



WEEKLY CURRENT AFFAIRS

AUGUST, 2023

Week-2

8-14 August, 2023

★★ Useful for ★★

**CSE, ESE, PSUs, State Services Exams,
SSC and Banking Exams**

8th AUGUST, 2023

Project Devika

- **Context:** The Union Minister has said that North India's first River Rejuvenation Project Devika is nearing completion.

Key Highlights:

- Project Devika aims to rejuvenate Devika River. It is North India's first river rejuvenation project.
- It was launched in 2019 under the National River Conservation Plan (NRCP).
- Under the project, bathing "ghats" (places) on the banks of the Devika River will be developed, encroachments will be removed, natural water bodies will be restored and catchment areas will be developed along with cremation ground.
- The project also includes the construction of three sewage treatment plants, development of two cremation ghats, protection fencing and landscaping, small hydropower plants and three solar power plants.
- On completion of the project, the rivers will see reduction in pollution and improvement in water quality.
- Devika river originates from the hilly SuddhaMahadev temple in the Udhampur district of Jammu and Kashmir and flows down towards western Punjab (now in Pakistan) where it merges with the Ravi river.
- The river holds religious significance as it is revered by Hindus as the sister of river Ganga.
- In 2020, Devika Bridge was inaugurated in Udhampur. Apart from taking care of traffic congestion, the Devika Bridge was also meant to help smooth passage of Army convoys and vehicles

Amrit Bharat Stations scheme

- **Context:** The Prime Minister will lay the foundation stone for the redevelopment of 508 railway stations spread across the country. These stations were part

of the Amrit Bharat Stations scheme in which almost 1300 prime railway stations in the country will be redeveloped.

Key Highlights:

- It was launched by Ministry of Railways
- To develop railway stations on a continuous basis with a long-term approach.
- The scheme is based on preparing Master Planning for long term and implementation of the same as per needs and demand of the station to station.
- It aims to improve the amenities at the stations like improvement of station access, circulating areas, waiting halls, toilets, lift/escalators necessary, cleanliness, free Wi-Fi, Kiosks for local products through schemes like 'One Station One Product', better passenger information systems among others.,
- The scheme also envisages improvement of building, integrating the station with both sides of the city, amenities for Divyangjans, sustainable and environment friendly solutions, provision of ballastless tracks, 'Roof Plazas' as per necessity, phasing and feasibility and creation of city centers at the station in the long term.
- Under the scheme, almost 1300 prime railway stations in the country will be redeveloped
- In the last 9 years more than 2200 km dedicated freight corridors have been constructed leading to a reduction in the travel time of the goods train. Now goods reach western ports from Delhi-NCR in 24 hours, a task that used to take 72 hours.
- LED lights have been installed in about 70,000 coaches and the number of bio-toilets in trains has increased 28 times as compared to 2014.
- By 2030, India will be a country whose railway network will run on net zero emissions.

Havana Syndrome

- **Context:** The Central government has told the Karnataka High Court that it will look into the matter of the 'Havana Syndrome' in India.

Key Highlights:

- A petitioner had approached the court requesting a writ of mandamus for an enquiry on Syndrome in India and the prevention of high-frequency microwave transmission in India.
- Havana Syndrome refers to a set of mental health symptoms that are said to be experienced by United States intelligence and embassy officials in various countries.
- It typically involves symptoms such as hearing certain sounds without any outside noise, nausea, vertigo and headaches, memory loss and balance issues.
- This syndrome was first experienced by US State Department personnel in Cuba's Havana in late 2016 and hence, the name Havana Syndrome.
- The exact cause is uncertain, but it was initially suspected to be a deliberate act by Cuban authorities due to strained relations. It was initially called a "sonic attack."
- However, later research suggested that the victims might have been exposed to powerful microwaves, which could damage the nervous system and create a sensation of sound. Prolonged exposure to such microwaves can affect balance, memory, and even cause permanent brain damage.
- Despite extensive research, experiments, and medical examinations of victims, the US has not found concrete evidence to confirm the existence of the "microwave weapon" responsible for Syndrome.

9th AUGUST, 2023

Sustainable groundwater management

- **Context:** Minister of State for Jal Shakti has informed Lok Sabha about the steps taken for sustainable groundwater management in the country.

Key Highlights:

- The Central Ground Water Board (CGWB) periodically monitors groundwater levels throughout the Country

on a regional scale, through a network of monitoring wells.

- Analysis of water level data collected by CGWB during November 2022 in comparison with the decadal mean of November (2012-2021) has revealed that about 61.1% of the wells monitored have registered rise in ground water level whereas about 38.9 % wells have registered fall in water level.

Steps taken for sustainable groundwater management in the country:

- The Master Plan for Artificial Recharge to Groundwater – 2020 has been prepared with respective State counterparts. The master plan includes artificial recharge in both rural and urban areas including water scarce cities.
- Jal Shakti Abhiyan (JSA) was launched in 2019 in water stressed blocks of 256 districts in the country with the primary aim to effectively harvest the monsoon rainfall through creation of artificial recharge structures, watershed management, recharge and reuse structures, intensive afforestation and awareness generation etc.
- Further, to emphasize the importance of sustainability of groundwater for drinking water supply schemes, Jal Shakti Abhiyan: Catch the Rain 2023 is targeting "Source sustainability for drinking water" for source strengthening/ sources stabilization of rural drinking water supply schemes.
- Atal Bhujal Yojana was launched in collaboration with States in certain water stressed areas of Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.
- The primary aim of the scheme is demand side management through scientific means involving the local communities at village levels leading to sustainable groundwater management in the targeted areas.

Jan Vishwas Bill, 2023

- **Context:** The Jan Vishwas (Amendment of Provisions) Bill, 2023 has been passed in Parliament.

Key Highlights:

- Jan Vishwas (Amendment of Provisions) Bill, 2023 amends 42 laws, across multiple sectors, including agriculture, environment, and media and publication and health.
- The Bill converts several fines to penalties, meaning that court prosecution is not necessary to administer punishments. It also removes imprisonment as a punishment for many offences.
- The changes proposed to the Drugs and Cosmetics Act, 1940 have caused the most controversy. This act governs the import, production, distribution, and sale of drugs and cosmetics in the country.
- Currently, the Act defines four types of offenses — adulterated drugs, spurious drugs, mislabeled drugs, and Not of Standard Quality drugs (NSQs) — each carrying varying degrees of punishment (combining imprisonment and fines) depending on the severity of the offense.

IMS-1 satellite bus

- **Context:** The Indian Space Research Organisation (ISRO) has begun transferring IMS-1 Satellite Bus technology to Alpha Design Technologies, a Bengaluru-based private company. The transfer was facilitated by ISRO's commercial arm NewSpace India Limited (NSIL) through an agreement.

Key Highlights:

- The IMS-1 satellite bus was developed by the UR Rao Satellite Centre.
- It is a small satellite platform designed to enable low-cost access to space.
- The bus can serve as a dedicated vehicle for many different payloads, facilitating Earth imaging, ocean and atmospheric studies, microwave remote sensing and space science missions.
- The bus weighs about 100 kilograms and can carry a 30-kilogram payload. The solar arrays onboard generate 330 watts of power.
- It comes with four reaction wheels with a 1 Newton thruster that is good for pointing accuracy with an accuracy threshold of 0.1 Degrees.

- The bus was used in previous ISRO missions like IMS-1, Youthsat and Microsat-2D.

10th AUGUST, 2023

National Dental Commission Bill, 2023

- **Context:** The National Dental Commission Bill, 2023 has been passed by the Parliament. The bill seeks to repeal the Dentists Act, 1948,

Key Highlights:

- The National Dental Commission Act envisions a complete overhaul of the dental education and profession landscape to bring it on par with international benchmarks.
- The Act establishes the National Dental Commission and mandates the formation of State Dental Councils or Joint Dental Councils. This structure aims to decentralize authority and enhance effective regulation.
- The Act will empower three distinct Autonomous Boards: the Under-Graduate and Postgraduate Dental Education Board, the Dental Assessment and Rating Board (DARB), and the Ethics and Dental Registration Board (EDRB). These boards will carry out specific functions, contributing to a comprehensive regulatory framework.
- The Act will introduce a fixed tenure for the Chairperson, Members, and Secretary of the Commission, with no possibility of reappointment.
- The Act will provide for maintaining an online and live National Register of licensed dentists and dental auxiliaries. Furthermore, it establishes a Dental Advisory Council with representation from all States/ Union Territories to ensure comprehensive insights and guidance.
- The Act will facilitate joint sittings with relevant statutory bodies, including the National Medical Commission, Pharmacy Council of India, Indian Nursing Council, National Commission for Indian System of Medicine among others.

- The Act will empower the Commission to frame guidelines for fee determination for fifty percent of seats in private dental colleges and deemed Universities.

US Scientists Repeat Nuclear Fusion Breakthrough

- **Context:** Scientists in the US have successfully conducted a second nuclear fusion reaction experiment that resulted in a net energy gain.

Key Highlights:

- Nuclear fusion is the process which gives the Sun its energy. Scientists from more than 50 countries have been trying to recreate it on Earth since the 1960s. They hope it could eventually provide huge quantities of clean energy for the world.
- In nuclear fusion, pairs of tiny particles called atoms are heated and forced together to make one heavier one.
- It is the opposite of nuclear fission, in which heavy atoms are split apart. Nuclear power stations currently use nuclear fission to generate electricity.
- Nuclear fission produces radioactive waste, which can be dangerous and must be stored safely potentially for hundreds of years.
- The waste produced by nuclear fusion is less radioactive and decays much more quickly.
- Nuclear fusion doesn't need fossil fuels like oil or gas. It also doesn't generate greenhouse gases, which trap the Sun's heat and are responsible for climate change.
- Most fusion experiments use hydrogen, which can be extracted cheaply from seawater and lithium, meaning fuel supplies could last for millions of years.
- It has been described as the "holy grail" of energy production.
- When two atoms of a light element such as hydrogen are heated and combine to form a single heavier

element such as helium, the nuclear reaction produces massive amounts of energy which can be captured. But getting two identical elements to combine is actually very hard because they have the same positive charge they naturally repel each other. A lot of energy is needed to overcome this resistance.

- In the Sun, this happens thanks to extremely high temperatures of around ten million degrees Celsius, and significant pressure more than 100 billion times that of the Earth's atmosphere.
- On Earth, scientists have used various different techniques to attempt to recreate these conditions. But it has proved very difficult to maintain the high temperature and pressure needed for long enough.

11th AUGUST, 2023

Maya Operating System (OS)

- **Context:** The Defence Ministry has decided to replace the Microsoft Operating System (OS) in all computers connected to the Internet with the Maya Operating System (OS).

Key Highlights:

- Maya OS is a new operating system that is based on Ubuntu, a popular Linux distribution that uses free and open-source software.
- It is developed by Ministry of Defence Ministry with the help of various government agencies, including the Defence Research and Development Organisation (DRDO), the Centre for Development of Advanced Computing (C-DAC), and the National Informatics Centre (NIC).
- One of the main advantages of Maya OS is that it has a similar interface and functionality as Windows, making it easy for users to adapt to it.
- It also has a feature called Chakravyuh which is an end-point anti-malware and antivirus software that creates a virtual layer between the user and the internet, blocking hackers from accessing sensitive data.

- India's critical infrastructure has seen numerous cyberattacks and security breaches in recent years. Some of the most notable incidents include the cyberattack on Kudankulam Nuclear Power Plant (KKNPP) in 2019, the Mumbai Power Grid outage in 2020, the ransomware attacks on Oil India Limited and Spice Jet servers in 2022, and the Goa Flood Monitoring System hack.
- Hence, using an indigenous operating system could not only be a promising step towards securing India's vital computer systems from malicious actors, but also reduce the country's reliance on foreign software and enhance its cyber resilience.
- The programme comprises two distinct financial incentive mechanisms to support domestic manufacturing of electrolyzers and production of Green Hydrogen;
- Pilot Projects for green steel, mobility, shipping, decentralized energy applications, hydrogen production from biomass, hydrogen storage, etc.;
- Development of Green Hydrogen Hubs; Support for infrastructure development;
- Establishing a robust framework of regulations and standards; Research & Development programme; Skill development programme; and Public awareness and outreach programme.

Green Hydrogen

- **Context:** The Union Minister for New & Renewable Energy has informed Lok Sabha about the steps taken to promote Green Hydrogen.

Key Highlights:

- Green Hydrogen can be produced through electrolysis of water using renewable electricity, and from biomass through thermochemical and biochemical routes.
- The costs of the electrolyzers and input renewable energy are the two major components of Green Hydrogen production cost.
- At present, there is very limited production of Hydrogen through renewable sources in the country.
- Several entities have announced plans to set up production facilities for Green Hydrogen/Green Ammonia in India. However, these are still at a preliminary stage.
- Its aim is to make India a Global Hub for production, usage and export of Green Hydrogen and its derivatives.

The following components have been announced as part of the Mission:

- Facilitating demand creation through exports and domestic utilization. Strategic Interventions for Green Hydrogen Transition (SIGHT) programme.

12th AUGUST, 2023

Coastal Aquaculture Authority (Amendment) Bill, 2023

- **Context:** The Coastal Aquaculture Authority (Amendment) Bill, 2023 has been passed by both Houses of the Parliament of India.

Key Highlights:

- The Bill amends the Coastal Aquaculture Authority Act, 2005.
- The bill seeks to expand the scope, remove regulatory gaps and reduce the compliance burden without diluting environmental protection rules in the coastal areas.
- The Act regulates coastal aquaculture farms. This includes culturing shrimp, prawn fish or other aquatic life in a controlled environment along coastal areas in saline or brackish water.
- The Bill allows regulation of allied activities such as nucleus breeding centres and hatcheries.
- The Act prohibits coastal aquaculture in certain areas, such as 200 metres within the High Tide Line and in creeks/backwaters within the CRZ.
- The Bill amends this to allow some allied activities in protected areas. For instance activities like nucleus breeding centers will be permitted to operate in no development zones, and activities like seaweed culture will be permitted in creeks/backwaters within the CRZ.

- Under the Act, functions of the Authority include regulating construction and operation of aquaculture farms, registering coastal aquaculture farms, and (iii) demolishing polluting farms.
- The Bill adds that the Authority shall fix standards for inputs and discharge of effluents from aquaculture units, prohibit the use of certain inputs to prevent harm to the environment, and monitor and regulate units, inputs, and emissions.
- The Act penalizes unregistered farms or farms in prohibited areas, with imprisonment up to three years and/or a fine of one lakh rupees. The Bill replaces this and specifies that if coastal aquaculture is carried out illegally:
 - (i) the activity may be suspended,
 - (ii) structure may be removed,
 - (iii) crop may be destroyed,
 - (iv) the registration may be canceled,
 - (v) a penalty may be imposed.

Scientists design first-ever 2D composite quantum material

- **Context:** A group of scientists has used computer simulations to design a new type of quantum material. This material has a unique property called Rashba splitting, which is important for spintronic devices.

Key Highlights:

- Researchers have created composite 2-D quantum materials showing two different quantum properties, Rashba effect (a momentum-dependent splitting of spin bands) and nonlinear anomalous Hall effect (arising from anomalous velocity of the electrons) in the same material.
- The designed material could help overcome limitations in current spintronic devices and lead to better performance in areas like quantum computing and communication.
- Spintronics is one of the emerging fields for the next-generation nanoelectronic devices to reduce their

power consumption and to increase their memory and processing capabilities.

- Such devices take advantage of electron spin, a quantum property of electrons, to achieve higher performance.
- Some of the examples of spintronic devices are spin transistors, spin diodes, and spin filters.

Asian Elephant Population and Demography Estimates, 2023

- **Context:** Karnataka Minister of Forests has released an interim report on Asian Elephant Population and Demography Estimates, 2023.

Key Highlights:

- The report has been prepared after a synchronized elephant census was conducted by the Forest Department in collaboration with neighboring Kerala, Tamil Nadu, Andhra Pradesh, Maharashtra and Goa.
- The number of wild elephants in Karnataka has increased to 6,395 this year from 6,049 in 2017.
- In 2010, the projected number was 5,740. It stood at 6,072 in 2012 before the dip in 2017.
- However, out of the total 6,395 elephants estimated, around 161 were within private lands like coffee estates which pose conservation challenges.
- Karnataka has an average elephant density of 0.34 per sq. km.
- Bandipur Tiger Reserve with 1,116 elephants accounted for the highest density of 0.96 per sq. km followed by Nagarhole Tiger Reserve that has 831 elephants with a density of 0.93.

13th AUGUST, 2023

Indian Web Browser Development Challenge (IWBC)

- **Context:** The Ministry of Electronics & Information Technology (MeitY) has launched the Indian Web Browser Development Challenge (IWBC).

Key Highlights:

- IWBCD is an open challenge competition that seeks to inspire and empower technology enthusiasts, innovators, and developers from all corners of the country to create an indigenous web browser.
- The competition offers cash prizes totaling 3.4 crore to developers who create an indigenous web browser.
- However, there is a condition that the browser ideas must trust the Indian government's Controller of Certifying Authorities (CCA), which handles digital signatures and SSL certificates.
- SSL certificates are used to encrypt websites and to make sure that browsers know that a website is not being modified or impersonated by attackers.
- Browsers trust these certificates if they are issued by a certifying authority that is in turn trusted by a 'root certifying authority'.
- India does not have a root certifying authority trusted by major browsers such as Google Chrome, Mozilla Firefox and Microsoft Edge.
- This has led to a situation where the government operates a root certifying authority that is legally valid under Indian law the Root Certifying Authority of India, set up in 2000 under the CCA but the certificates issued under its purview are largely not recognised by Web browsers. Due to this, Indian government and private websites need to purchase SSL certificates from foreign certifying authorities.

Carbon-enhanced metal-poor (CEMP)

- **Context:** Scientists at the Indian Institute of Astrophysics (IIA, Bangalore) have discovered a unique star named HE 1005-1439. This star has been classified as a carbon-enhanced metal-poor (CEMP) star.

Key Highlights:

- CEMP Stars are primarily characterized by diverse heavy elements and abundance patterns. They were formed from the ejected material of the first stars that formed after the Big Bang.

- These stars are primarily classified into four groups, based on which groups of heavy elements are more abundant. These are mostly dwarf stars, subgiant stars or giant stars.
- At the evolutionary stages in which the stars exist, they are not expected to produce heavy elements.
- However, the surface chemical composition of these stars exhibit abundances of heavy elements those are about 100 to 1000 times higher than that of the Sun.
- HE 1005-1439 is classified as a carbon-enhanced metal-poor (CEMP) star. This star challenges previous ideas about star formation.
- This star shows signs of being formed through a combination of two different processes called neutron-capture processes – the slow (s-) process and the intermediate (i-) process.
- The iron content of the star is thousand times less than that of the sun and it is heavily enriched with neutron-capture elements.
- This is the first time scientists have come across an object with a surface chemical composition that exhibits contributions from both slow(s) and intermediate (i) neutron-capture nucleosynthesis. The observed abundance pattern is quite unique and has never been observed before in any CEMP stars.

14th AUGUST, 2023

Niveshak Sarathi

- **Context:** The Investor Education and Protection Fund Authority (IEPFA) and Common Service Centre (CSC) have jointly launched "Niveshak Sarathi" Vans in Delhi-NCR as part of the Azadi ka Amrit Mahotsav celebrations.

Key Highlights:

- Niveshak Sarathi initiative aims to enhance financial literacy and awareness about fraudulent schemes.
- The vans are equipped with a TV screen showcasing investor awareness movies, a public address system, and informative brochures.

- The initiative included sessions conducted by Village Level Entrepreneurs (VLEs) from IEPFA at key locations. Common Service Centre served as the knowledge partner for this campaign.

About Investor Education and Protection Fund Authority (IEPFA):

- IEPFA was established by the Ministry of Corporate Affairs to manage the Investor Education and Protection Fund.
- It focuses on refunding shares, unclaimed dividends, matured deposits, and debentures to investors, among other responsibilities.

One District One Product (ODOP) Wall

- **Context:** Department for Promotion of Industry and Internal Trade(DPIIT), Ministry of Commerce & Industry has collaborated with the Ministry of Rural Development to launch One District One Product (ODOP) Wall.



Key Highlights:

- ODOP Wall is a collaboration between One District One Product (ODOP) initiative and SARAS Aajeevika.
- This collaboration aims to drive consumers towards boosting sales and increasing the visibility of SARAS products. This will help in promoting indigenous crafts and artisans of rural SHGs women.
- One District One Product(ODOP) is an initiative of the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry.
- It is aimed at fostering balanced regional development across all districts of the country. The initiative aims to select, brand, and promote at least One Product from each District (One District – One Product) of the country for enabling holistic socioeconomic growth across all regions.
- The ODOP Initiative has identified a total of 1102 products from 761 districts across the country.

About SARAS Aajeevika:

- SARAS Mela is an initiative by the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission [DAY-NRLM], Ministry of Rural Development (MoRD).
- It aim is to bring the rural women SHG members formed under DAY NRLM under one platform to showcase their skills, sell and build linkages with potential market players at a fair price.

