

## My Notes....

### NATIONAL

#### CENTRE SUBMITS NDC CLIMATE TARGET TO UNFCC

The Centre on 26 August 2022 submitted its updated '**nationally determined contributions**' (NDCs) to the **United Nations Framework Convention on Climate Change (UNFCC)**. This is in line with the commitment made by Prime Minister Narendra Modi at the **Conference of Parties (COP26)** last year. The NDCs cover a **period up to 2030** and are a step towards the country's long-term goal of reaching **net zero by 2070**, said the submission by the ministry of environment, forest and climate change (MoEFCC).

#### More about NDCs

1. The country has submitted **eight key NDCs**, of which **two are updates on our existing targets**.
2. India had **last submitted its NDC in 2016**. The Union Cabinet — earlier during the month — approved the country's official NDC submission.
3. The ministry — in its cover letter to the UNFCC — however, said, **India's NDCs "do not bind it to any sector-specific mitigation obligation and target."**
4. India's goal is **to reduce overall emission intensity** and improve energy efficiency of its economy over time. This would protect the **vulnerable sectors of the economy** and segments of the society.
5. India has updated its target to **reduce emission intensity of its GDP by 45 per cent** by 2030, from 2005. It was **earlier 30 per cent**. It has also **updated the target of capacity addition** from non-fossil fuel sources.
6. India said it **will achieve about 50 per cent cumulative electric power** installed capacity from non-fossil fuel-based energy resources by 2030.
7. It said this target will be **"with the help of transfer of technology** and low-cost international finance, including from **Green Climate Fund (GCF)**."

#### Flashback

1. **During COP26**, the PM had said **India will build 500 Gw of renewable energy capacity**, but that has not been a part of the official submission. It has also updated its NDC of propagating **climate consciousness** by including the submission made by the PM during his address at COP26.
2. India will **propagate a healthy and sustainable way** of living based on traditions and values of conservation and moderation, including through a mass movement for **'LIFE'— 'Lifestyle for Environment'** — as a key to combating climate change," said the NDC submission.
3. The country has added a **new target of creating an additional carbon sink** of 2.5 to 3 billion tonnes of carbon dioxide equivalent through additional forest and tree cover by 2030.

#### NCRB'S 'CRIME IN INDIA' REPORT

A new edition of '**Crime in India**', the annual report of the **National Crime Records Bureau (NCRB)**, was released on 29 August 2022, for **crime-related statistics in 2021**. NCRB reports have been a **valuable compilation of statistics over the years** on offences ranging from **crimes against women** to economic and financial crimes.

#### What the report said?

1. **Overall, 2021** saw a **7.6 per cent decline in the number of crimes** registered, as compared to 2020.
2. The crime rate **per lakh population declined** from 487.8 in 2020 to 445.9 in 2021.

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3. However, **crime statistics do not always tell the full story**, and lower crimes reported in an area do not necessarily mean it is safe.

#### How does the NCRB collect information for its report?

1. The **NCRB report** contains data received from the **36 states and Union Territories** across the country.
2. Similar data is furnished for **53 metropolitan cities**, or those having a **population of more than 10 lakh** as per the 2011 census, by respective state-level crime records bureaus.
3. This information is entered by state/UT police at the police station/ district level, and is then validated further at the district level, then the state level and **finally by the NCRB**.

#### Who publishes the NCRB report?

1. The **NCRB** was established in **January 1986** with the aim of establishing a body to **compile and keep records of data on crime**. It functions under the **Union Home Ministry**.
2. Apart from publishing annual reports, its functions include **“Collection, coordination and exchange of information on inter-state and international criminals** to the respective states”.
3. NCRB also acts as a **“national warehouse”** for the **fingerprint records of Indian and foreign criminals**, and assists in locating interstate criminals through fingerprint search.

## NAFIS INAUGURATED

Union Home Minister **Amit Shah** inaugurated the **National Automated Fingerprint Identification System (NAFIS)** on 17 August 2022, at the two-day **National Security Strategies (NSS) Conference 2022** held in New Delhi. The **NAFIS**, which was developed by the **National Crime Records Bureau (NCRB)**, would help in the quick and easy disposal of cases with the help of a **centralised fingerprint database**. In April this year, **Madhya Pradesh became the first state** in the country to identify a deceased person through **NAFIS**.

#### What is NAFIS?

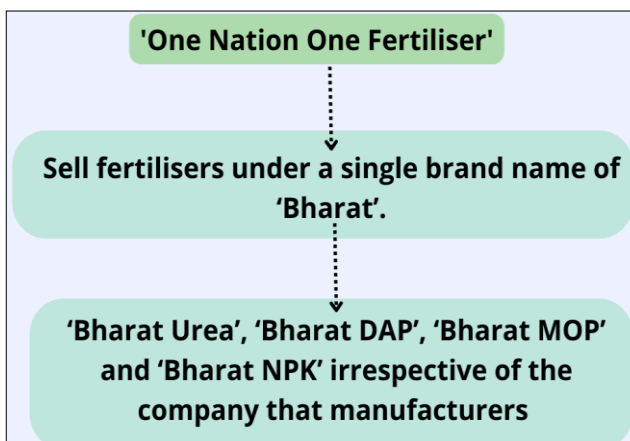
1. Conceptualized and managed by the **NCRB** at the **Central Fingerprint Bureau (CFPB)** in New Delhi, the **National Automated Fingerprints Identification System (NAFIS) project** is a country-wide searchable database of crime- and criminal-related fingerprints.
2. The **web-based application** functions as a central information repository by consolidating fingerprint data from all states and Union Territories.
3. According to a 2020 report by the NCRB, it enables **law enforcement agencies** to upload, trace, and retrieve data from the database in real time on a **24×7 basis**.
4. **NAFIS** assigns a unique **10-digit National Fingerprint Number (NFN)** to each person arrested for a crime.
5. This **unique ID** will be used for the person’s lifetime, and different crimes registered under different FIRs will be linked to the same NFN.
6. The 2020 report states that the **ID’s first two digits will be that of the state code** in which the person arrested for a crime is registered, followed by a sequence number.
7. By automating the **collection, storage, and matching of fingerprints**, along with digitizing the records of fingerprint data, NAFIS will **“provide the much-needed unique identifier for every arrested person** in the **CCTNS (Crime and Criminal Tracking Network & Systems) database** as both are connected at the backend”.

## 'ONE NATION ONE FERTILISER' PLAN IMPLEMENTED

To bring about **uniformity in fertiliser brands** across the country, the government on 24 August 2022 **issued an order directing all companies** to sell their products under a single brand name of **'Bharat'**. Following the order, **all fertiliser bags**, whether containing **urea or di-ammonium phosphate (DAP) or muriate of potash (MOP) or NPK** will sport the brand name as **'Bharat Urea', 'Bharat DAP', 'Bharat MOP'** and **'Bharat NPK'** irrespective of the company that manufactures it, whether in the public or the private sector.

### More about the order

1. The order has drawn adverse reactions from fertiliser companies, claiming it will **'kill their brand value and market differentiation'**.
2. The order also stated that the single brand name and the **logo of Pradhan Mantri Bhartiya Janurvarak Pariyojana (PMBJP)**, the scheme under which the Central government grants subsidy annually to the fertiliser, companies will have to be displayed on the bags.
3. The **company name can be mentioned in a very small portion** of the total packaging.
4. The order, meanwhile, said that fertiliser companies will **not be allowed to procure old designed bags** from 15 September 2022 and the new system will come into place from 2 October 2022.
5. The companies have been given time till 12 December to **exhaust all their old designed bags** from the market.



## RETROSPECTIVE USE OF BENAMI LAW UNCONSTITUTIONAL

The **Supreme Court** on 23 August 2022 declared **"unconstitutional and manifestly arbitrary"** amendments introduced in the **benami law in 2016**, which **apply retrospectively** and can send a person to prison for three years even as it empowers the Centre to confiscate **"any property"** subject to a **benami transaction**.

### What

1. A **three-judge bench** led by Chief Justice of India **NV Ramana** declared **Sections 3(2) and 5** introduced through the **Benami Transactions (Prohibition) Amendment Act** of 2016.
2. The 2016 law amended the **original Benami Act of 1988**. It expanded the 1988 Act to **72 sections from a mere nine sections**.
3. Section 3 (2) mandates punishment of **three years' imprisonment** for those who have entered into **benami transactions** between 5 September 1988 to 25 October 2016, That is, a person can be sent behind bars for a **benami transaction** entered into **28 years** before the section even came into existence.
4. Chief Justice Ramana, who wrote the judgment, held that the provision violated **Article 20(1)** of the Constitution.
5. **Article 20(1)** mandates that **no person should be convicted of an offence** which was not in force "at the time of the commission of the act charged as an offence".

6. **Section 5 of the 2016 Amendment Act** said that “any property which is subject matter of a **benami transaction** shall be liable to be confiscated by the Central Government.” The court held that this provision cannot be applied retrospectively.
7. Chief Justice Ramana dismissed the government’s version that **forfeiture, acquisition, and confiscation of property** under the 2016 Act was not in the nature of prosecution and cannot be restricted **under Article 20**.

## GOVT. AMENDS SUPREME COURT JUDGES RULES

The **government** on 23 August 2022 **amended the Supreme Court Judges Rules** to entitle a retired Chief Justice **rent-free Type - VII accommodation** in Delhi for six months from the date of **superannuation**. A notification issued by **the Ministry of Law and Justice** said the accommodation would be other than the designated official residence.

### More about the amended Rules

1. The **amended Rules** added that a **retired Chief Justice and judges of the Supreme Court** shall be entitled to a **chauffeur, secretarial assistant and a round-the-clock security cover** in addition to his or her **personal security guard** for a period of a year from the date of retirement.
2. Further, **the amended Rules** mandated that a retired Chief Justice and judges **should be extended**, as per protocol, courtesies at ceremonial lounges at airports.
3. The amended Rules are called the **Supreme Court Judges (Amendment) Rules, 2022**.
4. The government has amended the original **Supreme Court Judges Rules of 1959** in exercise of powers conferred to it under **the Supreme Court Judges (Salaries and Conditions of Service) Act, 1958**.
5. A **2013 decision of the Supreme Court** had taken a serious view of former Ministers, MPs and even retired judges and government servants staying in government bungalows beyond the allotted period.
6. **Judges of any forum** shall vacate the official residence within a period of one month from the date of superannuation/retirement. However, after recording sufficient reasons, the time may be extended by another one month, the Supreme Court had ordered.

## INDIGO JOINS WEF'S SUSTAINABLE INITIATIVE

The country's largest carrier **IndiGo** on 29 August 2022 said it has joined a **sustainable initiative** spearheaded by the **World Economic Forum (WEF)**. The airline has become a **signatory to the Clear Skies for Tomorrow**, India Coalition campaign.

### What

1. IndiGo's commitment to the deployment of **sustainable initiatives** will help in achieving a significant scale for **SAF (Sustainable Aviation Fuel)** to gain a **critical mass** and bring in cost-efficiency for widespread adoption in India.
2. On 18 February 2022, IndiGo operated its brand **new A320 neo plane** from Toulouse, France to New Delhi with a **10 per cent blend of SAF**.
3. **Clean Skies for Tomorrow**, launched **in January 2019**, provides a crucial mechanism for top executives and public leaders, across and beyond the aviation value chain, to align on a transition to **sustainable aviation fuels** as part of a meaningful and proactive pathway for the industry **to achieve carbon-neutral flying**.
4. The goal is to have **commercially viable SAF production** (both bio and synthetic) at scale for **industry-wide adoption by 2030** to support aviation's overall **net-zero pathway by 2050**.
5. The global coalition now has **more than 80 members**. In July, IndiGo had a domestic market share of **58.8 per cent**.

## INTERNATIONAL

### GLOBAL OCEAN PROTECTION TREATY FAILED TO PASS

**Negotiations involving 168 countries**, including the **European Union**, to agree on a **UN treaty** for protecting oceans failed on 27 August 2022. In June, UN Secretary-General Antonio Guterres had declared an “**ocean emergency**” at the **UN Ocean Conference in Lisbon, Portugal** citing threats to the **world’s oceans**.

#### What is the proposed UN High Seas treaty?

1. Also referred to as the ‘**Paris Agreement for the Ocean**’, the treaty to deal with **Biodiversity Beyond National Jurisdiction** has been under discussion for several years.
2. The proposed treaty concerns the **ocean existing beyond the Exclusive Economic Zones** that lie from the coast of a country to **about 200 nautical miles or 370 km into the sea**, till where it has special rights for exploration. Waters beyond that are known as **open seas or high seas**.
3. The treaty was to be negotiated under the **United Nations Convention on Laws of the Sea (UNCLOS) of 1982** which governs the rights of countries regarding **marine resources**.
4. As there is no treaty for conserving the health of vast swathes of the earth’s oceans, a **UN resolution in 2017** had decided to rectify this while setting 2022 as the deadline.
5. The pandemic resulted in many delays, and later, a **High Ambition Coalition**, which now has **more than 100 countries including India**, the US, and the UK, came about and put the focus on ‘**30×30**’ goals – **protecting 30% of the ocean by 2030**. After the latest deadlock, talks will only resume next year, unless a special session is called.
6. Some aspects of negotiations included **establishing marine protected areas** to put limits on certain activities, **environmental impact assessments** or clearances for sustainability of works, financial support to countries and sharing other scientific knowledge.
7. The **International Union for Conservation of Nature** has said binding agreements are needed for this treaty to be effective.

#### How are the world’s oceans regulated as of now?

1. Some treaties, along with the **UNCLOS**, regulate the conduct of actors on the high seas. The **UNCLOS led to the establishment of territorial sea boundaries 22 km offshore**, deciding the region up to which countries could claim full sovereign territorial rights, as well as the **200 nautical miles EEZ limit**.
2. It also created the **International Seabed Authority** and other conflict-resolution mechanisms.
3. But a treaty dedicated to **protecting ocean health** does not exist as of now.
4. Conversely, every country has the **right to access open seas**, resulting in large-scale drilling and trawling operations for **catching fish and other animals** for commercial purposes.

### INDIA VOTES AGAINST RUSSIA FOR THE FIRST TIME

**India** on 24 August 2022 **voted against Russia for the first time** during a **procedural vote** at the **United Nations Security Council (UNSC) on Ukraine**. This is for the **first time** that **India has voted against Russia on the issue of Ukraine**, after the Russian military action began in February. So far, **New Delhi has abstained** at the UN Security Council on Ukraine, much to the annoyance of the Western powers led by the United States.

### What

1. **India has not criticised Russia** for its aggression against Ukraine. New Delhi has repeatedly called upon the Russian and Ukrainian sides to return to the **path of diplomacy and dialogue**, and also expressed its support for all diplomatic efforts to end the conflict between the two countries.
2. **India currently is a non-permanent member of the UNSC** for a two-year term, which ends in December.
3. On 24 August 2022, the UNSC held a meeting to take stock of the now **six-month-old conflict** on the **31st anniversary of Ukraine's independence**.
4. **Ukraine celebrated its Independence Day** on 24 August 2022, which also marked exactly six months since the start of Russia's military offensive against the country on 24 February 2022.
5. The Ukrainian President called on Russia to cease its "**nuclear blackmail**" and completely withdraw from the plant.

### APG REMOVES RUSSIA'S OBSERVER STATUS

Citing **Russia's ongoing aggression in Ukraine**, the **Asia Pacific Group (APG)** on Money Laundering **revoked Moscow's observer status**. The decision to remove Russia's status was taken last month **in Malaysia** during the annual meeting of the APG, which has **India, China, and Pakistan** as its key members. **Russia was one of the APG observers since 2010**.

#### More about the decision

1. The decision to **terminate its APG status** was based on the **Financial Action Task Force's June 2022 decision** to restrict its **FATF membership rights**.
2. **APG was established and funded by Australia** in 1995 and is among the **largest Financial Action Task Force (FATF)-style regional bodies** in terms of **membership numbers and geographical size**.
3. **China has been APG's founding member since 1997**. The group has a permanent and a rotating co-chair, while the **former is held by Australia, the latter is currently held by Malaysia**.
4. APG's move to remove Russia's observer status comes after the FATF in June stated that Moscow's actions in Ukraine "**run counter** to the FATF core principles aiming to **promote security, safety and the integrity of the global financial system**".
5. The **global anti-money laundering agency** said, "Russia's actions also represent a gross violation of the commitment to **international cooperation and mutual respect** upon which FATF members have agreed to **implement and support the FATF standards**."

### INDIA AND VIETNAM WRAP UP VINBAX 2022

A nearly **three-week military exercise (VINBAX 2022)** carried jointly by the armies of **India and Vietnam** concluded in Chandimandir on 18 August 2022. It was **for the time** that the **Vietnam People's Army (VPA)** undertook a **field training exercise** with a foreign army.

#### What

1. The exercise had commenced on 1 August 2022 and was focused on deployment of Army Engineer and Medical teams in **UN Peacekeeping operations**.
2. Over a period of three weeks, the **soldiers of the two armies rubbed shoulders** with each other learning from each other and sharing best practices.
3. **Vietnam** has deployed a **contingent in UN peacekeeping operations** for the first time in **South Sudan** while India has a long and rich tradition of contributing to **UN peacekeeping missions**.

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4. The contingents from the two countries underwent **theory classes** followed by **practical exercises** to validate the learning.
5. The **final validation exercise** nicknamed '**Men in Blue**' was built around the setting up of a base in a remote African location faced with **myriad challenges**.
6. Relations between **India and Vietnam** were elevated to the level of '**strategic partnership**' during the visit of Vietnam's then Prime Minister **Nguyen Tan Dung** to India in July 2007.
7. In 2016, during Prime Minister Narendra Modi's visit to Vietnam, bilateral relations were further elevated to a '**comprehensive strategic partnership**'.

#### Flashback

1. **Vietnam**, an important country of the **ASEAN** (Association of Southeast Asian Nations), has **territorial disputes with China** in the **South China Sea region**.
2. India has **oil exploration projects in the Vietnamese waters** in the South China Sea.
3. **India and Vietnam** are boosting their **maritime security cooperation** in the last few years to protect common interests. The **next edition of VINBAX** will be hosted **in Vietnam in 2023**.

## INDIA, AUSTRALIA CONCLUDE MPX

The **Maritime Partnership Exercise (MPX)** between the navies of **India and Australia** concluded on 20 August 2022. **INS Sumedha** participated with **HMAS Anzac** in the exercise reaffirming the strong **navy-to-navy links** and interoperability between **Indian Navy and Royal Australian Navy**.

#### What

1. The MPX included cross **deck landing of helicopters, tactical manoeuvres** and a farewell steam past.
2. Indian Navy's **INS Sumedha** was docked at Perth in Australia to celebrate **India's 76th Independence Day** on 15 August 2022.
3. To commemorate the spirit of Independence, a **flag hoisting ceremony** was scheduled onboard in presence of Veterans and Australian Defence Forces officers on 15 August 2022.
4. As part of the Indian Navy's Operational Deployment, **INS Sumedha** has been deployed to the **South Eastern Indian Ocean**.
5. She is part of the Indian Navy's initiative **to hoist 'Tiranga'** on all continents (except Antarctica) as part of **Azadi Ka Amrit Mahotsav celebrations**.
6. **INS Sumedha** is an indigenously built **Naval Offshore Patrol Vessel** deployed for multiple roles independently and in support of Fleet Operations. She is part of the **Indian Navy's Eastern Fleet** based at Visakhapatnam.

#### Flashback

1. It is in consonance with Joint Guidance provided by the Chiefs of both the navies in August 2021 and is aligned to the '**2020 Comprehensive Strategic Partnership**' between the two nations.
2. It aims to further consolidate **shared commitment** to regional and global security challenges promoting peace, security and stability in the **Indo-Pacific region**.
3. Both navies have been collaborating on **various fronts** and are playing a critical role in ensuring the safety of **international maritime trade** and working towards global commons.

- The visit of **INS Sumedha** underscores India's vision of **SAGAR (Security and Growth for All in the Region)** and shared objectives of the two countries towards ensuring good order in the maritime domain and the Indian Navy's commitment to building bridges of friendship and strengthening cooperation with friendly maritime nations.

## NORD STREAM 1 IS CRITICAL FOR EUROPE

**Russia**, on 31 August 2022, **halted gas supplies for three days to Europe via Nord Stream 1**, citing maintenance issues. **Gazprom**, the Russian state energy company, has said **there would be no gas supply to Germany** until 3 September 2022. The maintenance was usually done quietly in the past. But with the pipeline becoming a **bargaining chip between Russia and the West**, the company's announcements are now made public.

### What is Nord Stream 1?

- Nord Stream 1** is the biggest pipeline **transporting natural gas between Russia and Europe via Germany**.
- It runs from Vyborg in Russia to Greifswald in Germany. In 2021, Russia supplied nearly **40 per cent of the EU's natural gas needs** through this pipeline.
- It is majorly **owned by Gazprom**. The twin pipeline system of **Nord Stream** can transport **55 billion cubic metres of gas** from Russia to Europe through the **Baltic Sea**.
- In June, **Moscow slashed the supply via Nord Stream** to 40 per cent. In July, it was further reduced to 20 per cent.
- Along with the pipeline, Russia has completely cut off supplies to **Denmark, Bulgaria, Finland, the Netherlands, and Poland**.
- The flows through Nord Stream play a vital role in filling up the **national storage tanks of Germany and the EU**. It is crucial to provide the required heating in the upcoming winter.
- Out of **Germany's 85 per cent storage** target by 1 October, **83.26 per cent have already been filled**. But the **target of 95 per cent** by 1 November may be difficult.
- For the EU, **the required storage level of 80 per cent** is near completion, with 79.94 per cent already filled.

## ECONOMY

### THE COMPETITIVENESS ROADMAP FOR INDIA REPORT

**India** needs a set of **sector- and location-specific growth initiatives** to reframe some of its key industrial and regional policies to pursue a **coherent strategy** for growth and competitiveness upgrading, a report said on 30 August 2022. The report titled '**The Competitiveness Roadmap for India@100**' is jointly published by the **Economic Advisory Council to the Prime Minister (EAC-PM)** and the **Institute for Competitiveness**. It was released by EAC-PM Chairman Bibek Debroy.

#### What the report said

- India's headline GDP growth has been strong** and even accelerating but **weak social progress**, rising inequality and a **lack of convergence** across regions suggest that this growth has failed to translate into the expected improvements in quality of life for many Indians.
- India needs to launch a **new set of sector- and location-specific growth initiatives** to reframe some of its key industrial and regional policies.
- Sector- and location-specific initiatives** can identify the specific needs of individual clusters and regions and then select from **generic policy tools** to pursue a coherent strategy for growth and competitiveness upgrading.

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4. The report also suggested that India needs **enabling social policies** that enhance the **employability of labour market entrants** and **reduce barriers for job seekers**.
5. These policies will address **urgent social needs across the country** and trigger job creation opportunities.
6. The report observed that **regulatory frameworks** that are unfit for purpose and legacy market structures reminiscent of different times are holding India back.
7. It suggested that India needs to adopt a **comprehensive approach** towards enabling the growth of competitive firms.
8. Noting that India's government has pursued an **ambitious agenda of economic reforms**, largely focused on the **relevant issues** and based on mostly sound conceptual principles, the report said, but the **impact on job creation**, terms of job creation and the growth of firms has fallen short of ambitions.
9. The pandemic has pushed **millions back into poverty**, at least for now," the report said, adding that **social progress is lagging behind average prosperity**, with dramatic weaknesses in environmental quality and the quality of basic education.

## KURKI IS A BIG ISSUE IN PUNJAB

A **65-year-old farmer**, Balwinder Singh died by **suicide outside the office** of the Muktsar DC on 29 August 2022. He had been sitting on a **dharna** outside the administrative complex **against kurki orders** for his land based on a court case filed against him by the **local moneylender for defaulting on loan payment**.

### What is kurki?

1. **Kurki means attachment of a farmer's land** already pledged to the money lending institution or individual, in case of a **loan default**.
2. Apart from **banks, private moneylenders**, commission agents also get these decrees against farmers from time to time.
3. **Kurki orders** are executed under **Section 60 of Civil Procedure Code, 1908**. The land which is pledged by the farmer to the bank or money lender gets registered in their name.
4. In some cases, **the land is auctioned as well**. The process begins after the **money lender moves court** to get **kurki orders** in case the farmer is unable to pay back his loan. In **kurki**, attachment of farmer's land as well as his tractor can be done as per the **Section 60**.

## PM JAN DHAN YOJANA COMPLETES 8 YEARS

The government's flagship financial inclusion program **Pradhan Mantri Jan Dhan Yojana** has completed **its eighth year** and a lot of intended goals were achieved in this period. The program was announced by Prime Minister Modi in his **first Independence Day address in 2014**. While launching the program in the later part of August 2014, the PM had described the occasion as a festival to celebrate the **liberation of the poor from a vicious cycle**.

### What

1. The objective of "**Pradhan Mantri Jan-Dhan Yojana (PMJDY)**" was to ensure access to **various financial services** like availability of **basic savings bank accounts, access to need-based credit, remittances facility**, insurance and pension to the unbanked weaker sections and low-income groups through **effective usage of technology**.
2. The initiative was important as it provided an avenue for the poor for bringing **their savings into the formal financial system**, an avenue to remit money to their families in villages besides taking them out of the clutches of the usurious money lenders.
3. In addition, the beneficiaries get a **RuPay Debit card** with having inbuilt **accident insurance covers of 1 lakh**.

- The plan also envisages channeling **all Government benefits** (from Centre / State / Local Body) to the beneficiary's accounts and pushing the **Direct Benefits Transfer (DBT) scheme** of the Union Government.
- The underlying pillars of PMJDY, namely, **Banking the Unbanked, Securing the Unsecured** and **Funding the Unfunded** has made it possible to adopt multi-stakeholders collaborative approach while **leveraging technology** for serving the unserved and underserved areas as well, Union Finance Minister Nirmala Sitharaman said on the occasion **8th anniversary of the flagship initiative**.
- Financial Inclusion needs **policy-led intervention** based on an architecture linked to **suitable financial products, information** and **communication technologies** and **data infrastructure**.

## SCIENCE AND TECHNOLOGY

### INDIA'S FIRST PRIVATE SSA OBSERVATORY

India's first commercial **space situational awareness observatory**, to track objects as small as **10 cm in size orbiting the earth**, will be set up in the Garhwal region of Uttarakhand by **Digantara**, a space sector start-up. The **space situational awareness (SSA)** observatory will help India track any activity in space including that of **space debris** and **military satellites** hovering over the region.

#### What

- Currently, the **United States is a dominant player** in monitoring space debris with observatories in multiple locations and commercial companies providing additional inputs from across the world.
- The **observatory in Uttarakhand** will fill the crucial gap in **SSA observations** in the region as there is a lack of such facilities between **Australia and southern Africa**.
- The **high-quality observations**, along with those of its partner ground-based sensor network, would help improve its ability to monitor events occurring in **deep space**, especially in the **geostationary, medium-Earth, and high-Earth orbits**.
- With this data, it would be able to **reduce the potential for collisions between satellites** and other spacecraft by making more accurate predictions of their location, speed, and trajectory.
- With the establishment of the observatory **Digantara** will be able to supplement its **space-based sensors** in their mission to **monitor satellites and debris** in orbits ranging from **Low Earth Orbit (LEO) to Geosynchronous Earth Orbit (GEO)**.
- This will improve the effectiveness of **tracking and identifying** pre-existing **resident space objects (RSO)**, and will result in the creation of a **hybrid data pool** that will serve both the commercial and the defence sectors of the space industry.

### 'FOREVER CHEMICALS' CONTAMINATE RAINWATER

A recent study published in **Environment Science and Technology** has found that **rainwater from many places across the globe** is contaminated with "**per- and polyfluoroalkyl substances**," (PFAs), which are called "**forever chemicals**" because of their tendency to stick around in the atmosphere, rainwater and soil for long periods of time.

#### What are PFAs?

- According to the **US Centre for Disease Control and Prevention (CDC)**, PFAs are **man-made chemicals** used to make **nonstick cookware, water-repellent clothing, stain-resistant fabrics, cosmetics, firefighting forms** and many other products that resist grease, water and oil.

2. **PFAs can migrate to the soil, water and air** during their production and use. Since **most PFAs do not break down**, they remain in the environment for long periods of time.
3. Some of **these PFAs** can build up in people and animals if they are repeatedly exposed to the chemicals.

#### What harm do PFAs cause?

1. The **United States Environmental Protection Agency (EPA)** lists a **variety of health risks** that are attributed to PFA exposure, including **decreased fertility, developmental effects in children**, interference with body hormones, increased cholesterol levels and **increased risk of some cancers**.
2. Recent research has also revealed that long-term low-level exposure to certain PFAs can make it **difficult for humans to build antibodies** after being vaccinated against various diseases.

## NEW WEAPON SYSTEMS HANDED OVER TO THE ARMY

Defence Minister Rajnath Singh 16 August 2022 handed over **new weapons** – the **Nipun mines**, the **Landing Craft Assault (LCA)** and the **F-INSAS system** – to the Army. What are these new weapons, why are they critical to the **Army's modernisation plans**?

### What is the F-INSAS system?

1. **F-INSAS** stands for **Future Infantry Soldier As A System**, a programme for infantry modernisation aimed at **increasing the operational capability of the soldier**.
2. The **full-gear of the F-INSAS system** includes an **AK-203 assault rifle**, which is a Russian-origin gas-operated, magazine-fed, select fire assault rifle.
3. It has a range of 300 metre, and is being made in **Amethi** in a **Russia-India joint venture**.
4. **Conceived in the 2000s**, F-INSAS is one among many such **soldier modernisation programmes** across the world.
5. The US has **Land Warrior**, while the UK has **FIST (Future Integrated Soldier Technology)**. According to estimates, over 20 armies around the world are following such programmes.
6. DRDO scientists revealed that similar infantry modernisation programmes from the **US, France, Germany** and **Israel** were studied for the Indian project. The quality requirements for the project were set by the Army.

### What are Nipun mines?

1. **Nipun mines** are indigenously designed and developed **anti-personnel mines**. They are meant to act as the **first line of defence against infiltrators and enemy infantry**.
2. They have been developed with the efforts of **Armament Research and Development Establishment**, Pune and the Indian industry.
3. **Anti-personnel mines** are meant to be used against humans, as against anti-tank mines that are aimed at heavy vehicles. They are smaller in size and can be deployed in large numbers.

### What is the LCA?

1. The **Landing Craft Assault (LCA)** is meant to be a replacement for boats with limited capabilities currently in use in the **Pangong Tso lake**.
2. The LCA, which has been indigenously developed by **Aquarius Ship Yard Limited, Goa**, has better launch, speed and capacity to operate across the water obstacles in **eastern Ladakh**.

## MISCELLANEOUS

### FIRST INDIAN TO PLAY IN UEFA LEAGUE

Young striker **Manisha Kalyan** has become the **first Indian footballer** to play at the **UEFA Women's Champions League** when she made her debut for **Apollon Ladies FC** in the European Club competition in **Engomi, Cyprus**. **Kalyan replaced Cyprus' Marilena Georgiou** on 18 August 2022.

#### What

1. The 20-year-old had emerged as the **fourth Indian women's international footballer** to sign for an **overseas club** when she landed a **multi-year contract** with Cypriot top division winners Apollon Ladies.
2. Kalyan had produced impressive performances for the national team and **Gokulam Kerala** in the **Indian Women's League (IWL)**.
3. She was recently awarded the **AIFF Women's Footballer of the Year** for the 2021-22 seasons.
4. Kalyan had shot to fame last year when **she scored** against former World Cup runners-up Brazil in their own den during an international friendly.
5. Kalyan is the **second player from Gokulam Kerala** to sign for an overseas club.

### INDIA'S FIRST HYDROGEN FUEL CELL BUS

A **hydrogen fuel cell bus** developed by **KPIT-CSIR in Pune** was unveiled by Jitendra Singh, Union minister of state for Science and Technology, on 21 August 2022. **The hydrogen fuel cell uses hydrogen and air to generate electricity**, producing **only heat and water** in the process.

#### What is a hydrogen fuel cell?

1. **Hydrogen fuel cells** like the one present in the bus **produce electricity by combining hydrogen and oxygen atoms**.
2. The two gases react across an **electrochemical cell** similar to a conventional battery cell to produce electricity, water and small amounts of heat. This **electricity is then used by electric motors** to propel the vehicle forward.
3. **Fuel cells work in a similar manner to conventional batteries** found in electric vehicles but they do not run out of charge and **don't need to be recharged with electricity**.
4. They continue to produce electricity as long as there is a **supply of hydrogen**. Just like conventional cells, a fuel cell consists of an **anode (negative electrode)** and **cathode (positive electrode)** sandwiched around an electrolyte.

#### What is the advantage of a hydrogen fuel?

1. The primary advantage of **hydrogen fuel cell electric vehicles (FCEV)** is that they produce **no tailpipe emissions**.
2. They only **emit water vapour and warm air**. Another advantage is that they are **more efficient than internal combustion engine vehicles**.
3. Hydrogen fuel cell electric vehicles have another advantage when it comes **to refuelling time**, which makes them more practical than battery-powered electric vehicles for public transportation purposes.
4. Even with the fastest charging technologies, it could take hours to charge a battery-powered electric bus. Meanwhile, **hydrogen can be refilled in a fuel cell vehicle in a matter of minutes**, nearly as fast as an internal combustion engine can be refilled with fossil fuels.

5. **Hydrogen is fed to the anode and air is fed to the cathode.** At the anode, a **catalyst separates the hydrogen molecules** into **protons and electrons** and **both subatomic particles** take different paths to the cathode.
6. The **electrons go through an external circuit**, creating a flow of electricity that can be used to power electric motors. The **protons**, on the other hand, **move to the cathode** through the electrolyte. Once there, **they unite with oxygen and electrons** to produce water and heat.

## NEW BATTERY WASTE MANAGEMENT RULES NOTIFIED

Seeking safe disposal of **hazardous battery wastes** and **promotion of circular economy** through **recycling**, environment ministry has notified **new Battery Waste Management Rules, 2022** fixing responsibilities of producers, dealers, consumers, and entities involved in **collection, segregation, transportation, refurbishment and recycling** of all kinds of batteries including rechargeable **Lithium-ion batteries** used in **electric vehicles**.

### More about the Rules 2022

1. Replacing the **earlier Rules of 2001** which did not have specific provisions of managing **wastes of Lithium-ion batteries**, the **new version under 2022 Rules**, published on 24 August 2022, would function based on the **concept of Extended Producer Responsibility (EPR)** where the producers (including importers) of batteries will be responsible for **collection and recycling/refurbishment of waste batteries** and use of recovered materials from wastes into new batteries.
2. **EPR** mandates that **all waste batteries be collected** and sent for **recycling/refurbishment, prohibiting disposal in landfills and incineration**.
3. To **meet the EPR obligations**, producers may engage themselves or authorise any other entity for collection, recycling or refurbishment of waste batteries.
4. The Rules, **final version of a draft** released in 2020, also have provisions of **environmental compensation** and **penal actions**, including jail term, for non-compliance.
5. **Non-fulfilment of obligations** by producers and recyclers will attract penal actions under the provisions of **section 15 of the Environment (Protection) Act, 1986**.
6. The **penal actions under the EP Act, 1986** currently include imposing fine up to Rs 1 lakh or/and jail term up to seven years with provisions of additional fines and extended imprisonment for repeated instances of non-compliance.
7. Under the Rules, **the consumers will have to discard waste batteries** separately from other waste streams especially from **mixed waste, domestic waste streams**, and to ensure that waste batteries are disposed of in an environment friendly manner by giving it to an entity engaged in collection or refurbishment or recycling.

## 49TH CHIEF JUSTICE OF INDIA

**Justice Uday Umesh Lalit** was on 27 August 2022 sworn in as the **49th Chief Justice of India**. President **Droupadi Murmu** administered the oath of office to Justice Lalit at the Rashtrapati Bhavan. He will have **74-day tenure** since he retires on 8 November 2022.

### Who is Justice Lalit

1. Born on 9 November 1957, Justice **UU Lalit** had enrolled as an advocate in June 1983.

2. After practising for two years in the Bombay HC, he shifted to Delhi in January 1986 and was **designated as a senior advocate by the SC** in 2004.
3. Son of former HC judge U R Lalit, he was a **preferred amicus curiae** by benches of the SC.
4. The SC bench headed by **Justice G S Singhvi** had appointed Lalit as the special public prosecutor in the **2G spectrum sale scam cases**. He was appointed a judge of the SC on 13 August 2014.

#### What is the system followed for recommending and appointing judges?

1. The more than **two decades-old collegium system** is followed in the appointment of judges, consisting of five seniormost judges of the Supreme Court and the High Courts.
2. The government gets a **background inquiry done by the Intelligence Bureau (IB)** at times from the names first suggested for appointment by the collegium. While the government can also raise objections, usually the collegium's will prevails.
3. The term "**collegium**" is **not mentioned in the constitution**, which only speaks of consultation by the President.
4. After the **collegium's recommendations** are finalised and received from the CJI, the **Law Minister** will put up the recommendation to the Prime Minister who will advise the President on the matter of appointment.

## MANDALA IN ART ADOPTED WORLD OVER

**Mandala patterns** are a **centuries-old motif** that are used to **depict the cosmos**, and have been adapted by artists the world over, each of whom have added their own interpretation and **painted it as their own**. While the scale has always differed, residents of Liverpool, UK, are now marvelling over a mandala the size of one and a half football pitches in length created by artist James Brunt at the **Halewood Park Triangle with materials** such as **leaves and rocks**.

#### What is mandala and its origins

1. Literally meaning "**circle**" or "**centre**" in Sanskrit, **mandala** is defined by a **geometric configuration** that usually incorporates the circular shape in some form. While it can also be created in the **shape of a square**, a mandala pattern is essentially interconnected.
2. It is believed to be rooted in **Buddhism**, appearing in the **first century BC in India**. Over the next couple centuries, **Buddhist missionaries** travelling along the **Silk Road** took it to other regions.
3. By the sixth century, mandalas have been recorded in **China, Korea, Japan, Indonesia** and **Tibet**. In Hinduism, the mandala imagery **first appeared in Rig Veda** (1500 – 500 BCE).
4. There are various elements incorporated within the mandala, each of which has its own meaning. For instance, the **eight spokes of the wheel** (the dharmachakra) represent the **eightfold path of Buddhism** (practices that lead to liberation from rebirth), the **lotus flower depicts balance**, and the **sun represents the universe**. Facing up, triangles represent action and energy, and facing down, they represent creativity and knowledge.
5. **Deep-rooted in ancient philosophy**, the mandala has attained varied forms in the hands of modern and contemporary Indian artists. While it continues to appear in **thangka paintings**, it has a central place in the practice of mainstream artists associated with the tantric and **neo-tantric spiritual movements**.

## FLASH FLOODS MAY INCREASE

Himachal Pradesh Chief Minister **Jai Ram Thakur** on 20 August 2022 expressed concern over the **loss of life and property** due to **torrential rains** and **flash floods** in various parts of Himachal Pradesh, in which 21 people were feared dead. **Excessive or continuous rainfall** over a period of days, or during particular seasons can lead to **stagnation of water** and cause flooding.

**What are flash floods?**

1. **Flash floods** refer to such a situation, but occurring in a **much shorter span of time**. For instance, the US's meteorological agency, the National Weather Service, says **flash floods are caused when rainfall creates flooding** in less than 6 hours.
2. It adds that **flash floods** can also be caused by factors apart from rainfall, like when water goes beyond the levels of a dam.
3. **In India**, flash floods are often associated with **cloudbursts** – sudden, **intense rainfall in a short period of time**. Himalayan states further face the challenge of **overflowing glacial lakes**, formed due to the **melting of glaciers**, and their numbers have been increasing in the last few years.
4. **Flash flooding** commonly happens more **where rivers are narrow and steep**, so they flow more quickly, as per the Met Office, UK's national weather service.
5. They can occur in **urban areas located near small rivers**, since hard surfaces such as roads and concrete do not allow the water to absorb into the ground.

**FACT TO REMEMBER:**

1. **CENTRE SUBMITS NDC CLIMATE TARGET TO UNFCC**
2. **NCRB'S 'CRIME IN INDIA' REPORT**
3. **NAFIS INAUGURATED**
4. **'ONE NATION ONE FERTILISER' PLAN IMPLEMENTED**
5. **GOVT. AMENDS SUPREME COURT JUDGES RULES**
6. **INDIGO JOINS WEF'S SUSTAINABLE INITIATIVE**
7. **GLOBAL OCEAN PROTECTION TREATY FAILED TO PASS**
8. **NORD STREAM 1 IS CRITICAL FOR EUROPE**
9. **INDIA'S FIRST PRIVATE SSA OBSERVATORY**
10. **'FOREVER CHEMICALS' CONTAMINATE RAINWATER**

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