **exoplanet population**, although they have not been studied in nearly as much detail as super-Earths.
5. **Hycean worlds are likely quite common**, meaning that the most promising places to look for life elsewhere in the Galaxy may have been hiding in plain sight.
6. However, size alone is not enough to confirm whether a planet is Hycean: other aspects such as **mass, temperature, and atmospheric properties** are required for confirmation, the researchers said.

NEW CORONAVIRUS VARIANT 'MU'

The **World Health Organization** has said it is monitoring a **new coronavirus variant** known as "**Mu**", which was **first identified in Colombia** in January. **Mu, known scientifically as B.1.621**, has been classified as a "**variant of interest**", the global health body said on 31 August 2021 in its weekly pandemic bulletin.

What

1. The WHO said **the variant has mutations** that indicate a risk of resistance to vaccines and stressed that further studies were needed to better understand it.
2. The **Mu variant** has a **constellation of mutations** that indicate potential properties of immune escape.
3. There is widespread concern over the emergence of new virus mutations as infection rates are ticking up globally again, with the **highly transmissible Delta variant** taking hold - especially among the unvaccinated -- and in regions where anti-virus measures have been relaxed.
4. All viruses, including **SARS-CoV-2 that causes Covid-19**, mutate over time and most mutations have little or no effect on the properties of the virus.
5. The WHO currently identifies **four Covid-19 variants of concern**, including Alpha, which is present in 193 countries, and Delta, present in 170 countries.
6. **Five variants**, including **Mu**, are **to be monitored**.

ANTS, AVOCADOS, ROBOT TO ISS

A **SpaceX** shipment of **ants, avocados** and a **human-sized robotic arm** rocketed toward the **International Space Station (ISS)** on 29 August 2021. The delivery, due to arrive on 30 August 2021, is the company's 23rd for NASA in just under a decade. A **recycled Falcon rocket** blasted into the predawn sky from NASA's Kennedy Space Center. After hoisting the Dragon capsule, the first-stage booster landed upright on SpaceX's newest ocean platform, named "**A Shortfall of Gravitas**".

What

1. The **Dragon** is carrying more than 4,800 pounds (2,170 kilogrammes) of supplies and experiments, and fresh food including **avocados, lemons and even ice cream** for the space station's seven astronauts.
2. The **Girl Scouts are sending up ants, brine shrimp and plants** as test subjects, while University of Wisconsin-Madison scientists are flying up seeds from mouse-ear cress, a **small flowering weed used in genetic research**.
3. Samples of concrete, solar cells and other materials also will be subjected to **weightlessness**.
4. A Japanese start-up company's **experimental robotic arm**, meanwhile, will attempt to screw items together in its orbital debut and perform other mundane chores normally done by astronauts.
5. NASA turned to SpaceX and other US companies **to deliver cargo and crews** to the space station, once the **space shuttle program ended in 2011**.

DRDO DEVELOPS ADVANCED CHAFF TECHNOLOGY

The **Defence Research and Development Organisation (DRDO)** has developed an **advanced chaff technology** to safeguard Indian Air Force (IAF) fighter jets against hostile radar threats. The **advanced chaff material and chaff cartridge-118/I** has been developed by a **DRDO laboratory based in Rajasthan's Jodhpur**.

What

1. It was developed in collaboration with **High Energy Materials Research Laboratory (HEMRL)**, a Pune-based laboratory of DRDO, meeting the qualitative requirements of the IAF.
2. **Chaff is an electronic countermeasure technology** used by militaries worldwide to **protect naval ships**, aircraft or other sensitive targets from radar and radio frequency (RF) guiding mechanisms of the enemy missile.
3. The chaff rockets deployed in the air reflect as multiple targets for **the missile guidance systems** and deflecting adversary missiles, thus protecting own assets.

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4. The **new technology is a shot in the arm for the IAF** as the chaff is a critical defence technology used to protect fighter aircraft from hostile radar threats.

Flashback

1. Earlier in April, the DRDO had developed a **similar technology for naval ships**.
2. It had developed three variants of a '**chaff rocket**'— **Short Range Chaff Rocket (SRCR)**, **Medium Range Chaff Rocket (MRCR)** and **Long Range Chaff Rocket (LRCR)** — for the protection of naval ships from **guided-missile attacks**.
3. The Indian Navy had also conducted trials of all the three variants from a warship deployed in the **Arabian Sea** and found the performance satisfactory.

INDIA RANKS SECOND IN CRYPTO ADOPTION GLOBALLY

India has been ranked second in terms of **crypto adoption**, amid a bull run in cryptocurrency assets globally this year, a new report by **blockchain data platform Chainalysis** showed. According to the report, which **ranked 154 countries**, worldwide **crypto adoption grew by over 881% in the last year**. Global adoption has grown by over 2,300% since the third quarter of 2019. **Emerging markets led ahead of the United States and European nations**, driven by peer-to-peer (P2P) platform trading, the report revealed.

What the report said

1. **India was second only to Vietnam** in the study that ranked countries according to the **total cryptocurrency** received, the amount of cryptocurrency moved in transactions under \$10,000, and P2P trade volume, all weighted by **purchasing power parity (PPP) per capita**.
2. **India's crypto bull market** was triggered in March 2020 by a Supreme Court ruling that set aside the **Reserve Bank of India's April 2018 directive** banning banks and finance companies from dealing in virtual currencies.
3. Following the ruling, the **country's top exchanges doubled down on advertising** and educating users about the asset class, which has become popular among investors under the age of 25. It is slowly catching **the fancy of those aged over 45 as well**.
4. **Top crypto exchanges and platforms in India** have been operating with limited banking access.

MISCELLANEOUS

INTERNATIONAL DAY AGAINST NUCLEAR TESTS

On December 2009, the **64th session** of the **United Nations General Assembly** unanimously adopted resolution and declared **29 August** as the **International Day against Nuclear Tests**. **More than 2,000 nuclear tests** have been conducted since the nuclear weapons testing started on 16 July 1945. In the initial days, little importance was given to the **disastrous effect of nuclear weapons on humans**.

What

1. The UN resolution has called on **increasing awareness** about the **ill effects of nuclear weapons testing** and the need to stop these atomic explosions to achieve the goal of **nuclear-weapon-free world**.
2. The **Republic of Kazakhstan** along with other sponsors and cosponsors initiated the resolution to commemorate the closure of the **Semipalatinsk Nuclear Test site** on 29 August 1991.
3. After the establishment of this resolution, many **internationals and inter-governmental pacts** have been signed to effect the ban on nuclear tests.

International Day for the Total Elimination of Nuclear Weapons

1. The General Assembly declared **26 September** as the “**International Day for the Total Elimination of Nuclear Weapons**”.
2. This day was first observed for the **first time in September 2014**.

What is CTBT?

1. An international treaty called **Comprehensive Nuclear-Test-Ban Treaty (CTBT)** came into being in 1996 to **put an end to all forms of nuclear testing**.

NATIONAL SPORTS DAY, 2021

29 August is celebrated as **National Sports Day**. It is a tribute to our hockey legend, **Major Dhyan Chand** on his birth anniversary. He is also known as "**The Wizard**" for his magnificent game. Major Dhyan Chand was born on 29 August 1905 in Allahabad.

What

1. In the 1928 Olympics, the **Indian team won gold** defeating their opponents by huge margins.
2. It was the **country's first gold medal**. Dhyan Chand showed the world his magic of controlling the ball and gained the title of the '**magician of hockey**.'
3. In 2002, the **National Stadium in New Delhi** was renamed **Major Dhyan Chand National Stadium**.
4. Recently, the Prime Minister renamed **Rajiv Gandhi Khel Ratna Award** as **Major Dhyan Chand Khel Ratna Award** after the appreciable performance by **Indian Men's and Women's hockey team** at Tokyo 2020.

OPERATION DEVI SHAKTI

India's complex mission to evacuate **its citizens and Afghan partners from Kabul** after its swift takeover by the Taliban last week has been named as "**Operation Devi Shakti**". The name of the operation was known when External Affairs Minister S Jaishankar mentioned on 24 August 2021 while referring to the arrival of a fresh batch of evacuees in Delhi.

What

1. India began the complex **evacuation mission** by airlifting 40 Indians from Kabul to Delhi on 16 August 2021, a day after the **Taliban seized control of the Afghan capital city**.
2. So far, **India has evacuated over 800 people** amid a deteriorating security situation in Kabul and scramble by various nations to rescue their citizens.
3. Thousands of Afghans have been crowding around the Kabul airport for over a week, in a desperate attempt to flee the country fearing the **Taliban's brutality**.
4. On 24 August 2021, **India brought back 78 people**, including 25 of its nationals and a **number of Afghan Sikhs and Hindus from Dushanbe**, a day after they were evacuated from Kabul to the Tajik city.

Flashback

1. At a meeting of the Cabinet Committee on Security, Prime Minister Narendra Modi on 17 August 2021 directed officials to **ensure the safe evacuation of all Indians from Afghanistan and provide refuge to Afghan Sikhs and Hindus** wanting to come to India.
2. In the last few days, India stepped up its efforts to evacuate Indians and its Afghan partners from Kabul amid **increasing hostilities by the Taliban**.

WOMEN ALLOWED TO TAKE NDA EXAM

The **Supreme Court** on 18 August 2021 **allowed women to take up examination** for the **National Defence Academy (NDA)** where only men can join for training as officers in defence services, saying the bar created for female candidates was discriminatory. The top court pulled up the Army for resisting opportunities to women, and asked it to **change its attitude** and not wait for judicial orders to be passed in such matters.

What

1. This is a **policy decision based on gender discrimination...** The Centre must take a constructive view, the bench said.
2. In an interim order, the top court directed that women can sit for exams for entry in NDA, slated for 5 September. However, the court said women's admissions will be subjected to its final orders.
3. In a fresh application, the petitioner pointed out that UPSC on 9 June 2021 had issued a notice declaring the date of examination for admission to the **Army, Navy, and Air Force wings** of the NDA.
4. The application said the examination notice is in complete violation of **Articles 14, 15, 16 and 19 of the Constitution.**
5. It pointed out that notice categorically states a condition for eligibility for the examination, that the candidate must be an unmarried male, which excludes eligible and willing female candidates.
6. The top court was hearing a plea seeking directions for necessary steps to be taken to allow eligible female candidates to appear for the **National Defence Academy and Naval Academy Examination** and train at the National Defence Academy.
7. On 10 March, a bench headed by then Chief Justice S A Bobde had issued notice to the Centre on the plea.

ZyCoV-D GETS EUA IN INDIA

The **world's first DNA-plasmid vaccine**, the three-dose one for Covid-19 developed by Cadila Healthcare (Zyudus Cadila), has received **emergency-use authorization (EUA)** from the Drugs Controller General of India (DCGI) for use in **adolescents 12 years old and above.** This makes **indigenously developed ZyCoV-D India's first Covid-19 vaccine for this age group**, and the vaccine has many firsts.

What

1. It is based on **DNA-plasmid technology**; then, it can be administered using a **needle-free injection system**; and finally, it remains **stable in room temperatures** for three months.
2. This is a **three-dose vaccine** whose second and the third doses are 28 and 56 days, respectively, after the first.
3. Typically, in a **needle-free injection system**, a jet of fluid is accelerated to high speed, providing it significant penetrating power through a **fine-diameter nozzle** when placed against the skin.
4. The **DNA-based vaccine** is the **sixth jab against SARS-CoV2** to get emergency use authorisation in India.
5. So far, **Covishield, Covaxin, Sputnik V** are available in India, whereas vaccines developed by **Moderna and J&J** have also been approved with emergency authorisation.

What is a DNA-plasmid vaccine?

1. **Conventional active vaccines** are made from a **killed or weakened** form of the infectious agent.
2. A **DNA-plasmid vaccine** is a relatively new approach where a **piece of DNA containing the genes for the antigens** is injected.
3. The body then **learns to develop an immune response** against the antigen, and when the pathogen attacks, the body is able to generate the **specific antibodies against it.**

INDIA'S FIRST INDIGENOUS MOTORISED WHEELCHAIR

Indian Institute of Technology, Madras has developed **India's first indigenous motorised wheelchair vehicle** that can be used not only on roads but even on uneven terrains. Called '**NeoBolt**', it has a **maximum speed of 25 kmph** and travels up to 25 km per charge.

What

1. It empowers wheelchair users with a convenient, safe and **low-cost mode of outdoor mobility** when compared to cars, auto rickshaws or modified scooters.
2. **NeoBolt is powered by a Lithium-Ion Battery** that will give 25 Kms for every charge.
3. **NeoBolt** was developed by **Department of Mechanical Engineering, IIT Madras**, and has been commercialised through a startup called **NeoMotion**.
4. The start-up has also developed and commercially launched '**NeoFly**,' a personalised wheelchair designed to enhance health and lifestyle.
5. Products with features comparable to **NeoBolt are available only in the global market** and are at least three to five times more expensive, the institute said.

INDIA IS ONLY ASIAN COUNTRY IN 2021 BSF

India is the only Asian country and **one of three non-European countries** along with the **USA and Kenya** to be invited for the **2021 Bled Strategic Forum (BSF)**. The Forum is an **annual international conference** held in **Slovenia** that has become a **key forum of European foreign ministers**. Slovenia is the current European Union (EU) chair.

What

1. **Several European countries** are seeking **wider Indian presence in the continent** to balance China. It may be recalled that the **EU has put trade and investment pact** with China on hold while seeking to revive a proposed trade pact with India at the summit held earlier this year.
2. Among the key themes that BSF will debate are **China-led Belt and Road Initiative's (BRI's)** utility in Europe, China's sanctions against European individuals and businesses, and the need for the EU to devise a strategy for its position in a **new geo-economic world**.
3. This year's edition of the forum will also seek **to bridge East-West divide within Europe and EU**.
4. **Lithuania and Poland** are trying to balance China's influence..