

My Notes....

NATIONAL

FIRST IN COUNTRY TO IMPLEMENT NEVA

The **Nagaland Legislative Assembly (NLA)** on 19 March 2022 became the **first in the country** to have operationalised the **National e-Vidhan Application (NeVA)** programme for conducting a session in paperless mode. The Nagaland Assembly Secretariat has attached a **tablet or e-book each on the tables** of the 60 members as the Budget session for fiscal 2022-23 which commenced this morning.

What

1. This is the medium through which we will be **using this NeVA application** in the Assembly as part of the pursuit to have a paperless House.
2. A similar system outside the **framework of NeVA** has been in operation in Himachal Pradesh while many other state Assemblies are moving in this direction.
3. Paperless Assembly of **e-Assembly is a concept involving electronic means** to facilitate all the works of the legislature. It is being done under the supervision of the **Ministry of Parliamentary Affairs**.
4. Once all other assemblies implement it, **Parliament and all state legislatures** will be networked together effectively.
5. The **expense for implementing NeVA** is funded by the Centre and the state government on a **90:10 sharing basis**.
6. **NeVA** aims to bring all the legislatures of the country together, in one platform, thereby **creating a massive data depository**.

my GOV
मेरी सरकार

Revolutionizing Digital India, Creating History

Nagaland Becomes India's First Paperless Assembly by implementing National e-Vidhan Application

1st Legislative Assembly where members can use the NeVA app to participate in House proceedings

Enables **automation of the entire law-making process**, tracking decisions & documents

Spearheading the principle of 'One Nation - One Application'

SC PANEL WAS AGAINST REPEALING THREE FARM LAWS

A **Supreme Court-appointed panel** to study **the three farm laws**, which was scrapped by Parliament in November last year, had recommended that **the three legislations should not be repealed** saying they **would be beneficial for farmers**. The report was made public on 21 March 2022.

More about panel report

1. The **three-member committee** had also suggested many changes in the laws, including giving **freedom to states** to make **Minimum Support Price (MSP) system legal**.
2. Another option suggested by the panel was **to give freedom of choice to beneficiaries of PDS** to choose cash transfers equivalent to **MSP + 25 per cent** for every kg of grain entitlement or get it in kind (wheat or rice).

3. A concrete road map for **gradual diversification from paddy** to more sustainable high-value crops, especially in Punjab-Haryana belt, needs to be formulated.
4. The committee has said in its report that a "**repeal or a long suspension of these laws would be unfair** to the silent majority who support the farm laws.
5. **Out of the 73 farmer organisations** that made submission to the committee, **61 representing 3.3 crore farmers** supported the farm laws.
6. **40 unions**, which had organised agitations against the laws under the banner of **Samyukt Kisan Morcha (SKM)**, did not make any submission despite repeated requests.

Flashback

1. On 19 November 2021, Prime Minister in his address to the nation announced the **withdrawal of the three farm laws**, saying the government could not convince protesting farmers about the **benefits of the agriculture sector reforms**.
2. The **three laws -- Farmer's Produce Trade and Commerce (Promotion and Facilitation) Act; The Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act; and The Essential Commodities (Amendment) Act --** were repealed.

LIVING ROOT BRIDGES IN UNESCO'S TENTATIVE LIST

Meghalaya's living root bridges, found in **over 70 villages** in the state, have now found a place on the **tentative list of UNESCO's World Heritage Sites**. The **living Root bridges** not only stand out for their exemplary **human-environment symbiotic relationship** but also focus on their pioneering use for connectivity and resilience, and the need to adopt sustainable measures **to balance economy and ecology**.

What is a living root bridge?

1. It is a type of **simple suspension bridge** formed by the **method of tree shaping** to form living plant roots across a stream or river.
2. The roots are then allowed to grow and strengthen over time. Some of the bridges are believed to be **hundreds of years old**.
3. Once mature, some bridges **can have as many as 50 people crossing them** and can last for **over 150 years**.
4. Locally known as **jingkieng jri**, these are very common in the **southern part of Meghalaya** where villages — from the Khasi and Jaintia tribes — grow them by training the '**ficus elastica**' tree on both sides of water bodies over a period of about 10-15 years where the roots form the bridge. These bridges **can also be found in the state of Nagaland**.

How many World Heritage Sites are in India?

1. There are currently **32 cultural, seven natural and one mixed World Heritage Sites** in India.
2. **Agra Fort, Ajanta Caves, Ellora Caves, and Taj Mahal** made it to the **list in 1983**.
3. The latest sites to be added to the list **Dholavira in Gujarat, Kakatiya Rudreshwara (Ramappa) Temple** in Telangana in 2021

PETITION SEEKING IDENTIFICATION OF MINORITIES

The **Supreme Court** on 28 March take up a petition seeking **identification of minorities** at the state level and **granting minority status to Hindus** in states and union territories where their numbers have gone below other communities.

What is the definition of minority under Indian laws?

1. The expression “**minorities**” appears in some **Articles of the Constitution**, but is not defined anywhere.
2. **Article 29**, which deals with the “**Protection of interests of minorities**”, says that “any section of the citizens residing in the territory of India or any part thereof having a **distinct language, script or culture** of its own shall have the right to conserve the same”, and that “**no citizen shall be denied admission into any educational institution** maintained by the State or receiving aid out of State funds on grounds only of religion, race, caste, language or any of them”.
3. **Article 30** deals with the “**right of minorities** to establish and administer educational institutions.
4. Currently, **only those communities** notified under **section 2(c)** of the **National Minorities Commission Act, 1992**, by the central government are regarded as minority.
5. In the exercise of its powers under the Section 2(c) of the **NCM Act**, the Centre on 23 October 1993, notified **five groups** — **Muslims, Christians, Sikhs, Buddhists** and **Parsis** — as ‘minority’ communities. **Jains were added to the list** in January 2014.

What is the case about?

1. The petition by Advocate **Ashwini Upadhyay** has contended that the **2011 census** showed that **Hindus have become a minority** in **Lakshadweep (2.5%), Mizoram (2.75%), Nagaland (8.75%), Meghalaya (11.53%), J&K (28.44%), Arunachal Pradesh (29%), Manipur (31.39%), and Punjab (38.40%)**, but were **bring denied minority benefits** that are currently being enjoyed by the respective majority communities in these places.
2. The plea relies on the **Supreme Court’s 2002 ruling** in the **TMA Pai Foundation case** (TMA Pai Foundation & Ors vs State Of Karnataka & Ors) and the **2005 decision in the Bal Patil case** (Bal Patil & Anr vs Union Of India & Ors).

SC UPHOLDS GOVT'S DECISION ON OROP

The **Supreme Court** on 16 March 2022 **upheld the government's decision on One Rank, One Pension (OROP)**, and said that **it does not find any constitutional infirmity** on the OROP principle. The SC has upheld the manner in which the Central Government introduced the **OROP scheme in defence forces** as per its notification dated 7 November 2015.

What

1. **OROP is a policy decision** of the government and it is not for the court to go into the adjudication of policy matters.
2. Furthermore, the SC has directed pending **re-fixation exercise of OROP** should be carried out from 1 July 2019 and arrears should be paid in 3 months.
3. A bench headed by Justice DY Chandrachud had reserved its verdict on 23 February 2022 asking the Centre whether the hardships of ex-servicemen be obviated to a certain extent if the periodic revision of OROP is reduced from five years to a lesser period.
4. The plea had been filed by the **Indian Ex-servicemen Movement (IESM)** through advocate Balaji Srinivasan against the **Centre's formula of OROP**.
5. The ‘**one rank, one pension**’ rule means that **retired soldiers of the same rank and length of service will receive the same pension**, regardless of when they retire.
6. As of now, the date of retirement determines the amount of pension. With each Pay Commission coming up with its recommendations **every 10 years**, the military veterans who retire early receive **fewer pensions as compared to those who retired later** with the same rank and length of service.

- Ex-servicemen had been demanding for OROP for almost four decades, and that request **came through in 2018** when Prime Minister Narendra Modi announced the **'One Rank One Pension' scheme for ex-servicemen**.

INDIA'S ARCTIC POLICY RELEASED

With a **significant stake** in the **Arctic region**, **India is one of the 13 nations** holding **Observer status** in the Arctic Council, a **high-level inter-governmental forum** that addresses issues faced by the Arctic government and the indigenous people of the region. On 18 March 2022, the Centre released its **Arctic policy** titled **'India and the Arctic: building a partnership for sustainable development'**.

The policy aims to promote the following agenda:

- Strengthening national capabilities and competencies** in **science and exploration**, climate and environmental protection, maritime and economic cooperation with the Arctic region
- Inter-ministerial coordination** in pursuit of **India's interests in the Arctic**
- Enhancing understanding of the **impact of climate change in the Arctic region** on India's climate, economic, and energy security
- Contributing **better analysis, prediction, and coordinated policymaking** on the implications of ice melting in the Arctic on India's economic, military and strategic interests related to **global shipping routes, energy security, and exploitation of mineral wealth**.
- Studying linkages between **polar regions and the Himalayas**
- Deepen cooperation between India and countries of the **Arctic region** under various Arctic forums, drawing expertise from scientific and traditional knowledge.
- Increase India's participation in the Arctic Council** and improve understanding of the complex governance structures in the Arctic, relevant international laws, and geopolitics of the region.

Flashback

- Implementing **India's Arctic Policy** shall define **timelines, prioritise activities** and allocate requisite resources.
- The National Centre for Polar and Ocean Research (NCPOR)** in Goa, an autonomous institute under the **Ministry of Earth Sciences**, is the nodal institution for **India's Polar research programme**, which includes **Arctic studies**.
- The policy document lays down **six pillars: Strengthening India's scientific research and cooperation; climate and environmental protection; economic and human development; transportation and connectivity; governance and international cooperation, and national capacity building in the Arctic region.**

INDIA IN WORLD HAPPINESS REPORT 2022

Finland has been named the **world's happiest country** for a fifth year running, in an annual **UN-sponsored index**. The report ranked **Denmark in the second place**, with Switzerland, Iceland, and the Netherlands rounding up the top five happiest places in the world. The **Finland ranked very high** was on **"the measures of mutual trust** that helped protect lives and livelihood during the pandemic".

What

- Published ever since 2012** by **United Nations Sustainable Development Solutions Network**.

- The **World Happiness Report** is based on people's own assessment of **their happiness**, as well as **economic and social data**. For the World Happiness Report 2022, **people across 149 countries** were asked to rate their happiness.
- While **Bulgaria, Romania and Serbia** recorded the biggest boosts in wellbeing, the largest falls in the world happiness table came in **Lebanon, Venezuela and Afghanistan**.
- The latest list, which was compiled **before the Russian invasion of Ukraine** on 24 February 2022, **ranked Afghanistan as the unhappiest**.
- India saw a marginal improvement** in its happiness ranking, jumping up three spots **to 136**.
- The report points out that **thing got better for 22 countries**. Several Asian countries fared better than they had in last year's rankings, while **China moved to 84th place from 94th**.
- The lesson of the **World Happiness Report** over the years is that **social support, generosity to one another, and honesty in government** are crucial for well-being.
- Key variables that contribute to explaining people's life evaluations include **GDP per capita, healthy life expectancy, generosity, social support, freedom to make life choices** and **perceptions of corruption**.



INTERNATIONAL

INDIA BACKS CONVENTION PROHIBITING BIOLOGICAL WEAPONS

India told the **UN Security Council** meeting on 18 March 2022 said it attaches importance to the **Biological and Toxin Weapons Convention (BTWC)** and stressed that any matter relating to obligations under the convention should be addressed through consultations and cooperation between the parties concerned.

What

- India reiterated the importance of **prohibiting the use of biological weapons** that could potentially turn the **ongoing Russia-Ukraine conflict** into a biochemical war, maintaining its stand from last week's United Nations Security Council meeting.
- India attaches high importance to the **Biological and Toxin Weapons Convention (BTWC)** as a key global and **non-discriminatory disarmament Convention**, prohibiting an entire category of weapons of mass destruction.
- India reiterated that it remains deeply concerned at the **progressively deteriorating situation in Ukraine**.
- Six Western nations** have accused Russia of using the **UN Security Council** to launder disinformation, **spread propaganda**, and justify its unprovoked attack on Ukraine.
- Russia instead raised allegations again of US involvement in **biological warfare activities**, which have been repeatedly denied by both the United States and Ukraine.

ICJ INDIAN JUDGE VOTES AGAINST RUSSIAN

In a surprise move, an **Indian judge** at the **United Nations judicial body** voted against **Russia**. Justice **Dalveer Bhandari** voted in favour of majority at the International Court of Justice (ICJ), popularly known as the World Court. **The United Nations judicial body** on 16 March 2022 asked **Russia to immediately halt its military offensive in Ukraine**, saying it was “**profoundly concerned**” by the Kremlin. **India joined the majority vote** in the **13-2 decision**.

What

1. **India has so far held the middle ground**, abstaining from voting on the Ukraine-Russia conflict at the UN.
2. It has called on both the nations **to focus on negotiations** and end hostilities. So Bhandari’s position is very different from New Delhi’s official line of communication.
3. **Justice Bhandari** is a member of the ICJ **since 27 April 2012**. He was **re-elected from 6 February 2018** for a term of nine years.
4. ICJ judges are elected for **nine-year terms** through concurrent elections in the UN General Assembly and Security Council.
5. **Bhandari’s re-election to the ICJ** was preceded with high political drama and is considered a **diplomatic win for India over the United Kingdom**.

NEPAL ADOPTS INDIA'S UPI

Nepal has adopted the **unified payment interface** developed by India **for digital transactions**, a government periodical said in its latest edition. Earlier this year, **Bhutan also launched a BHIM-UPI based payment service** for digital transactions, as per the article by PIB on 24 March 2022.

What

1. Many countries praised the **CoWin app**, which was created **for vaccination** during the first COVID period and **Nepal has now adopted India's UPI** for digital transactions.
2. It will bolster **interoperable real-time person-to-person (P2P)** and **person-to-merchant (P2M)** transactions. **UPI** was launched in India **in 2016**.
3. **Bharat Interface for Money-Unified Payments Interface (BHIM-UPI)** has emerged as the preferred payment mode of the citizens and has achieved a record of 452.75 crore **digital payment transactions** with the value of Rs 8.27 lakh crore till 28 February 2022.

EU APPROVES CONTROVERSIAL NEW DMA LAW

European Union negotiators ironed out the final details to a new law that will force sweeping changes to **how big tech companies operate in Europe**, with significant fines or, in extreme cases, **banning the worst offenders from acquisitions**. The **new Digital Markets Act**, agreed to by negotiators in Brussels on 24 March 2022, targets so-called **gatekeeper companies**, platforms like **Facebook and Google** with the power to control distribution in their markets.

Key rules lawmakers set for gatekeepers include:

1. Making their **messaging apps interoperable** to prevent users being tied to one network
2. Letting users **choose a default search engine**, web browser and virtual assistant when they buy a new smartphone
3. Ensuring **fair access conditions** for their app stores

4. **Gaining explicit consent** to combine personal data to target ads
5. Banning the companies from **ranking their own products** higher than others
6. Fines of as much as **10% of a company's global annual sales** will apply for an initial breach of the law, **rising to 20% for repeat infringements**.

INDIA, SRI LANKA INK SIX AGREEMENTS

India and Sri Lanka have signed **six agreements** to boost bilateral cooperation in diverse sectors like **technology, fisheries and hybrid power projects**. Under the agreements, which were signed on 28 March 2022, India will also provide grant assistance for the implementation of **Sri Lanka's Unique Digital Identity**.

More about MOUs

1. The MOUs include implementation of **Sri Lanka Unique Digital Identity (SL-UDI)** programme with India's grant assistance and for providing **Maritime Rescue Coordination Center**.
2. There is an MOU on implementation of **Hybrid Power Projects in three Islands off Jaffna** and also on cooperation in development of **Fisheries Harbours** in Sri Lanka.
3. The two sides signed MoUs for the establishment of **modern computer labs** and smart boards with customised curriculum software in **200 schools in Galle District** and a separate MOU between **Sushma Swaraj Institute of Foreign Service** and the Bandaranaike International Diplomatic Training Institute.
4. The foreign Minister arrived in Sri Lanka on 27 March 2022 to attend the **ongoing 18th BIMSTEC Ministerial Meeting** in Colombo.
5. This is his first visit to the **island nation** since India extended an economic relief package to bail Sri Lanka out of the current economic crisis.

ECONOMY

EXPORT PREPAREDNESS INDEX (EPI) 2021

Gujarat has retained the **top position** at the NITI Aayog's second edition of the **Export Preparedness Index (EPI) 2021** followed by Maharashtra, Karnataka, Tamil Nadu, Haryana, Uttar Pradesh, Madhya Pradesh, Punjab, Andhra Pradesh and Telangana as the top 10 performers. Among union territories, **Delhi has topped the index** followed by Goa, Jammu and Kashmir, Chandigarh and Puducherry while Uttarakhand, Himachal Pradesh, Tripura, Sikkim and Manipur were at the top five paces among Himalayan states.

More about the Index

1. The index, **prepared by NITI Aayog** in partnership with the **Institute of Competitiveness**, is a comprehensive analysis of India's export achievements.
2. The index is used to **benchmark the performance of states and UTs** against their peers and analyse potential challenges to develop better policy mechanisms to foster export-led growth at the subnational level.
3. The EPI ranks states and UTs on **four main pillars, policy; business ecosystem; export ecosystem and export performance** along with and **11 sub-pillars** that includes **export promotion policy; institutional framework; business environment; infrastructure; transport connectivity; access to finance; export infrastructure; trade support; R&D infrastructure; export diversification and growth orientation**.

4. As per the 2021 Index, the **three major challenges** to India's export promotion include **intra- and inter-regional differences in export infrastructure**; weak trade support and growth orientation across states; and **lack of R&D infrastructure** to promote complex and unique exports.
5. The **EPI 2021** will help the states and UTs in a long way to plan and execute sound **export-oriented policies** for ensuring a conducive export ecosystem, to make maximum utilization of their export potential.

Himalayan			Coastal		
State	Score	Rank	State	Score	Rank
Uttarakhand	40.79	1	Gujarat	78.86	1
Himachal Pradesh	40.43	2	Maharashtra	77.14	2
Tripura	27.46	3	Karnataka	61.72	3
Sikkim	27.41	4	Tamil Nadu	56.84	4
Manipur	15.78	5	Andhra Pradesh	50.39	5

Landlocked			UT/City States		
State	Score	Rank	State	Score	Rank
Haryana	53.20	1	Delhi	43.66	1
Uttar Pradesh	51.09	2	Goa	41.95	2
Madhya Pradesh	51.03	3	Jammu and Kashmir	30.06	3
Punjab	50.99	4	Chandigarh	28.41	4
Telangana	47.92	5	Puducherry	22.19	5

RBI INAUGURATES RBIH

RBI Governor Shaktikanta Das on 24 March 2022 inaugurated the **Reserve Bank Innovation Hub (RBIH)** in Bengaluru, set up with an initial capital contribution of Rs 100 crore **to encourage and nurture financial innovation**. The Hub has an independent Board with Senapathy (Kris) Gopalakrishnan as the Chairman and other eminent persons from industry and academia as members, the central bank said.

What

1. The RBI has set up the **RBIH** as a **Section 8 company under Companies Act, 2013**, with an initial capital contribution of Rs 100 crore to encourage and nurture financial innovation in a sustainable manner through an institutional set-up.
2. **RBIH** aims **to create an ecosystem** that focuses on promoting access to financial services and products for the **low-income population in the country**.
3. This is in line with the objective behind establishment of RBIH i.e., **to bring world class innovation** to the financial sector in India, coupled with the underlying theme of financial inclusion.
4. The Hub would bring convergence among various stakeholders (BFSI Sector, **Start-up ecosystem**, Regulators and Academia) in the **financial innovation space**.

ON-DEVICE WALLET FEATURE FOR UPI LAUNCHED

The **National Payments Corporation of India (NPCI)** has come out with the '**on-device**' wallet feature for **Unified Payments Interface (UPI) users**, which will be known as "**UPI Lite**", for facilitating small ticket transactions. This is aimed at **reducing stress on the banking system** and making the transaction process even simpler.

What

1. In a circular issued to banks, NPCI said, in **phase 1, UPI Lite** will process transactions in **near offline mode** i.e., debit offline and credit online, and at a later point, UPI Lite will process transactions in complete offline mode i.e., debit and credit both offline.
2. Initially **UPI Lite shall be launched as a pilot** with multiple banks and app providers, and after a due comfort is achieved, the full-scale commercial launch with compliance timelines for on-boarding for the issuers and app providers shall be declared.

3. The **Reserve Bank of India (RBI)** in its December 2021 monetary policy meeting had proposed the idea of an '**on-device**' **wallet in UPI apps** for small ticket transactions, which will conserve banks' system resources, without any change in the transaction experience for the use.
4. Later, the central bank had issued guidelines that the **upper limit of an offline payment transaction will be Rs 200** and there will be **an overall limit of Rs 2,000** on a payment instrument at any point in time until the balance in the account is replenished.
5. The **upper limit of any transaction** done through **UPI Lite** will be **Rs 200** and total limit of UPI Lite e balance for an 'on-device' wallet would be **Rs 2,000** at any point of time.

SCIENCE AND TECHNOLOGY

VISA ENTERS THE WORLD OF NFTS

Digital payments leader **Visa** on 30 March 2022 launched a **new programme** to help creators such as **digital-first artists, musicians, fashion designers, and filmmakers** accelerate their small businesses through **non-fungible tokens (NFTs)**. Called the '**Visa Creator Programme**', the initiative will help next-generation entrepreneurs understand and use **NFTs**.

What are NFTs?

1. Anything that can be converted into a **digital form can be an NFT**. Everything from your drawings, photos, videos, GIF, music, in-game items, selfies, and even a tweet can be **turned into an NFT**, which can then be **traded online using cryptocurrency**.
2. But **what makes NFTs unique from other digital forms** is that it is **backed by Blockchain technology**.
3. For the uninitiated, Blockchain is a **distributed ledger** where all transactions are recorded.
4. It is like **your bank passbook**, except all your transactions are transparent and can be seen by anyone and cannot be changed or modified once recorded.
5. **NFTs are gaining massive popularity now** because they are becoming an increasingly popular way to showcase and **sell your digital artwork**.

How do NFTs work?

1. **NFT works on blockchain** as it gives users **complete ownership of a digital asset**. For instance, if you're a sketch artist, and if you convert your digital asset to an NFT, what you get is proof of ownership, powered by **Blockchain**.
2. So why are people **willing to spend millions on something** they could easily screenshot or download?
3. In simple words, **when you list your NFT on a marketplace**, you pay something called a **gas fee (transaction fee)** for using the Blockchain, following which your digital art is then recorded on Blockchain, mentioning that you (your address) own the particular NFT.
4. This gives you full ownership—which cannot be edited or modified by anyone, including the marketplace owner.
5. **An NFT is thus created**, or as **crypto enthusiasts say it is "minted"**, to get exclusive ownership rights.

OPEN ACCESS SOLAR CAPACITY IN INDIA INCREASED

India's solar **open access installations** witnessed a **sharp growth during 2021** with the **country adding 1.2 gigawatts (GW)** of open access solar capacity during the year,

according to Mercom India. The country had **installed 383 megawatt (MW) of open access solar capacity in 2020**, the research firm said.

According to the report

1. Solar power through **Open Access** is an **arrangement where a power producer establishes a solar power plant and signs a medium/long-term power purchase agreement** with a consumer.
2. As of December 2021, the **cumulative installed solar capacity** in the **open access market** was over 5 GW, the report titled 'Mercom India **Solar Open Access Market Report Annual 2021**' said.
3. **Uttar Pradesh topped** in installation of open access solar capacities in 2021, followed by **Tamil Nadu and Maharashtra**. The top five states made up for **80 per cent** of the total installations during the year.
4. **Mitigating carbon footprint, reducing the cost of power, renewable power purchase obligations, and RE100 initiatives**, the list of reasons for commercial and industrial (C&I) consumers to go green is piling up.
5. A subsidiary of US-based Mercom Capital Group, **Mercom Communications India** is a clean energy research and communications firm with expertise in cleantech markets.

GENOME-EDITED CROPS EXEMPTED FROM GM REGULATIONS

The **Central government** has for the **first time** issued an order **exempting certain types of genome edited crops** from the stringent regulations applicable on **genetically modified or GM crops** thus giving a big boost to their further research and development.

What

1. The **ministry of environment and forest** in an order issued **exempted SDN1 and SDN2 genome edited plants** from Rules 7-11 of the **Environment Protection Act (EPA)** for manufacture, use or import or export and storage of **hazardous microorganisms** or **genetically engineered organisms or cells rules-1989**.
2. The notification would pave a path for the government to approve and notify the guidelines on **genome edited plants pending since early 2020**.
3. In the recent past, many countries have either developed or

What is Genome editing?

1. **Genome editing** or **gene editing** was discovered **back in 2012**, but Indian regulators took nearly a decade to comprehend its potential for developing crops resistant to **biotic and abiotic stresses** and with nutritional superiority.
2. **Genome editing** (also known as gene editing) refers to a **set of technologies** that allow scientists to **alter an organism's DNA**.
3. These technologies allow for the **addition, removal, or modification** of genetic material at specific points in the genome. There have been **several ways** of genome editing developed.
4. **Plant genome editing** is currently largely done by combining the **two techniques: Agrobacterium-mediated transformation of DNA encoding the Streptococcus pyogenes Cas9 (SpCas9) protein and an engineered guide RNA into plant cells**, followed by **tissue culture** to regenerate an edited plant.
5. Gene editing can be used to achieve the same goals as **traditional crossbreeding** in agricultural applications.
6. **Gene editing** involves making **modest, subtle, and precise changes** to a gene or collection of genes in the DNA of **plants, animals, and humans**.

approved for commercial cultivation of vegetables, fruits, oilseeds and cereals developed through genome editing such as **Gamma-aminobutyric acid or GABA tomato, high oleic canola and soybean, non-browning mushroom** etc.

4. Recently, **China** too approved guidelines for **genome editing** that will spur research into crops that have high yields and are resistant to pests and climate change.

RUSSIA'S USE OF 'DAGGER' HYPERSONIC MISSILES

The US has officially confirmed that Russia used '**Dagger**' nuclear-capable **hypersonic aeroballistic air-to-ground missile** during the hostilities in Ukraine. This was the first recorded case of the use of such missiles during Russia's ongoing invasion of Ukraine.

What

1. The **Kh-47M2 Kinzhal**, also known as '**Dagger**', has a claimed range of **more than 2,000 km**, Mach 10 speed, and an ability to perform evasive manoeuvres at every stage of its flight.
2. It can carry both **conventional and nuclear warheads** and can be launched from Tu-22M3 bombers or **MIG 31 K interceptors**.
3. It entered service in December 2017 and is one of the **six new Russian strategic weapons** unveiled by President Vladimir Putin earlier this month.
4. On 19 March 2022, Russia's Ministry of Defence had announced the use of the **Dagger missiles** to strike an underground warehouse in Ukraine's Ivano-Frankivsk region.
5. Russia has failed to gain control of the air and relies mainly on **short-range weapons**, which fire from the relative security zone in Russian airspace to hit targets within Ukraine.

MRSAM SUCCESSFULLY TEST FIRED

The **Army version** of the next-generation **medium-range surface-to-air missiles (MRSAMs)**, developed jointly with **Israel** to destroy hostile **aircraft, helicopters, cruise missiles and drones** at a **range of 70-km**, was tested twice from the Chandipur integrated test range off the Odisha coast on 27 March 2022.

What

1. The first launch was to **intercept a medium-altitude target** at a **long-range** and the second was to prove the capability against a **low-altitude target at short range**.
2. The missiles intercepted the **aerial targets** and destroyed them completely, registering direct hits at both the ranges.
3. The **Army's MRSAM system**, which was tested in a deliverable configuration, includes **multi-function radar, mobile launcher system** and other vehicles.
4. The weapon system's performance was validated through the **flight data** captured by range instruments like **radars, electro-optical tracking systems** and telemetry deployed by ITR, Chandipur.

Flashback

1. The flight tests of the **MRSAM**, developed jointly by **DRDO and Israel Aerospace Industries (IAI)**, were conducted as part of the '**live firing trials**' against high-speed aerial targets.
2. It is capable of engaging **multiple targets at ranges up to 70 km** in severe saturation scenarios.
3. The missile is powered by an indigenously developed **rocket motor** and **control system** for achieving high manoeuvrability during the terminal phase.

5. While **the Navy and IAF** have begun inducting their MRSAMs, also called the **next-generation Barak-8 systems**, the trials for the Army are currently underway.
6. The **three DRDO-IAI projects** were inked at an initial cost of over Rs 30,000 crore several years ago.

MISCELLANEOUS

NO COUNTRY MET WHO AIR QUALITY STANDARDS

Not a single country managed to meet the **World Health Organization's (WHO) air quality standard in 2021**, a survey of pollution data in 6,475 cities showed on 22 March 2022, and **smog even rebounded** in some regions after a COVID-related dip.

What

1. The WHO recommends that average annual readings of small and hazardous airborne particles known as **PM2.5** should be **no more than 5 micrograms per cubic metre** after changing its guidelines last year, saying that even low concentrations caused significant health risks.
2. **Delhi tops the list of capital cities** with the highest average annual PM2.5 concentration, as per the **2021 World Air Quality Report**. This is out of a list of 107 cities in the world.
3. **India** was home to **11 of the 15 most polluted cities** in Central and South Asia in 2021. Delhi saw a 14.6 per cent increase in **PM2.5 concentrations in 2021** with levels rising to 96.4 µg/m³ from 84 µg/m³ in 2020.
4. **No cities in India met the World Health Organization (WHO) air quality guideline** of 5 µg/m³.
5. In 2021, 48 per cent of India's cities exceeded 50 µg/m³, or more than 10 times the WHO guideline."
6. **Central and South Asia** had some of the world's worst air quality and was home to 46 of the world's 50 most polluted cities" in 2021.
7. In the Central and South Asia region, including India, Iran, Nepal, Pakistan, Sri Lanka and Bangladesh, **Bhiwadi in Rajasthan's Alwar was the most polluted regional city**, with an average PM2.5 concentration of 106.2 microgram per cubic metre.

WORLD WATER DAY 2022

World Water Day is observed every year on **22 March** to **celebrate water** and raises awareness of the 2.2 billion people living without access to safe water. The day urges the world to take action **to tackle the global water crisis**. This year, **the theme** for the day is "**Groundwater, making the invisible visible**".

What

1. **Groundwater** is an invisible resource that provides almost **half of all drinking water worldwide**, about 40% of water for irrigated agriculture and about one-third of water required for industry.
2. Groundwater is water found underground in aquifers, which are **geological formations of rocks**, sands and gravels that hold substantial quantities of water. Groundwater feeds **springs, rivers, lakes** and **wetlands**, and seeps into oceans.
3. Most arid areas of the world depend entirely on groundwater. It is also critically important to the healthy functioning of ecosystems, such as **wetlands and rivers**.
4. The **geographical area of India** is about **33 lakh square kilometers**. About 16% of the world's population lives in India but **only 4% of freshwater sources** are available.

Groundwater in India

1. **70% of groundwater** available in the country is found only in the **Indo-Gangetic-Brahmaputra plains** which is only 30% of the geographical area of the country.
2. Most of the **groundwater availability in the country** is in the northwestern part of the country.
3. It includes parts of **Punjab, Haryana, Delhi, and western Uttar Pradesh**. There are resources here, but due to their indiscriminate extraction, the groundwater level is going down to dangerous levels.
4. In many parts of the states of **Rajasthan and Gujarat**, due to less rainfall, the groundwater level is not recharged.

9TH EDITION OF EXERCISE LAMITIYE

An Indian Army contingent arrived in **Seychelles** on 21 March 2022 for the **ninth edition** of the **Joint Military Exercise Lamitiye 2022** between the **Indian Army and Seychelles Defence Forces (SDF)**. The exercise is being conducted at the Seychelles Defence Academy (SDA) from 22 March to 31 March 2022.

What

1. **Lamitiye**, which in **Creole means friendship**, is a **biennial training** event being conducted in Seychelles since 2001.
2. In the series of military exercises undertaken by India with various countries, **Exercise Lamitiye with Seychelles** is crucial and significant in terms of security challenges faced by both the nations in the backdrop of the current global situation and growing security concerns in the **Indian Ocean Region**.
3. The **10-day-long joint exercise** will include **field training exercises, combat discussions**, lectures, demonstrations and culminate with a two days validation exercise.
4. The **objective of the joint training exercise** is **to build and promote bilateral military relations** in addition to exchanging skills, experiences and good practices between both armies.
5. Officials said both sides will jointly train, plan and execute a series of well-developed **tactical drills for neutralisation** of likely threats.
6. There will be emphasis on enhancing tactical skills in combating hostile forces in semi-urban environment and on increasing interoperability between forces.

GOVT IMPOSES CURBS ON EXPORTS OF HFCS

The government on 23 March 2022 **imposed curbs** on **exports of hydrofluorocarbons**, used in refrigeration and air-conditioning, to boost domestic availability of the chemical. Exporters will now have to seek permission from the government **to export hydrofluorocarbons (HFCs)**.

What

1. **Export policy of hydrofluorocarbons** has been revised from **free to restricted category** with immediate effect, and export authorisations would be issued on **NOC (No Objection Certificate)** from MoEF and CC (Ministry of Environment, Forest and Climate Change).
2. The move assumes significance as the government has **extended a Rs 6,238-crore PLI (Production-Linked Incentive) scheme** for white goods to boost the manufacturing of components and sub-assemblies of **ACs and LED lights**.
3. Earlier this month, the government had **imposed similar curbs on imports of HFCs**.

4. **Hydrofluorocarbons (HFCs)** are a group of industrial chemicals primarily used for **cooling and refrigeration**.
5. HFCs were developed to **replace stratospheric ozone-depleting substances** that are currently being phased out under the **Montreal Protocol** on Substances that Deplete the Ozone Layer.
6. **Many HFCs are very powerful greenhouse gases** and a substantial number are short-lived climate pollutants with a **lifetime of between 15 and 29 years** in the atmosphere.

MEGHEA SHORTLISTED FOR UN AWARDS 2022

The **Meghalaya Enterprise Architecture (MeghEA)** project to improve governance and service delivery at the grassroots level in the state has been nominated for the **UN Awards in the World Summit** on the Information Society Forum 2022. Of the 20 projects from countries like **Singapore, China, Indonesia**, Mexico, Russia, Australia, Saudi Arabia, among others, **MeghEA** has made it to the top.

What

1. The **MeghEA** has been nominated under the category of '**The role of governments and all stakeholders in the promotion of ICTs for development**'. **Five out of the 20** selected projects would be shortlisted for the award.
2. The **MeghEA is a flagship programme** of the government that aims towards enabling service delivery from government to **citizens**, businesses and employees by adopting the whole-of-government approach.
3. This is a **first of its kind project** which is based on India's National Enterprise Architecture framework.
4. The project has reduced the processing time of files significantly, now sanctions in government offices are getting cleared in weeks which earlier used to take months.

GREEN HYDROGEN ADVOCACY GROUP

Six renewable energy companies including **Acme Group, Azure Power and Fortum India** have formed an **independent advocacy group for green hydrogen**, people aware of the matter said. The **Independent Green Hydrogen Association (IGHPA)** aims to engage with the government and other stakeholders to achieve India's objective of becoming a **green hydrogen and ammonia producing country** and an export hub.

What

1. The other companies in the association are **SunEdison Infrastructure** (Refex Group), **O2 Power** and **Sprng Energy**.
2. **IGHPA** will provide **technical, economic and regulatory inputs** for development of **policy framework** and its implementation.
3. India has announced plans to produce **five million tonnes of green hydrogen** by 2030 and unveiled a policy that will enable manufacturers to source renewable energy to **produce hydrogen or ammonia** without paying transmission charges for 25 years.
4. **Reliance Industries (RIL), Larsen & Toubro**, JSW Steel, Jindal Steel, NTPC, BPCL and Indian Oil Corp, among others, have announced plans to set up green hydrogen units.

FACT TO REMEMBER:

1. FIRST IN COUNTRY TO IMPLEMENT NEVA
2. SC UPHOLDS GOVT'S DECISION ON OROP
3. INDIA'S ARCTIC POLICY RELEASED
4. INDIA IN WORLD HAPPINESS REPORT 2022
5. EU APPROVES CONTROVERSIAL NEW DMA LAW
6. EXPORT PREPAREDNESS INDEX (EPI) 2021
7. GENOME-EDITED CROPS EXEMPTED FROM GM REGULATIONS
8. NO COUNTRY MET WHO AIR QUALITY STANDARDS
9. GOVT IMPOSES CURBS ON EXPORTS OF HFCS
10. GREEN HYDROGEN ADVOCACY GROUP

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