

OCTOBER CURRENT AFFAIRS

PINK BOLLWORM

Why in News?

The **Pink Bollworm (PBW)** is causing significant damage to cotton fields in northern Rajasthan, Haryana, and Southwestern Punjab.

About:

- The infestation of the Pink Bollworm (PBW) has hit cotton fields in northern Rajasthan, Haryana, and southwestern Punjab since 2021.
- The Pink Bollworm (*Pectinophora gossypiella*) is a destructive pest that primarily affects cotton crops.
- It is **native to Asia** and has become an invasive species in most cotton-growing countries around the world.
- It was first reported in India in 1842.
- It reached the cotton belt in the southern **United States by the 1920s.**
- The USDA announced in 2018 that it had been eradicated from the continental United States, through the synergistic combination of using transgenic Bt cotton and releasing sterile males.
- In parts of India, the pink bollworm is now resistant to first generation transgenic Bt cotton (Bollgard cotton) that expresses a single Bt gene (Cry1Ac).
- **Farmers have been using Bt cotton seeds, which have lost their effectiveness against the PBW.**
- The **situation has led to a drastic reduction in cotton yields,** making it financially unviable for many farmers.



NOBEL PRIZE 2023

Why in News?

The Nobel Prize winners for 2023 has been announced over the course of the week and it marks the celebration of several remarkable achievements spanning a wide array of fields.

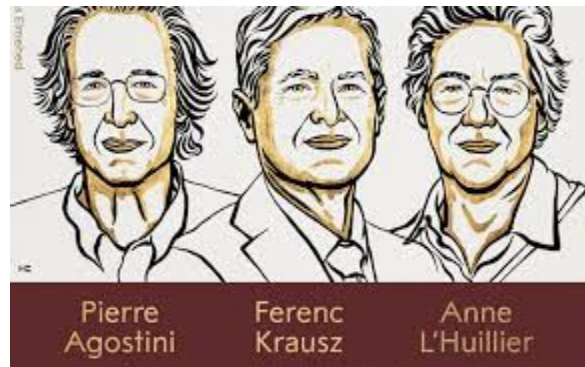
About Nobel Prize:

- The **Nobel Prizes are five separate prizes** that, according to Alfred Nobel's will of 1895, are awarded to "those who, during the preceding year, have conferred the greatest benefit to humankind."
- **Alfred Nobel was a Swedish chemist, engineer, and industrialist** most famously known for the invention of dynamite.
- He **died in 1896.**
- **In his will, he bequeathed all of his "remaining realisable assets" to be used to establish five prizes which became known as "Nobel Prizes".**
- Nobel Prizes were **first awarded in 1901.**
- Nobel Prizes are awarded in the fields of **Physics, Chemistry, Physiology or Medicine, Literature, and Peace.**
- The prize ceremonies take place **annually.**
- Each recipient (known as a "laureate") receives a **gold medal plated with 24 karat gold, a diploma, and a monetary award.**
- A prize may not be shared among more than three individuals, although the Nobel Peace Prize can be awarded to organisations of more than three people.
- Although **Nobel Prizes are not awarded posthumously**, if a person is awarded a prize and dies before receiving it, the prize is presented.
- The **Nobel Prizes, beginning in 1901, and the Nobel Memorial Prize in Economic Sciences, beginning in 1969**
- The **Nobel Peace Prize is presented in Norway** while the **other awards are handed out in Sweden.**



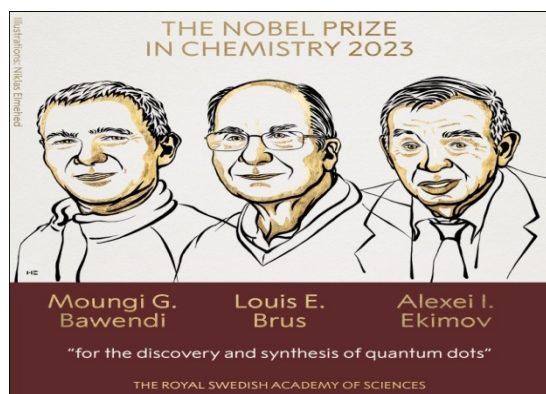
NOBEL PRIZE IN PHYSICS

- The Nobel Prize in Physics has been awarded to **three scientists - Pierre Agostini, Ferenc Krausz, and Anne L'Huillier.**
- The prize is awarded for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter.
- Their groundbreaking work in the field of experimental physics has led to the development of attosecond pulses, enabling scientists to directly observe and study the rapid dynamics of electrons within matter.
- **Attosecond pulses are extremely short bursts of light lasting for attoseconds, which are billionths of a billionth of a second (1×10^{-18} seconds).**
- **Electron dynamics** refers to the study and understanding of the behavior and motion of electrons within atoms, molecules, and solid materials.
- It encompasses various aspects of electron behavior, including their movement, interactions with electromagnetic fields, and responses to external forces.



NOBEL PRIZE IN CHEMISTRY

- The 2023 Nobel Prize in Chemistry has been awarded to **Moungi G. Bawendi, Louis E. Brus and Alexei I. Ekimov** “for the discovery and synthesis of quantum dots.”
- Quantum dots are **tiny particles, just a few nanometers in size,**with unique optical properties due to their small size.
- While their atomic structure is the same as bulk materials, **quantum dots’ properties can be altered by adjusting their size.**



- At the nanoscale, these particles exhibit size-dependent characteristics influenced by quantum forces, which differ from macroscopic physics governed by gravity.
- Notably, **the size of quantum dots determines the colour of light they emit**, with smaller dots emitting blue light and larger ones shining in yellow and red.
- **These particles have unique properties** and now spread their light from television screens and LED lamps.
- They **catalyse chemical reactions** and their clear light can illuminate tumour tissue for a surgeon.

NOBEL PRIZE IN MEDICINE

- The 2023 Nobel Prize in Physiology or Medicine has been **awarded to Katalin Karikó and Drew Weissman** for their **discoveries concerning nucleoside base modifications** that enabled the development of effective mRNA vaccines against COVID-19,
- **Kariko found a way to prevent the immune system from launching an inflammatory reaction against lab-made mRNA**, previously seen as a major hurdle against any therapeutic use of mRNA.
- Together with Weissman, she showed in 2005 that **adjustments to nucleosides, the molecular letters that write the mRNA's genetic code, can keep the mRNA under the immune system's radar.**
- **RNA contains four bases, abbreviated A, U, G, and C**, corresponding to A, T, G, and C in DNA, the letters of the genetic code. Karikó and Weissman knew that **bases in RNA from mammalian cells are frequently chemically modified, while in vitro transcribed mRNA is not.**
- They wondered if the absence of altered bases in the in vitro transcribed RNA could explain the unwanted inflammatory reaction.
- To investigate this, **they produced different variants of mRNA, each with unique chemical alterations in their bases, which they delivered to dendritic cells.**



- The results were striking: **The inflammatory response was almost abolished when base modifications were included in the mRNA.** This was a paradigm change in our understanding of how cells recognize and respond to different forms of mRNA.

NOBEL PRIZE IN LITERATURE

- The Nobel Prize for Literature 2023 has been awarded to Norwegian author Jon Olav Fosse, for his **“innovative plays and prose which give voice to the unsayable”**
- Jon Fosse presents everyday situations that are instantly recognisable in our own lives.
- His radical reduction of language and dramatic action **expresses the most powerful human emotions of anxiety and powerlessness in the simplest terms.**
- Fosse is known for his exploration of themes related to the human condition, the absurdity and futility of life, and the power of human emotions.
- His writing style is characterized by its **simplicity, minimalism, and searing dialogue**, which is reminiscent of renowned playwrights like Samuel Beckett and Harold Pinter.



NOBEL PRIZE IN ECONOMICS

- Unlike the original Nobel Prizes in fields like physics, chemistry, medicine, literature, and peace, which were established by Nobel's will, the **Nobel Prize in Economic Sciences is not one of the original Nobel Prizes.**
- The **prize was established later to honor outstanding contributions to the field of economics.**



- The Nobel Memorial Prize in Economic Sciences, the final prize of this year's Nobels season, was awarded to Claudia Goldin "for having advanced our understanding of women's labour market outcomes."
- Goldin is only the third woman to win this honor. In 2009, Elinor Ostrom got the award along with Oliver E Williamson, while in 2019, Esther Duflo shared it with Abhijit Banerjee and Michael Kremer.
- In Goldin's analysis, a woman's role in the job market and the pay she receives aren't influenced just by broad social and economic changes.
- They also are determined partly by her individual decisions about, for example, how much education to get, role of parenthood in pay gap etc.

NOBEL PEACE PRIZE

- Jailed Iranian activist **Narges Mohammadi** was awarded the Nobel Peace Prize for her fight against the oppression of women in Iran and promoting human rights and freedom for all.
- Authorities arrested Mohammadi in November after she attended a memorial for a victim of violent 2019 protests.
- Before being jailed, Mohammadi was vice president of the banned Defenders of Human Rights Centre in Iran.
- Mohammadi is currently serving multiple sentences in Tehran's Evin Prison amounting to about 12 years imprisonment, according to the Front Line Defenders rights organisation, one of the many periods she has been detained behind bars. Charges include spreading propaganda against the state.



GLOBAL FRAMEWORK ON CHEMICALS

Why in News?

The **United Nations Conference in Bonn (Germany)** adopted a new global framework aimed at reducing environmental risks associated with chemicals and waste.

About:

- **Chemicals are essential for many aspects of our lives**, from agriculture and industry to medicine and consumer products. **However, chemicals can also pose serious risks to human health and the environment** if they are not managed properly.
- **According to the World Health Organization, exposure to hazardous chemicals is estimated to cause 1.6 million deaths per year, and millions more suffer from chronic diseases and disabilities.** Moreover, chemical pollution can damage ecosystems, biodiversity and climate, undermining the achievement of the Sustainable Development Goals.
- Countries committed to phase out the most harmful chemicals at the fifth International Conference on Chemicals Management or ICCM5.
- **The ICCM5 was organized by the United Nations Environment Programme (UNEP) and hosted by the government of Germany at the World Conference Center Bonn (WCCB).**
- **The Bonn Declaration was also adopted at the summit.**
- The Declaration aims to “prevent exposure to harmful chemicals, and phase out the most harmful ones, where appropriate, and enhance the safe management of such chemicals where they are needed.”
- It also encourages countries to support the transition to circular economies and to develop substitutes for chemicals.
- **The framework sets 28 concrete targets for achieving responsible management of chemicals and waste by 2030.** These targets cover various aspects of the lifecycle of chemicals, such as design, production, use, disposal and recycling. Some of the targets include:
 - Reducing by half the number of people suffering from acute or chronic diseases caused by exposure to hazardous chemicals.



- Phasing out or minimizing the use of highly hazardous pesticides.
- Eliminating lead in paint.
- Reducing marine plastic litter and microplastics.
- Increasing the share of green and sustainable chemistry.
- Enhancing transparency and traceability of chemicals in supply chains.
- Strengthening national capacities and institutions for chemicals management.
- Mobilizing adequate financial resources and technical assistance for developing countries.
- The framework sets a goal to phase out highly hazardous pesticides in agriculture by 2035 where risks have not been adequately managed.

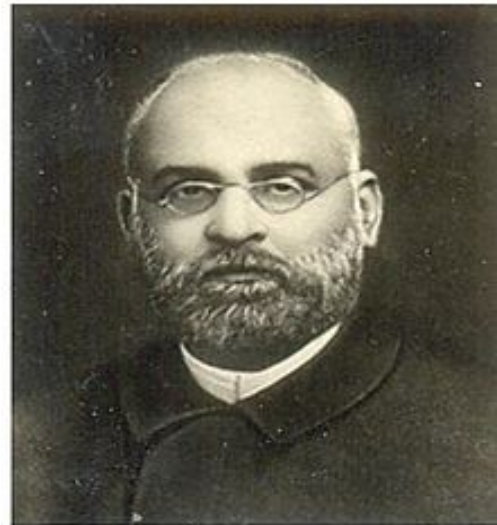
SHYAMJI KRISHNA VARMA

Why in News?

On the occasion of **Shyamji Krishna Varma's Jayanti**, the Prime Minister paid tribute to the **great revolutionary and freedom fighter**.

About ShyamJI Krishna Varma:

- **Shyamji Krishna Varma was born on 4 October 1857 in Mandvi, Cutch State (now Kutch, Gujarat).**
- **Shyamji Krishna Varma was an Indian revolutionary fighter, an Indian patriot, lawyer and journalist who founded the **Indian Home Rule Society, India House and The Indian Sociologist** in London.**
- **A graduate of Balliol College, Krishna Varma was a noted scholar in Sanskrit and other Indian languages.**
- **In 1905, he founded the India House and The Indian Sociologist, which rapidly developed as an organised meeting point for radical nationalists among Indian students in Britain.**



- He was inspired by Bal Gangadhar Tilak, Swami Dayanand Saraswati and Herbert Spencer.
- Varma became the first President of Bombay Arya Samaj.
- He inspired Veer Savarkar who was a member of India House in London.
- Verma also served as the Divan of a number of states in India.
- **Shyamji Krishan supported Lokmanya Tilak during the Age of Consent bill controversy of 1890.**

RANI DURGAVATI

Why in News?

Home Minister Amit Shah and PM Narendra Modi attended the six-day “**Veerangana Rani Durgavati Gaurav Yatra**” (to honour 16th-century Gondwana kingdom queen Rani Durgavati) in **Madhya Pradesh.**

About Rani Durgawati:

- Rani Durgavati was the **Queen regent of Gondwana in 1550-1564 A.D.**
- Durgavati was **born on 5 October 1524** at the fortress of Kalinjar.
- She was **born in the family of the Chandel Rajput king Shalivahan or Kirttivarman II**, who ruled the Mahoba kingdom.
- **She married Dalpat Shah, the son of Gond King Sangram Shah, and ruled the kingdom of Garha-Katanga after the death of her husband in 1550 with great vigor and courage.**
- **She served as regent of Gondwana during the minority of her son, Vir Narayan, from 1550 until 1564.**
- She is chiefly remembered for defending Gondwana against the Mughal Empire.
- The **Kingdom of Garha-Katanga included the regions of Narmada Valley and parts of Northern Madhya Pradesh.**



- Gond tribe is a prominent tribe in central India known for their rich cultural heritage and resilience.
- As per the government's documentation, **the queen and her generals managed the affairs of the kingdom for 16 years.**
- Renamed the **University of Jabalpur as Rani Durgavati Vishwavidyalaya; Commemorated with a postal stamp** by the Indian government; **Durgavati Express**, a train, and **ICGS Rani Durgavati**, an Inshore Patrol Vessel, named after her;
- She is **hailed as a patriotic ruler and defender of culture, becoming a symbol of pride and honour.**

ISRAEL-PALESTINE CONFLICT

Why in News?

Recently, **Palestine-based Hamas militants launched a barrage of rockets on Israel** on Saturday infiltrating the towns near the Gaza Strip through land, air, and sea.

About:

Palestinian militant group Hamas launched a devastating attack on Israel known as Operation 'Al-Aqsa Storm.

Israel retaliated under the code name **Operation Iron Sword.**

History of conflict:

- **World War I-** Palestine was part of the Ottoman Empire home to Arab Muslims, Arab Christians and Jewish communities.
- In the war, **Ottoman Empire fell** and the **League of Nations mandated Britain to govern Palestine.**
- It **led to increase in Jewish immigration** which fuelled tensions between Jewish settlers and Arab Palestinian population.

- **Balfour declaration-** It was issued by the British government in 1917 that endorsed the idea of a Jewish homeland in Palestine. It led to an influx of Jewish immigrants to the region.
- **World War II-** The support for a Jewish nation grew significantly in the aftermath of World War II, as the horrors of the Nazi Holocaust of Jewish people came to be fully known.
- **UN Partition plan-** Due to challenges in governing colonies, **British handed over the Palestine to UN.**

The partition plan by UN in 1947, recommended separate Jewish and Arab states. It was accepted by Jewish leaders but rejected by the Arab leaders.



- **Israel declared statehood in 1948** leading to invasion by neighbouring Arab states (Egypt, Jordan, Lebanon, Syria).
- It **resulted in Israeli survival** and signing of Armistice Agreements with territorial changes.
- The **territory was divided into 3 parts**
 - The Jewish Israel
 - The Arab West Bank
 - Gaza Strip
- The agreement established temporary borders between Israel and neighbouring Arab states.
 - West Bank- It was controlled by Jordan.
 - Gaza Strip- It was administered by Egypt.
- **Suez crisis 1956**- Israel, France and UK launched a military campaign against Egypt over nationalisation of Suez Canal.
- During this period, Israel captured Sinai Peninsula and Gaza Strip but withdrew under international pressure in 1957.
- **1967 Six day war**- Israel gained territory including Sinai Peninsula, Gaza Strip (from Egypt), West Bank, East Jerusalem(from Jordan) and the Golan Heights (from Syria).
- **1973 Yom Kippur War**- Also known as October War, it began with the surprise attack by Egypt and Syria on Israel during Yom Kippur, the holiest and most solemn day in the Jewish calendar.
- **Camp David Accords 1978** - It established the “Framework for Peace in the Middle East” and brought about the end of simmering conflict between Egypt and Israel.

Egypt became the 1st Arab country to conclude a peace treaty with Israel.

HAMAS

- **HAMAS**—the acronym for **Harakat al-Muqawama al-Islamiya** (Islamic Resistance Movement)
- **Hamas** or the Islamic Resistance Movement is a **militant group** that **governs the Gaza Strip.**

- It **emerged in 1987** as an offshoot of the Muslim Brotherhood during the first Palestinian uprising, against the Israeli occupation of Gaza and the West Bank.
- It is the **largest Palestinian militant group formed during first Intifada.**
- It was **founded by Sheikh Ahmed Yassin**, a Palestinian cleric.
- Its military wing, the Izzedine al-Qassam Brigades, was established around 1991.
- It has **controlled Gaza since winning elections in 2006**, then wresting military control from another leadership group in 2007.
- It is **committed to the destruction of Israel** and is **considered a terrorist group by the U.S., the U.K. and other nations.**

Repercussions of Israel-Palestine Conflict on India:

- **Diplomatic Challenges:** India has traditionally maintained a balanced approach in its foreign policy towards Israel and Arab countries. If the conflict escalates and draws in other Arab nations, it could pose diplomatic challenges for India.
- **Trade Relations:** An escalation in the conflict could impact India's trade with Israel, particularly in critical areas like defense equipment.
- **Economic and Strategic Ties with the Middle East:** India's economic and strategic ties with the Middle East have grown in importance, particularly in the context of initiatives like the India-Middle East-Europe economic corridor. If the conflict intensifies and involves other regional actors like Hezbollah and Iran, it could destabilize the West Asian region.
- **Energy Supply:** The West Asian region is a crucial source of energy imports for India. Any disruption in the stability of the region could potentially impact India's energy supply, leading to economic challenges.
- **Welfare of Indian Expatriates:** India has a significant expatriate population working in various Middle Eastern countries.
- **Operation Ajay was launched by the Indian government** to repatriate Indians from Israel and Palestine through special chartered flights.

ED : ENFORCEMENT DIRECTORATE

Why in News?

The Supreme Court questioned the Enforcement Directorate (ED) about the admissibility of its evidence to link AAP leader Manish Sisodia to a money laundering offence in the Delhi excise policy case.

About Enforcement Directorate (ED):

- The **Directorate of Enforcement (ED)** is a **domestic law enforcement agency and economic intelligence agency responsible for enforcing economic laws and fighting economic crime in India.**
- It is **part of the Department of Revenue, Ministry of Finance, Government Of India.**
- The Enforcement Directorate focuses on investigating and prosecuting cases related to money laundering, foreign exchange violations, and economic offenses.
- Its primary **objective is to curb the generation and circulation of black money and to ensure compliance with the laws concerning foreign exchange and prevention of money laundering.**
- However, the enforcement directorate has been discredited as one of the major Indian agencies that misuses powers against activists, scholars, and political rivals with a 0.5% conviction rate since its inception.
- The prime **objective of the Enforcement Directorate is the enforcement of two key Acts of the Government of India namely, the Foreign Exchange Management Act, 1999 (FEMA) and the Prevention of Money Laundering Act, 2002 (PMLA), and The Fugitive Economic Offenders Act, 2018 (FEOA)**
- **Headquarters: New Delhi** (headed by the Director of Enforcement).
- There are **five regional offices at Mumbai, Chennai, Chandigarh, Kolkata and Delhi** headed by Special Directors of Enforcement.
- Recruitment: Recruitment of the officers is done directly and by drawing officers from other investigation agencies.



- It comprises officers of IRS (Indian Revenue Services), IPS (Indian Police Services) and IAS (Indian Administrative Services) such as Income Tax officer, Excise officer, Customs officer, and police.
- **Tenure: Two years, but directors' tenure can be extended from two to five years by giving three annual extensions.**

GUJRAT'S 1ST SOLAR POWERED VILLAGE - MODHERA

Why in News?

The **Modhera village** in Mehsana district of Gujarat **became the first 24X7 solar powered village in India.**

About:

- Under this project, the government has undertaken the task of complete solarisation of Modhera village by **developing a Ground Mounted Solar power plant and installing over 1300 rooftop solar systems** on both **government** as well as **residential buildings.**
- More than thousand solar panels with 1kW capacity are also installed on the homes in this village, **enabling its residents to receive cost-free solar energy 24 hours a day and 7 days a week.**
- Further, **all of these systems are integrated with a Battery Energy storage system (BESS)** which is the country's first ever grid-connected megawatt-hour scale battery energy storage system that would help in providing electricity to the houses during the evenings.
- A BESS is a particular kind of energy storage device that stores and disperses energy in the form of electricity using batteries.
- **During the day time, the solar panels will provide power to the village and in the evening, the houses will be powered by the BESS.**



- The **project was implemented in two phases**, with state allocating 12 hectares of land for its implementation.
- **Both the central and state governments have invested around Rs.80 crore for this project.**
- It **will enable people to save 60 to 100 per cent on the electricity bills.**

About Modhera Village:

- The Modhera village is **situated 25 km from Gujarat's Mehsana district and about 100 km from the state's capital, Gandhinagar.**
- It is **located on the banks of River Pushpavati** in the Mehsana district of Gujarat.
- Modhera is **also famous for the Chaulukya-era Sun Temple.**
- It hosts the famous Sun Temple, which was built during the reign of Chalukya dynasty's Bhima I.
- Recently, this **ancient site was equipped with a solar-powered 3D projection facility that will provide information about the history of the village to tourists.**
- The **recent inauguration of the Heritage Lighting at this temple made it the first heritage site in India to be powered by only by solar energy.**

About Modhera Sun Temple:

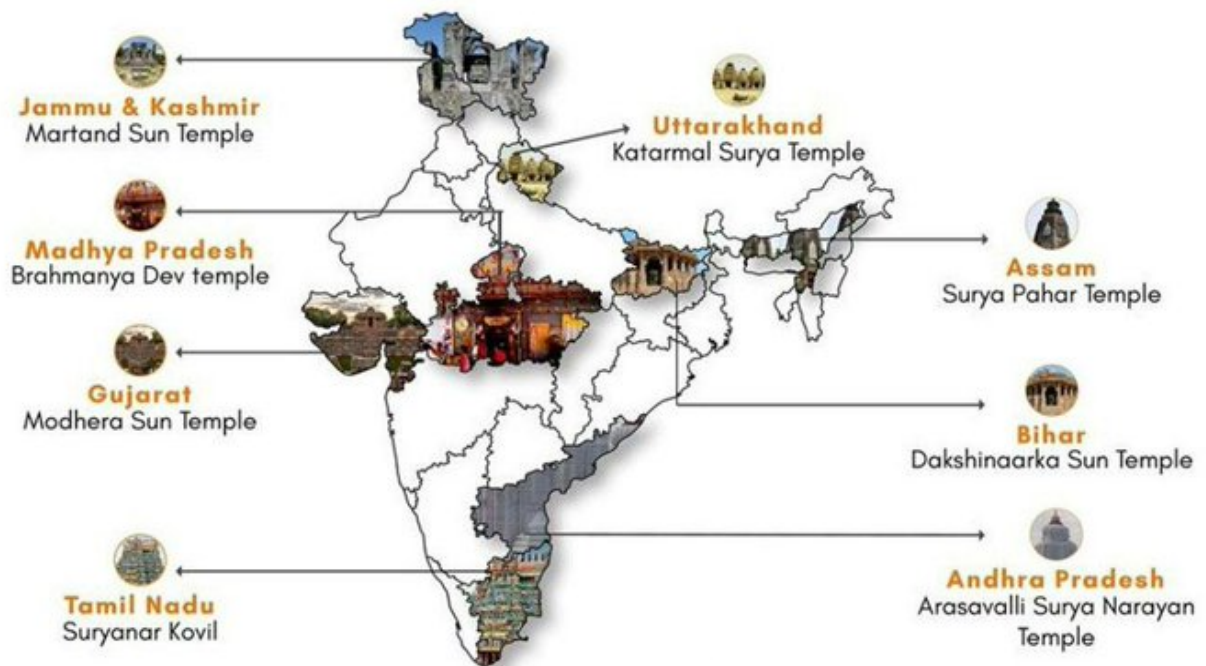
- The Sun Temple of Modhera is a **Hindu temple dedicated to the solar deity Surya located at Modhera village of Mehsana district, Gujarat, India.**
- It is **situated on the bank of the river Pushpavati.**
- It was **built after 1026-27 CE during the reign of Bhima I of the Chaulukya dynasty.**
- **No worship is offered now and is**



protected monument maintained by Archaeological Survey of India.

- The temple complex is **built in Māru-Gurjara style (Chaulukya style).**
- The **temple complex has three components:**
 - **Gūḍhamanḍapa**, the shrine hall;
 - **Sabhamanḍapa**, the assembly hall and
 - **Kunḍa**, the reservoir.
- The **halls have intricately carved exterior and pillars.**
- The **reservoir has steps to reach the bottom and numerous small shrines.**
- **Other Important Sun Temples in India:**
 - Sun Temple at Konark, Odisha
 - Martand Sun temple, Kashmir
 - Katarmal Sun Temple, Uttarakhand
 - Dakshinarkaa temple Gaya, Bihar
 - Bhramanya temple, Unao, Madhya Pradesh
 - Surya Pahaar temple, Assam
 - Suryanar Kovil Temple at Kumbakonam in Tamil Nadu
 - Suryanarayana temple at Arasavalli, Andhra Pradesh

Other Prominent Sun Temples in India



GLACIAL LAKE OUTBURST FLOOD (GLOF) IN SIKKIM

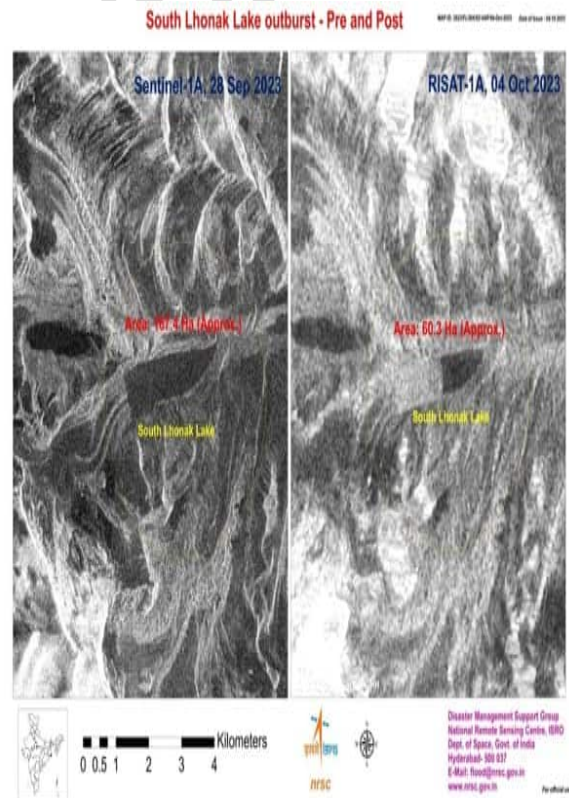
Why in News?

Fourteen people have died, and 102, including 23 Army personnel, are missing in Sikkim after the burst of the South Lhonak Lake, a glacial lake in North Sikkim, due to heavy rains.

Flash floods occurred in north Sikkim after the South Lhonak Lake burst **due to incessant rains**.

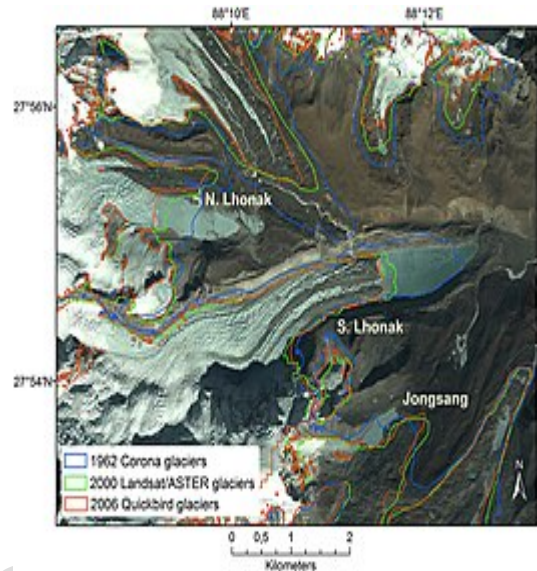
About GLOF:

- Glacial lakes, like the South Lhonak Lake, are **large bodies of water that sit in front of, on top of, or beneath a melting glacier**.
- **As they grow larger, they become more dangerous** because glacial lakes are mostly dammed by unstable ice or sediment composed of loose rock and debris.
- **In case the boundary around them breaks, huge amounts of water rush down the side of the mountains, which could cause flooding in the downstream areas**.
- **This is called glacial lake outburst floods or GLOF.**
- **GLOF can be triggered by several reasons, including earthquakes, extremely heavy rains and ice avalanches.**



About South Lhonak Lake:

- South Lhonak Lake is a **glacial-moraine-dammed lake**, located in Sikkim's far **northwestern region**.
- It is one of the fastest expanding lakes in the Sikkim Himalaya region, and **one of the 14 potentially dangerous lakes susceptible to Glacial lake outburst flood (GLOFs)**
- The lake is **located at 5,200 m (17,100 ft) above sea level**.
- It **formed due to the melting of the Lhonak glacier**.
- In October 2023, heavy rains caused the swollen lake to breach its embankments and cause a severe flood in the Teesta river basin, causing widespread property damage and killing at least 40 people.



ARUNACHAL PRADESH – GI TAGS

Why in News?

Three indigenous products from Arunachal Pradesh – Yak Churpi, Khamti rice, and Tangsa textile – have received the prestigious Geographical Indication (GI) tag from the GI Registry.

About YAK CHURPI:

- Churpi is a **naturally fermented dairy product**,cheese, crafted from the milk of yaks.
- It is **widely consumed in the Himalayan region of India, Nepal and Bhutan**.
- It is **nurtured in the high-altitude areas of Arunachal Pradesh**.



- It has a **unique flavor profile** characterized by a **slightly sour and salty taste**.
- Churpi, **rich in protein**, has been a **lifeline for tribal yak herders** in the harsh, vegetation-starved, cold, and hilly mountainous regions of the state.
- This recognition not only **celebrates the culinary heritage of the region but also plays a vital role in the conservation of the yak population in the Himalayan region**.
- The **yak herders, belonging mainly to the Brokpa and Monpa tribes in West Kameng and Tawang districts, rely on churpi as a substitute for vegetables in their diet**.
- Its **versatility allows it to be incorporated into various dishes**, including vegetable or meat curries, and served with rice, serving as a crucial component of the daily tribal diet.

About KHAMTI RICE:

- It is a **variety of sticky rice produced in Namsai district**.
- Known for its taste.
- **Contains insoluble fiber promoting beneficial gut bacteria**.
- It is **cultivated by traditional Khampti tribal farmers**.



About TANGSA TEXTILE:

- It is a **textile products of the Tangsa tribe of Changlang district** in Arunachal Pradesh.
- Tangsa tribe is **mainly based in Changlang and consists of sub-tribes**.
- Textiles are **known for their exotic designs and colours**.



GOAN CASHEW

Why in News?

Goan cashew (Fruit and Nut) was recently granted the geographical indication (GI) tag.

About GOAN CASHEW:

- Goan cashew derived from the Portuguese name 'caju' or 'kaju' in Konkani.
- It has unique identity, flavour and taste.
- The overall climatological practices of Goa and traditional farming practices is the reason for uniqueness.
- Originally, it was native to northeast Brazil in Latin America.
- **It was introduced by the Portuguese in the 16th century (1570).**
- Initially, it was known mainly as a crop for afforestation and soil conservation.
- According to research, the 1st cashew factory in Goa started operations in 1926.
- By 1961, the cashew processing industry accounted for about 60% of industrial production in Goa, a bulk of which was exported.
- The **GI tag ensures that cashews bearing this label are authentic products originating from Goa.** This helps consumers distinguish between genuine Goan cashews and those sourced from outside the state, which are often falsely marketed as 'Goan cashews.'
- Goan cashew manufacturers and processors can use the GI tag as a trademark in the international market. This protection helps safeguard the reputation and quality associated with Goan cashews.



REMOTE VOTING OF DELHI MIGRANTS

Why in News?

The Election Commission of India (ECI) proposed a Remote EVM (R-EVM) to address issues related to domestic migrant voting. The goal was to improve the 67.4% voter turnout in the 2019 general election.

A survey by Lokniti-CSDS was conducted in September 2023, involving 1,017 migrants living in Delhi's slums, with 63% men and 37% women, aiming to understand whether the proposed R-EVM system would gain a viable level of trust among its intended users, setting aside legal and logistical concerns raised by political parties.

What is Remote-EVM?

- Remote EVM (R-EVM) stands for "Remote Electronic Voting Machine."
- It is a proposed system by the Election Commission of India (ECI) aimed at facilitating voting for domestic migrants who are unable to vote in their home constituencies due to their current location away from their registered constituencies.



Procedure:

- Voters interested in using the remote voting facility must register (online or offline) within a pre-notified timeframe with the concerned Returning Officer (RO) of their home constituency.
- A multi-constituency remote polling station will be set up in the area of the voter's current residence, allowing for remote voting from that location.
- The RVM can handle multiple constituencies (up to 72) from a single remote polling booth, making it efficient for voters from different constituencies to cast their votes at the same location.
- When the voter scans their constituency card in the presence of the Presiding Officer at the remote polling station, the respective constituency and candidate list will appear on the RVM display.

- The RVMs have the same security system and voting experience as the existing EVMs and use electronic ballot display to present candidates and their symbols instead of a fixed paper ballot sheet.
- The system will count and store the votes for each candidate in a constituency.

PROJECT NILGIRI TAHR

Why in News?

Project Nilgiri Tahr was launched in Tamil Nadu.

About this Project:

Objectives:

- To develop better understanding of Nilgiri Tahr population, distribution and ecology
- To re-introduce Nilgiri Tahr to their historic habitats
- To address the threats to Nilgiri Tahr and
- To increase awareness among public about the Nilgiri Tahr.

The project will involve **doing surveys every six months, keeping track of Nilgiri Tahr, helping sick ones, training support to staff and restoration of Shola grassland where Nilgiri Tahr survives.**

The **project aims to protect the endangered Nilgiri Tahr**, a species native to the Western Ghats.

October 7 will be celebrated as 'Niligiri Tahr Day' in honour of E.R.C. Davidar.

He was responsible for pioneering one of the first studies on Nilgiri Tahr in 1975.

About Nilgiri Tahr:

- The Nilgiri tahr (*Nilgiritragus hylocrius*) is **an ungulate that is endemic to the Nilgiri Hills and the southern portion of the Western and Eastern Ghats in the states of Tamil Nadu and Kerala in southern India.**

- They are **locally called 'varaiadu'**.
- It is the only species in the genus Nilgiritragus and is closely related to the sheep of the genus Ovis.
- It is the **state animal of Tamil Nadu**.
- The Nilgiri tahr **can be found only in India**.
- It **inhabits the open montane grassland habitat of the South Western Ghats montane rain forests ecoregion**.
- At elevations from 1,200 to 2,600 m (3,900 to 8,500 ft), the forests open into large grasslands interspersed with pockets of stunted forests, locally known as **sholas**.
- These grassland habitats are surrounded by dense forests at the lower elevations.
- The Nilgiri tahrs formerly ranged over these grasslands in large herds, but hunting and poaching in the 19th century reduced their population.
- It has been **listed as an endangered species under IUCN Red List** and is protected under **Schedule-I of the Wildlife (Protection) Act of India, 1972**.
- The **Nilgiri tahr is primarily threatened by habitat loss and disturbance caused by invasive species**, and in some sites by **livestock grazing, poaching and fragmentation of the landscape**.



GLOBAL HUNGER INDEX

Why in News?

India ranks **111 out of a total of 125 countries in the Global Hunger Index (GHI) 2023**, with its progress against hunger nearly halted since 2015, reflecting a global trend.

The Union government, though, contested India's performance for the third year in a row, **citing flawed methodology**.

About Global Hunger Index:

- The Global Hunger Index (GHI) is a tool that attempts to measure and track hunger globally as well as by region and by country.
- It is prepared by European NGOs of Concern Worldwide and Welthungerhilfe.
- The GHI is calculated annually, and its results appear in a report issued in October each year.
- The 2022 Global Hunger Index shows a dramatic hunger situation worldwide. Global progress in ending hunger is at a near standstill.
- The main drivers of hunger are conflicts, the climate crisis, and the economic consequences of the COVID-19 pandemic.
- Based on the values of the **four indicators**, a GHI score is calculated on a **100-point scale** reflecting the severity of hunger, where **0 is the best possible score (no hunger) and 100 is the worst.**
- Each country's GHI score is classified by severity, from low to extremely alarming.
- The GHI combines **4 component indicators**:
 1. **Undernourishment**: share of the population with insufficient caloric intake.
 2. **Child stunting**: share of children under age five who have low height for their age, reflecting chronic undernutrition.
 3. **Child wasting**: share of children under age five who have low weight for their height, reflecting acute undernutrition.
 4. **Child mortality**: share of children who die before their fifth birthday, reflecting in part the fatal mix of inadequate nutrition and unhealthy environments.

GLOBAL
HUNGER INDEX



Findings of the report:

The **GHI 2023** provides a ranking of **125 countries**.

- **India's score of 28.7** in the Global Hunger Index-2023 places it in the **"serious" category**, according to the report.
- **India's child wasting rate**, the proportion of undernourished children measured by weight relative to their height, **stands at an alarming 18.7 percent**, signaling acute undernutrition.
- The **rate of undernourishment in India is reported at 16.6 percent**, further highlighting the gravity of the issue.
- **Child stunting rate is prevalent at 35.5%.**
- **Under-five mortality in India** is recorded at **3.1 percent.**
- The report underscores a significant concern, with **58.1 percent of women aged 15 to 24 in India being affected by anemia.**
- India came after neighboring countries **Pakistan (102nd), Bangladesh (81st), Nepal (69th) and Sri Lanka (60th).**
- However, **India fared better than South Asia and Africa South of the Sahara, which recorded a score of 27 each.**
- Global Hunger Index 2023:
- The **global average GHI score in 2023 is 18.3**, which is considered moderate and is slightly lower than the global GHI score of 19.1 in 2015.
- **South Asia and Sub-Saharan Africa are the world regions with the highest hunger levels**, with GHI scores of 27.0 each, indicating serious hunger.
- **West Asia and North Africa are the regions with the third-highest hunger level, with a score of 11.9** indicating a "moderate" hunger level.
- Latin America and the Caribbean are the only regions in the world whose GHI scores have worsened between 2015 and 2023.
- The region with the second-lowest 2023 GHI score in the report is East and Southeast Asia.
- Europe and Central Asia has the lowest 2023 GHI score, with a score of 6.0, which is regarded as "low".
- According to the GHI 2023 report, **Belarus, Bosnia & Herzegovina, Chile, China are among the top ranked countries** (i.e., low level of hunger) and **Yemen, Madagascar, Central African Republic are the bottom.**

India ranks **111 out of 125** countries in Global Hunger Index

Source: The Hindu | 12 Oct 2023



PHOTO CREDIT: MARIKA ARAVIND

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- Apart from providing the hunger scores, the **GHI 2023 Report also recommends the policy initiatives for the countries facing severe hunger crises.** These recommendations are listed below:
 - **Right to food:** Put the universal right to food at the centre of the transformation of the food system.
 - **Capacity building:** Invest in the leadership skills of young people to transform the food system.
 - **Sustainability:** For young people to have viable and alluring livelihoods, investment in resilient, equitable, and sustainable food systems is necessary.
- The **Global Hunger Index has been disregarded by the Indian government, which referred to it as a flawed indicator of "hunger" that did not accurately represent India's situation.**
- The following are the criticisms' justifications:- **Incomplete indicators, small sample size, contrasting data, source of data, variations**
- The Indian government has prioritised several key activities to address the challenge of malnutrition under **various schemes** like
 - PM POSHAN scheme,
 - Poshan Tracker,
 - Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY),
 - National Food Security Act (NFSA), 2013,
 - Mission Saksham Anganwadi and Poshan 2.0,
 - The Zero Hunger Programme,
 - Eat Right India Movement etc.

INTERNATIONAL E-WASTE DAY

Why in News?

International E-Waste Day has been observed on October 14 every year since 2018.

About:

- International E-waste Day is a **yearly awareness raising celebration initiated by the WEEE Forum and its members and takes place every year on 14th of October.**
- It aims to **highlight the growing issue of electronic waste and promote responsible e-waste management.**
- **2023 Theme : 'Recycle it all, no matter how small'.**



- Roughly 5.3 billion mobile/smartphones will drop out of use in 2022, according to non-profit Waste Electrical and Electronic Equipment (WEEE) Forum, which started the day in 2018.
- The electronics would reach a height of around 50,000 km if stacked flat and on top of each other.
- **Invisible e-waste refers to electronic waste that goes unnoticed due to its nature or appearance, leading consumers to overlook its recyclable potential.**
- **E-waste consists of toxic elements such as Lead, Mercury, Cadmium, Chromium, Polybrominated biphenyls and Polybrominated diphenyl.**
- **Some of the major health effects include serious illnesses such as lung cancer, respiratory problems, bronchitis, brain damages, etc due to inhalation of toxic fumes, exposure to heavy metals and alike.**
- E-waste is an environmental hazard causing groundwater pollution, acidification of soil and contamination of groundwater and air pollution due to the burning of plastic and other remnants.

About WEEE Directive: Waste Electrical and Electronic Equipment Directive

- The Waste Electrical and Electronic Equipment Directive (WEEE Directive) is a **European Community Directive, numbered 2012/19/EU, concerned with waste electrical and electronic equipment (WEEE).**
- It is a **not-for-profit association of 46 WEEE producer responsibility organisations across the world and was founded in April 2002.**

- Through exchange of best practice and access to its reputable knowledge base toolbox, the **WEEE Forum enables its members to improve their operations and be known as promoters of the circular economy.**

PSYCHE

Why in News?

The National Aeronautics and Space Administration (NASA) will be launching a Psyche mission soon.

About Psyche mission:

- The **National Aeronautics and Space Administration (NASA)** launched a Psyche mission.
- The Psyche mission is a **journey to a unique metal-rich asteroid named 'Psyche' orbiting the Sun between Mars and Jupiter.**
- Psyche is **only the 16th asteroid to ever have been discovered**, according to Arizona State University.
- This is NASA's first mission to study **an asteroid that has more metal than rock or ice.**
- The **journey to the asteroid**, also named Psyche, **will span nearly six years.**
- The **asteroid is believed to be rich in metal content**, which is why it holds the interest of astronomers
- There is a **chance that it is made of metal from the core of a planetesimal**, which is one of the building blocks of a planetary system.
- Scientists estimate that the asteroid Psyche has a surface area of about 165,800 square kilometers.
- It is **powered by solar electric propulsion.**
- It **has a magnetometer, a gamma-ray and neutron spectrometer, and a multispectral imager to study asteroid Psyche.**



- The **spacecraft will start sending images to Earth as soon as it spots the asteroid.**
- While there are no plans to mine the asteroid, studying it from orbit could provide invaluable insights into the composition of Earth's core.
- In addition to its primary mission, the Psyche spacecraft will also host a pioneering technology demonstration known as NASA's Deep Space Optical Communications (DSOC) experiment. (NISAR satellite)
- This experiment could revolutionize how data is transmitted across vast distances in space, potentially enhancing our ability to explore the farthest reaches of the solar system.
- This **mission represents a significant step forward in our understanding of the early solar system and the formation of terrestrial planets.**

About Asteroids:

- An **asteroid is a minor planet—an object that is neither a true planet nor a comet—that orbits within the inner Solar System.**
- They are **rocky, metallic or icy bodies with no atmosphere.**
- **Sizes and shapes of asteroids vary significantly**, ranging from 1-meter rocks to a dwarf planet almost 1000 km in diameter.
- Of the roughly one million known asteroids the **greatest number are located between the orbits of Mars and Jupiter in the main asteroid belt.**
- Asteroid Belt- The maximum number of known asteroids is found between Mars and Jupiter in the solar system. They circle their respective planets or the sun, as they continue to revolve along their orbits.

WHITE PHOSPHOROUS

Why in News?

Amnesty International and Human Rights Watch have accused the **Israel Defense Forces of using white phosphorus munitions in Gaza and Lebanon.**

About White Phosphorous:

- White phosphorus is a **pyrophoric substance that ignites when exposed to oxygen.**
- It is one **among the most unstable of pyrophoric substances.**
- White phosphorus is a **chemical waxy solid substance typically appearing yellowish or colourless.**
- It **emits a distinct garlic-like odour** and **produces thick, light smoke with intense 8150 Celsius heat.**
- It is insoluble in water but soluble in organic solvents, and it readily catches fire when exposed to air.
- White phosphorus finds use in various industrial applications, including the manufacture of phosphoric acid, phosphorus trichloride, and other organic phosphorus compounds.
- It is **dispersed in artillery shells, bombs, rockets and via felt (textile) wedges soaked in the chemical.**
- **Once ignited, white phosphorus is very difficult to extinguish.**
- Military applications
 - **As smokescreen**, it hides ground troop movement
 - **As an incendiary weapon** to start fire
 - **Interacts and confuses the infrared optics** and weapons tracking systems and protects the forces from guided missiles.
- Impact on Humans
 - Can **cause burns even up to bones.**
 - Particles of white phosphorus lodged in the body can reignite if in contact with air.
 - **Inhalation causes respiratory damage, harm internal organs.**



- Impact on Environment - It can **devastate infrastructure and property, damage crops and kill livestock with raging fires.**
- White phosphorus is **not explicitly banned by international conventions.**
- It is not considered a chemical weapon because its operational utility is primarily due to heat and smoke, rather than toxicity.
- But **their use is regulated under the International Humanitarian Law (IHL).**

About Phosphorous:

- Phosphorus is a **chemical element with the symbol P and atomic number 15.**
- Elemental phosphorus **exists in many forms, black ,white phosphorus and red phosphorus,** but because it is highly reactive, phosphorus is **never found as a free element on Earth.**
- It has a concentration in the Earth's crust of about one gram per kilogram (compare copper at about 0.06 grams).
- In minerals, **phosphorus generally occurs as phosphate.**
- It is **highly reactive and forms compounds with a wide range of elements,** including oxygen, sulfur, and metals.
- **Phosphorous is essential for life and is a vital component of DNA, RNA, and ATP** (adenosine triphosphate).
- Phosphorus is an **essential nutrient for the growth of plants** and is a **key component of fertilizers used in agriculture.**
- It is **crucial for the development of bones and teeth in humans and animals,** playing a central role in skeletal structure and cellular processes.

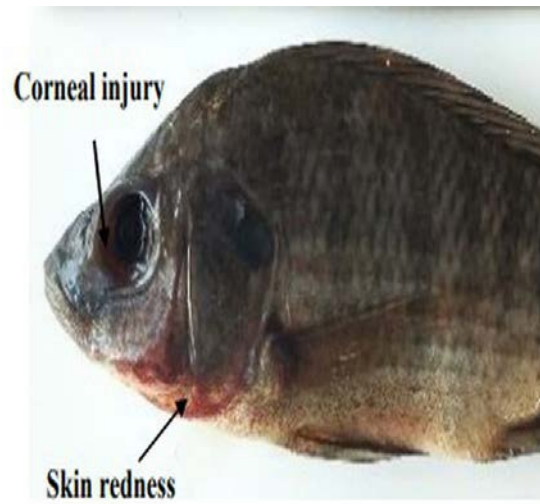
TILAPIA PARVOVIRUS (TiPV)

Why in News?

The occurrence of tilapia parvovirus (TiPV) affecting farm-bred tilapia, a freshwater fish species, and causing a huge mortality rate has been reported for the first time in India at ponds in Walajah in Ranipet district of Tamil Nadu.

About Tilapia Parvovirus:

- TiPV is a **viral pathogen that primarily affects tilapia.**
- It **belongs to the Parvoviridae family,**
- It is a **small, nonenveloped, single-stranded DNA (ssDNA) virus.**
- It was first reported in China in 2019 and Thailand in 2021.
- **India is the third country to report the occurrence of TiPV.**
- TiPV has **caused mortality rates ranging from 30% to 50% on fish farms.**
- In laboratory settings, it has led to 100% mortality, highlighting its devastating impact.
- This **virus was localized in the gills, heart, brain, liver, pancreas, spleen, intestine, kidney, eyes, and muscles of tilapia.**
- The **virus can cause a range of symptoms, including loss of appetite, lethargy, difficulty swimming, pale gills, haemorrhages on the skin and fins, and, in severe cases, death.**
- **TiPV spreads through direct contact with infected fish or contaminated water sources.**
- The introduction of infected fish or contaminated equipment accelerates the virus's dissemination.
- **Early detection and proactive prevention are crucial to controlling TiPV** due to its highly contagious nature.
- **TiPV outbreak can also pose a threat to the biodiversity and ecology of freshwater bodies** as tilapia is an invasive species that can compete with native fish for food and space.
- TiPV outbreak can **also affect the food security and nutrition of the people who depend on tilapia** as a source of protein and income.



About Tilapia Fish:

- Tilapia is a freshwater fish species that is **widely cultured and consumed in India.**
- It belongs to the family Cichlidae under the order Perciformes.
- Tilapia are **mainly freshwater fish inhabiting shallow streams, ponds, rivers, and lakes,** and less commonly found living in brackish water.
- **These fish are native to Africa** and have gained popularity as a widely cultivated and harvested food source.
- The introduction of different tilapia species, including Nile tilapia and Mozambique tilapia, has led to diverse farming practices.
- **Tilapia farming is carried out in various parts of the country, particularly in Andhra Pradesh and Kerala.**
- Although tilapia are robust and adapted to intensive farming conditions and environmental changes, disease outbreaks, particularly those with viral origins, continue to threaten tilapia production.



CORAL REEF FOSSIL IN LADAKH

Why in News?

Geologists have made a remarkable **discovery of coral reef fossils at an elevation of 18,000 feet above sea level in the Burtse region, Eastern Ladakh Himalayas.**

About:

- These **fossils reveal the existence of ancient coral colonies and provide insights into a previously unknown geological past of the Burtse region,** su ggesting the presence of a diverse marine ecosystem.
- The **findings support the idea that the Himalayas emerged when continental plates were thrust out of the Tethys Sea about 40 million years ago.**

- The discovery of coral reef fossils in Ladakh is significant because it indicates that this region, now a high-altitude desert, was once submerged under a vast ocean.
- This finding offers insights into Ladakh's geological history, the impact of tectonic activity, and ancient climate conditions.



About Corals:

- They are **underwater ecosystems composed of coral colonies held together by calcium carbonate**, which are vital for marine ecology.
- Coral species include the important reef builders that inhabit tropical oceans and secrete calcium carbonate to form a hard skeleton.
- A coral "group" is a colony of very many genetically identical polyps.
- A set of tentacles surround a central mouth opening. Each polyp excretes an exoskeleton near the base
- **Reefs are formed of colonies of coral polyps held together by calcium carbonate.**
- **Most coral reefs were formed after the Last Glacial Period** when melting ice caused sea level to rise and flood continental shelves.
- Scientists generally agree on **four different coral reef classifications: fringing reefs, barrier reefs, atolls, and patch reefs.**
- Coral reefs deliver ecosystem services for tourism, fisheries and shoreline protection.
- **Coral reefs have declined by 50% since 1950**, partly because they are sensitive to water conditions.
- They are under **threat from excess nutrients** (nitrogen and phosphorus), **rising ocean heat content and acidification, overfishing** (e.g., from blast fishing,



cyanide fishing, spearfishing on scuba), **sunscreen use, and harmful land-use practices, including runoff and seeps** (e.g., from injection wells and cesspools).

DOGRA ARCHITECTURE

Why in News?

The **Maharaj Gunj market in Srinagar, Jammu and Kashmir is undergoing a revival project.**

Srinagar Smart City Ltd. and the Kashmir chapter of the Indian National Trust for Art and Cultural Heritage (INTACH) have joined hands to conserve vernacular elements of Dogra architecture in Kashmir

About Dogra Architecture:

- Dogra architecture is a **term used to describe the buildings and structures that were constructed by the Dogra Hindu kings** who ruled over Jammu and Kashmir from 1846 to 1947.
- The **Dogras are believed to be of Indo-Aryan descent and migrated to the Jammu region from the Punjab region** during ancient times.
- **Features of Dogra Architecture:**
 - **Use of Local Materials:** Dogra architecture often utilizes locally available materials such as wood, stone, and clay, which help in maintaining a comfortable indoor temperature and provide insulation from the harsh weather.
 - **Sloping Roofs:** Houses in this style typically have sloping roofs to allow for the shedding of snow and rain which is common in the region.
 - **Carved Wooden Elements:** Intricate wood carvings on doors, windows and balconies showcasing the artistic skills of the local craftsmen.
 - **Courtyard Design:** Houses are often designed around a central courtyard, providing a private and functional space for the family.



- **Adaptation to Climate:** Dogra architecture is designed to withstand extreme weather conditions, including cold winters and hot summers.
- Influence of Hindu and Tibetan styles: Combines elements of both architectural traditions.
- The **use of 'jharokha'** or projecting balconies to adorn the facades of the buildings. The jharokha was a feature borrowed from Rajasthani architecture and was used to provide shade, privacy and views.
- The fine example of Dogra architecture are **Mubarak Mandi Palace, Bahu Fort, Jasrota Palace, Billawar Palace, Amar Mahal Palace** these all buildings were made by kings, the dogra rulers of Jammu.

KASTURI COTTON BHARAT

Why in News?

The **Union Minister of Textile, Commerce & Industry, Consumer Affairs and Food & Public Distribution**, launched the website for "Kasturi Cotton Bharat."

About:

- The **Kasturi Cotton Bharat** is a joint initiative by the **Ministry of Textiles, the Cotton Corporation of India, Trade Bodies & Industry.**
- It aims to work on the principle of self-regulation by owning complete responsibility of Branding, Traceability and Certification of Indian Cotton to enhance its' competitiveness in the global market and create a sustainable ecosystem for all stakeholders involved.
- It **focuses on self-regulation for branding, traceability, and certification of Indian cotton.**
- This **website (<https://kasturicotton.texprocil.org>)** provides a digital platform for necessary information and updates on this initiatives.



- It highlights the registration process for ginnerers to produce Kasturi Cotton Bharat Brand and its processes that make the branded Indian cotton unique.
- All the ginnerers in the country have been empowered to produce Kasturi Cotton Bharat brand as per stipulated protocol.
- This **brand represents whiteness, softness, purity, lustre, and Indianness.**
- **To ensure traceability, QR-based certification technology and a blockchain-based software platform will be used across the supply chain.**

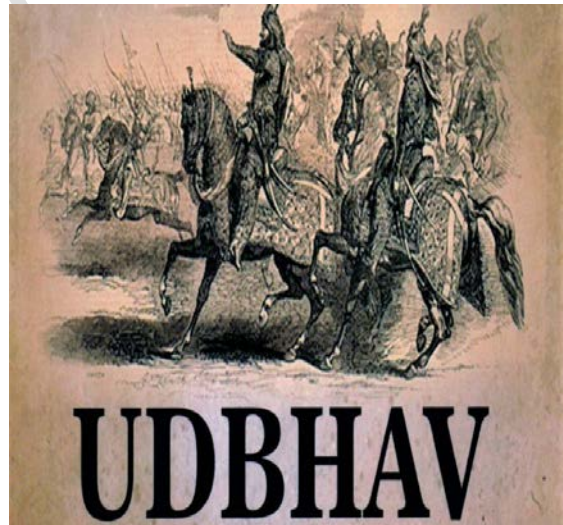
PROJECT UDBHAV

Why in News?

'Project Udbhav' has been launched by the Indian Defence Minister, aiming to integrate ancient Indian strategic wisdom into modern military pedagogy.

About Project Udbhav:

- Project Udbhav is a **collaboration between the Indian Army and the United Service Institution of India (USI), a defence services think tank.**
- The project, named **'Udbhav', translates to 'origin' or 'genesis',** recognizing the profound knowledge embedded in our nation's historical texts spanning centuries.
- It **focuses on a broad spectrum including Indigenous Military Systems, Historical Texts, Regional Texts and Kingdoms, Thematic Studies, and intricate Kautilya Studies.**
- The project will explore under-explored strategic thinking, statecraft, and warfare from classical texts and enrich military training curricula like **Chanakya's Arthashastra** (strategic partnerships, diplomacy, soft power projections, etc.) and **Thirukkural (Ethical conduct in warfare).**
- At its core, **Project Udbhav seeks to bridge the historical and the contemporary.**



Objectives of the project:

- **Understanding ancient military systems and India's indigenous military culture.**
- **Studying the evolution of the Indian military system and strategic ideas.**
- **Educating junior and senior military leaders about concepts in classical texts.**
- **Creating a knowledge resource for scholars and defense personnel.**
- **Considering the inclusion of historical military concepts in modern practices.**
- **Ancient Indian texts and historical military campaigns and leaders will be studied to connect traditional knowledge with contemporary military practices.**
- **In connection with Project Udbhav, the USI conducted a Military Heritage Festival on 21st and 22nd October, 2023.**
- **A series of events and workshops, will dwell on various facets of our strategic culture and culminate in January 2024, with a publication, to document and institutionalise such knowledge.**

LEMRU ELEPHANT RESERVE CORRIDOR

Why in News?

The Ministry of Coal have excluded certain coal mines from development to protect forest areas, including the Lemru Elephant Corridor.

About Lemru Elephant Reserve:

- **The Lemru Elephant Reserve (Hasdeo Aranya forests) in the Korba district of Chhattisgarh.**
- **This biodiverse area, often called the lungs of Chhattisgarh, also contains significant coal deposits**
- **The reserve is aiming at reducing human-animal conflict as elephants migrate from Odisha and Jharkhand and destruction of property in addition to providing a permanent habitat to the elephants.**



- Earlier, the state government notified the reserve (Conservation Reserve) in October 2020 under Section 36A of the Wild Life (Protection) Act, 1972 (WLPA).
- Section 36A has a special provision that gives the Union government a say in the process of notification in case the land to be notified as conservation reserve has areas belonging to the Centre.
- **In India, elephant reserves and corridors have no legal sanctity under any law, including the Wildlife Protection Act (WLPA), 1972.**
- The act mentions only national parks, wildlife sanctuaries, conservation and community reserves (collectively called Protected Areas).

WORLD ENERGY OUTLOOK 2023

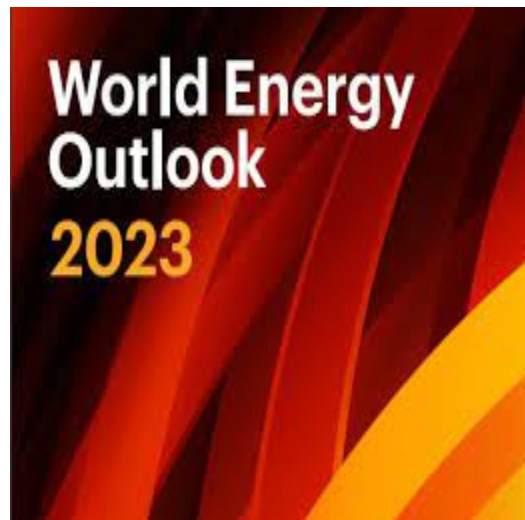
Why in News?

The **International Energy Agency (IEA)** has released the World Energy Outlook 2023.

About World Energy Outlook:

The annual **World Energy Outlook (WEO)** is the **International Energy Agency's (IEA)** flagship publication on global energy projections and analysis.

It contains **medium to long-term energy market projections, extensive statistics, analysis and advice for both governments and the energy business** regarding energy security, environmental protection and economic development.



The first WEO was published in 1977 and it has been an **annual publication since 1998.**

Key Highlights of the report:

Fossil fuel share in the global energy supply is projected to reduce from around 80% to 73% by 2030.

Investment in clean energy has risen by 40% since 2020.

Findings of World Energy Outlook 2023 for India:

- **Power consumption** – India will exceed the whole of Africa now.
- **Air-conditioner usage** – Residential ownership to see 9 fold increase by 2050.
- **Energy demand** – A sharp rise as temperatures cross the 25-degree Celsius threshold.
- **Energy supply** - To rise to 60.3 exajoules (EJ) by 2050.
- **Investments** – Need to nearly triple by the end of this decade to be on a trajectory to meet its net zero emissions target.
- **Annual CO2 emissions** – To rise nearly 30% by 2050, which is one of the largest increases in the world.
- **Implication over India's climate** – Over the past 5 decades, more than 700 heatwave events occurred.

INDIA'S 1ST NANO DAP PLANT

Why in News?

Home Minister Amit Shah inaugurates **Country's first Nano DAP plant in Gandhinagar, Gujarat.**

About:

- **Nano-DAP (Di-ammonium Phosphate) is a nanotechnology-based agri-input** developed by the Indian Farmers Fertilizer Cooperative Limited (IFFCO).
- It is **country's first Nano DAP plant near Kalol in Gandhinagar,**
- It is the **need of the hour to adopt natural farming** and reduce the use of fertilizers in agriculture without compromising the scale of the production.
- The Nano liquid dap plant in Kalol has been



set up by IFFCO at the cost of 300 crore rupees.

- The **plant has been developed in tune with the Aatmnirbhar Bharat vision** of Prime Minister Narendra Modi.
- It will **have 8% nitrogen and 16% phosphorus compared to 18% nitrogen and 46% phosphorus contained in the conventional granular bag.**
- **A 500 ml bottle of nano-DAP is equal to a 50kg bag of regular DAP.** The cost of a bottle of nano-DAP is RS.600 (without subsidy), while conventional DAP is priced at Rs.1,350 per bag (with fertiliser subsidy).
- **IFFCO has obtained a 20-year patent for nano-urea and nano-DAP**, entitling them to receive a 20% royalty for global usage of these products.
- Manufacturing facilities for the production of nano DAP fertilizers have been established by IFFCO in Kalol and Kandla, located in Gujarat, as well as in Paradeep, situated in Odisha.
- **Nano DAP is the second product from the nano stable after nano urea**, which the government is promoting to reduce subsidies and promote the efficient use of plant chemicals.



Advantages

- Diammonium phosphate (DAP) is the most globally utilized phosphorus fertilizer, with a significant impact on India's fertilizer sector.
- **DAP is the second most consumed fertilizer in the country after urea.**
- The introduction of Nano-DAP is poised to reduce India's expenditure on fertiliser imports.
- It is anticipated to play a role in reducing the annual subsidies allocated to non-urea fertilisers.

About IFFCO:

- Indian Farmers Fertiliser Cooperative Limited, also known as IFFCO, is a **multi-state cooperative society**.

- IFFCO is **wholly owned by Cooperative Societies of India.**
- The society is engaged in the business of manufacturing and marketing of fertilizers.
- IFFCO is headquartered in New Delhi, India.



पूर्णतः सहकारी स्वामित्व
Wholly owned by Cooperatives

VISA SHOPPING

Why in News?

The practice of 'visa shopping' has been gaining popularity in several Indian states, including Punjab, where travel companies often facilitate this setup for travellers.

About Visa Shopping:

- Visa shopping refers to obtaining visas for countries that individuals may or may not visit during the granted visa period.
- This is because such visas can provide a gateway for people to enter their preferred countries, particularly in Europe, even if they have obtained a visa for another European nation.
- This is to increase the chances of obtaining visas for countries of their choice in the future, given how the application process often takes a long time or has chances of rejection.
- According to people involved in Punjab's travel agencies, **one popular example of this is the 'Schengen Visa'**, which provides a 'golden opportunity' for travellers by allowing them to explore many European countries without the need for separate visas.



- **This practice is not illegal** if the traveller adheres to the norms and guidelines of the visa process and gets valid permission to stay in that country.

JAMRANI DAM MULTIPURPOSE PROJECT

Why in News?

The government of India approved the inclusion of the Jamrani Dam Multipurpose Project under the Pradhan Mantri Krishi Sinchayee Yojana-Accelerated Irrigation Benefit Programme (PMKSY-AIBP).

About this Project:

- **Jamrani Dam Multipurpose Project envisages the construction of a dam near Jamrani village across river Gola, a tributary of river Ram Ganga, in the Nainital district of Uttarakhand.**
- **A substantial part of irrigation benefits of the project would flow to the neighbouring state of Uttar Pradesh.**
- **The project aims to generate 63 million units of electricity and will provide additional irrigation facilities for 57,065 hectares of land.**
- **This project will also provide 42 MCM of drinking water to Haldwani city by the year 2055.** The government has set a target to complete the project by the year 2027.
- This project is the seventh project to be included in the PMKSY-AIBP list.



About Pradhan Mantri Krishi Sinchai Yojana:

- Pradhan Mantri Krishi Sinchai Yojana (Hindi: प्रधानमंत्री कृषि सिंचाई योजना) is a **national mission to improve farm productivity and ensure better utilization of the resources in the country.**

- It is a **Centrally Sponsored Scheme** (Core Scheme) **launched in 2015**. Centre- States will be **75:25 per cent**. In the case of the north-eastern region and hilly states, it will be 90:10.



Pradhan Mantri Krishi Sinchai Yojana

- **Objectives:**
 - Convergence of investment in irrigation at the field level
 - Expand cultivable area under irrigation (हर खेत को पानी)
 - Improve On-farm water use efficiency to reduce wastage of water
 - Enhance the adoption of being precise in irrigation and other water saving technologies (more crop per drop)
- Implementation - **Decentralised implementation** through State Irrigation Plan and District Irrigation Plan.
- The major components of PMKSY are listed below:

1) **Accelerated Irrigation Benefit Program (AIBP):** To concentrate on speedier fulfilment of continuous Major and Medium Irrigation including National Projects.

2) **Har Khet Ko Pani (HKKP):** Creation of new water sources through minor water system (both surface and groundwater), Repair, reclamation, and redesign of conventional water bodies, Charge range advancement, Fortifying and production of dispersion organized from sources to the ranch and Creating and rejuvenating traditional water storage systems.

3) **Per Drop More Crop (PDMC):** Improving the efficiency of water usage by various initiatives like precision water application devices, construction of micro-irrigation structures to supplement source creation activities including tube wells and dug wells, etc

4) **Watershed Development (WD):** Ridge territory treatment, seepage line treatment, soil and dampness protection, water reaping and other watershed intercessions.

GUDAVI BIRD SANCTUARY

Why in News?

The sudden death of several birds at Gudavi Bird Sanctuary in Sorab taluk has left the officers of the Forest Department in worry. In a span of seven days, more than 30 birds, including spoonbills, herons, and black-headed ibis, were found dead.

About Gudavi Bird Sanctuary:

- Gudavi Bird Sanctuary is a **tourist destination in Malenadu region of Karnataka** (part of Soraba Taluk of Shivamogga district).
- Gudavi Sanctuary, **located about 13 km away from Sorab**, attracts hundreds of birds.
- Sanctuary is **spread over an area of 0.74 square km**.
- It is **located on the Gudavi Lake banks**.
- It is **engulfed with natural beauty and rich biodiversity**, attracting tourists from different parts of the world.
- **Shivamogga is also famous for Mandagadde Bird Sanctuary, and Bhadra Wildlife Sanctuary**, northwest of Shivamogga is Jog Falls.
- **The Bird Sanctuary prides itself on being the home of more than 217 bird species**, including residential and migratory birds like Grey Heron, Little Cormorant, Little Grebe, White Ibis and White-Headed Crane.
- It is covered by moist deciduous forest species interspersed with grassy patches.



BANNI FESTIVAL

Why in News?

Three persons had lost their lives and more than hundred persons were injured in the traditional Banni festival, at Devaragattu in Kurnool district late in the night on October 24.

About Banni Festival:

- It is a **traditional stick fight celebration in Andhra Pradesh.**
- It is **celebrated on the night of Dussehra celebration (Vijaya Dasami) every year.**
- This festival was celebrated by people under the Vijayanagara Empire.
- The objective of this event was to snatch the idols from God's team, leading to a fierce battle known as the Banni Fight.
- It is **celebrated to mark the victory of Lord Shiva (Mala Malleswara Swamy) and Goddess Parvati (Malamma) over demons Mani and Mallasura** who used to trouble people at Devaragattu region.
- **Devotees from Andhra Pradesh and Karnataka participate** as the Mala Malleswara Swamy Temple is located on the border of these states.
- The **ritual takes place at midnight** when the procession idols of the ruling deities Malamma (Parvati) and Malleshwara Swamy (Shiva) are brought down the hill temple at Neraneki.
- Devotees carry long sticks or lathis with them for hitting each other with these sticks on the head.
- The **basic idea of this fight is to capture the procession idol.**



SIM SWAP SCHEME

Why in News?

In recent incidents, unsuspecting individuals fell victim to SIM swap fraud, resulting in substantial financial losses.

About:

- All banking applications are linked to phone numbers, which help in generating OTPs (to authenticate transactions) or receiving important bank-related messages.
- In the SIM swap scam, fraudsters first take personal details such as phone numbers, bank account details, and addresses with the help of phishing or vishing.
- After receiving the personal information, fraudsters visit the mobile operator's retail outlet, posing as the victim with forged ID proof, and report a fake theft of the victim's SIM card and/or mobile phone.
- By doing this, **they attain a duplicate SIM.**
- Notably, **scamsters can get a duplicate SIM even when the original is working, as they reported a theft of the original SIM card.**
- Unlike other scams, where scamsters trick people into giving OTPs and private information on a phone call, the SIM swap scam doesn't require direct communication with the victims.
- However, fraudsters do give missed calls to their victims so that the latter leave their phones and ignore the lost network connectivity.
- **When the SIM is swapped, the accused gains control of the entire SIM.**
- All calls and messages go through their SIM only.
- Once in control of the SIM card, they are able to obtain passwords and OTPs that allow them to access their targets' bank accounts.



To safeguard against SIM swap fraud, consider the following precautions:

- **Stay Alert:** Be vigilant against vishing and phishing attacks.
- **Don't Ignore Missed Calls:** After receiving multiple missed calls, don't turn off your phone or neglect messages. Contact your mobile operator immediately if you notice unusual activity.
- **Change Passwords:** Regularly update your bank account passwords.
- **Enable Alerts:** Register for SMS and email alerts for your banking transactions.

- **Immediate Action:** In case of fraud, contact your bank promptly to block your account and prevent further unauthorized transactions.

GLOBAL DECLARATION FOR RIVER DOLPHINS

Why in News?

In a significant move to protect the world's six surviving species of river dolphins, **11 Asian and South American countries have signed a groundbreaking Global Declaration for River Dolphins.**

About:

- **Eleven countries** signed a first-of-its-kind **global declaration for the protection of river dolphins by 2030.**
- 11 countries include **Bangladesh, Bolivia, Brazil, Cambodia, Colombia, Ecuador, India, Nepal, Pakistan, Peru, and Venezuela.**
- It is a declaration to halt the decline of all river dolphin species by 2030.
- These countries committed to creating transboundary research-driven solutions and recommendations for mitigating threats facing river dolphins.
- The countries involved agreed to **improve water quality in the dolphins' habitat, create protected areas, tackle overfishing, and involve Indigenous communities in the affected regions in protecting the animals.**



About River Dolphins:

- River dolphins are a polyphyletic group of fully aquatic mammals that reside exclusively in freshwater or brackish water.

- They are an informal grouping of dolphins, which itself is a paraphyletic group within the infraorder Cetacea.
- **River dolphins are relatively small compared to other dolphins**, having evolved to survive in warm, shallow water and strong river currents.
- **They have streamlined bodies and two limbs** that are modified into flippers.
- River dolphins use their conical-shaped teeth and long beaks to capture fast-moving prey in murky water.
- **They have well-developed hearing** that is adapted for both air and water.
- They **do not really rely on vision** since the water they swim in is usually very muddy. Instead, **they tend to rely on echolocation when hunting and navigating.**
- These species are **well-adapted to living in warm, shallow waters**, and, unlike other cetaceans, have little to no blubber.
- **River dolphins are not very widely distributed**; they are all restricted to certain rivers or deltas.
- This makes them **extremely vulnerable to habitat destruction.**
- River dolphins feed primarily on fish.
- These dolphins are found in rivers of south-central Asia, China, and South America and in the coastal waters of Brazil, Argentina, and Uruguay.
- The six surviving species of river dolphins are the Amazon, Indus, Ganges, Irrawaddy, Tucuxi, and Yangtze finless porpoises.
- A seventh river dolphin species, the Chinese river dolphin, or baiji, was declared extinct in 2007.
- All six species of river dolphins are classified as Endangered or Critically Endangered on the IUCN Red List of Threatened Species.
- **River dolphins are rarely kept in captivity**; breeding success has been poor and the animals often die within a few months of capture. As of 2020, there was only one river dolphin in captivity.



CLASSIC IAS ACADEMY

CLASSIC IAS ACADEMY