



DAILY CURRENT AFFAIRS

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Cauvery Water Conundrum

Syllabus:GS2/ Polity, GS1/Geography

News

- Various organizations in Bengaluru have called for a bandh on September 26 after the Cauvery Water Management Authority (CWMA) directed Karnataka to release 5,000 cusecs of water to Tamil Nadu for 15 days.

Background

- The Central Government, using powers conferred by the **Inter-State River Water Disputes Act, 1956**, had constituted the Cauvery Water Disputes Tribunal in **1990** to adjudicate the dispute regarding sharing the waters of Cauvery.

The Inter-State Water Disputes Act, 1956

- The Act empowers the Central government to **set up an ad hoc tribunal for the adjudication of a dispute** between two or more states in relation to the waters of an inter-state river or river valley.
- The decision of the tribunal would be **final and binding** on the parties to the dispute.

- In **2018**, the Central Government notified the Cauvery Water Management Scheme and constituted the '**Cauvery Water Management Authority**' (CWMA) and the '**Cauvery Water Regulation Committee**' (CWRC).

What is the dispute?

- Recently the Supreme Court asked Karnataka to continue releasing **5,000 cubic feet per second (cusecs)** of water from the Cauvery river to Tamil Nadu for **15 days**, in line with decisions of the Cauvery Water Regulation Committee (CWRC) and the Cauvery Water Management Authority (CWMA).
- However the protesters argued against the decision as the southwest monsoon has been the lowest in the last **123 years** and storage levels are very low in the Cauvery basin reservoirs in Karnataka.

Way Forward

- There is a need for a **distress-sharing formula** formulated by the CWMA along with the stakeholders. There may be differences over the choice of parameters that determine such a formula.
- Hence by analyzing the present crisis, the authority should take the initiative in convincing all the stakeholders in evolving the proposed formula.

Cauvery River

- **Origin:** The River rises at **Talakaveri in the Brahmagiri range** in the Western Ghats, Kodagu district of Karnataka.
- **Basin:** The river basin covers **Tamil Nadu, Karnataka, Kerala and Puducherry**.
 - However it flows through only the states of Karnataka and Tamil Nadu and drains into the **Bay of Bengal**.
- The Cauvery River is the **third largest river** in southern India after **Godavari and Krishna**.
- **Tributaries:** Harangi, Hemavati, Kabini, Bhavani, Lakshmana Tirtha, Shimsha, Noyyal, Amaravati and Arkavati.

- **Dams:** Krishna Raja Sagara Dam, Mettur Dam, Banasura Sagar Dam, Harangi Dam etc.

Source:[TH](#)

Collegium proposals pending: Supreme Court

Syllabus :GS 2/Judiciary

In News

- The Supreme Court expressed its dismay over the "delay" in the appointment of judges and asked the attorney general to use his office to resolve the issue.

About the appointment in judiciary

- Judges of the higher judiciary are appointed through the collegium system, and the government has a role only after names have been decided by the collegium.
 - Names that are recommended for appointment by a High Court collegium reaches the government only after approval by the CJI and the Supreme Court collegium.
 - The collegium can veto the government if the names are sent back by the latter for reconsideration.

Do you know ?

- **Articles 124 and 217 of the Constitution** deal with the appointment of judges to the Supreme Court and High Courts.
- The **CJI and the judges of the Supreme Court** are appointed by the President under clause (2) of **Article 124 of the Constitution**.
 - The appointments are made by the President, who is required to hold consultations with “such of the judges of the Supreme Court and of the High Courts” as he may think is needed.
- A High Court Collegium, meanwhile, is led by the incumbent Chief Justice and the two senior most judges of that court.

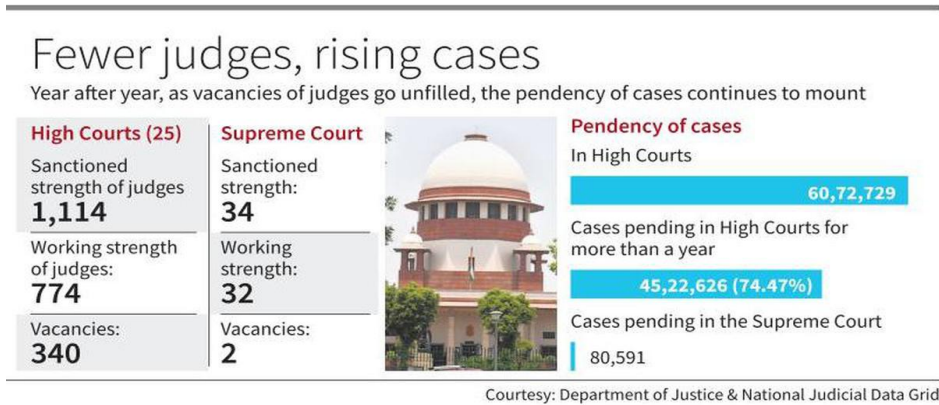
Evolution collegium system

- The collegium system was born out of years of friction between the judiciary and the executive.
- The Three Judges cases saw the evolution of the collegium system.
 - **In the First Judges case**, the court held that the consultation with the CJI should be “full and effective”.
 - **The Second Judges case** introduced the collegium system in **1993**.
 - It ruled that the CJI would have to consult a collegium of his **two senior-most judges** in the apex court on judicial appointments. The court held that such a “collective opinion” of the collegium would have primacy over the government.
 - **It was the Third Judges case in 1998**, which was a Presidential reference, that expanded the judicial collegium to its **present composition of the CJI and four of his senior-most judges**.

Objectives

- The basic tenet behind the collegium system is that the judiciary should have primacy over the government in matters of appointments and transfers in order to remain independent.

Present Status



Issues in appointment

- The appointment of judges through the collegium system has in the past become a major flashpoint between the Supreme Court and the Centre with the mechanism drawing criticism .
 - The government has reiterated the need for a **National Judicial Appointments Commission (NJAC)**.
- What is more worrisome is that even after a batch of names is recommended by the collegium at one time, the government segregates it and makes selective appointments.
- There is criticism that the collegium system **lacks transparency**, since it does not involve an official mechanism or secretariat.
 - It is a closed-door affair in every sense — no one knows when the Collegium meets or how it takes its decisions.
 - There are no official minutes of collegium proceedings.

Conclusion and Way Forward

- The independence of the judiciary is necessary. Executive And Judiciary work for the country. But without coordination and cooperation we cannot make India a great nation.
 - The separation of power and the boundaries of the branches of government are well marked in the Constitution.
- Differences of opinion, if any, should be mutually reconciled by the executive and the judiciary to ensure that only the opposite person is appointed .

Source:[TH](#)

GOBARDhan Scheme

Syllabus: GS3/Renewable Energy Sources

Context:

- **Unified Registration [Portal](#) for GOBARDhan** introduced by the Department of Drinking Water and Sanitation to streamline the registration of Compressed Biogas (CBG) plants nationwide.

About

- Over 1,163 biogas plants and 426 CBG plants registered on the portal, eligible for assistance under the **Market Development Assistance (MDA)** scheme of the Deptt. of Fertilisers, under Ministry of Chemicals & Fertilisers.
- Registration of manufacturing plants on the Unified GOBARdhan portal and adhering to Fertilizer Control Order (FCO) specifications for organic Fertilisers are prerequisites for MDA eligibility.

Initiatives enabling GOBARdhan Scheme:

Market Development Assistance (MDA):

- It has been rolled out by the **Department of Fertilisers** with focused guidelines to promote production and uptake of organic **Fertilisers from Galvanising Organic Bio-Agro Resources Dhan (GOBARdhan) plants**.
- It has been launched with a robust budget of Rs. 1451.82 Crore **for three years** (FY 2023-24 to FY 2025-26).
- It acts as a leveller by **curbing chemical fertiliser overuse** and ensuring **Integrated Nutrient Management**.
- It focuses on twin objectives of **efficient organic waste management** and bolstering **soil organic carbon in agricultural soils**, creating fertile ground for organic farming.

Other initiatives enabling the GOBARdhan:

- **Standardising bio-slurry:**
 - Bio-slurry, has potential to rev up acreage under organic farming and consequent monetary benefits to farmers.
- **RBI's inclusion of CBG plants** in Agri Infrastructure Fund (AIF) as well as Agriculture Infrastructure and Development Fund (AHIDF);
- **Revisions in the categorization and recalibration of CBG plant** categories by the Central Pollution Control Board (CPCB);
- **Revival of the Waste to Energy Scheme** of the Ministry of New and Renewable Energy (MNRE) etc.

The GOBARdhan Scheme:

- It is being pursued as a national programme priority under Swachh Bharat Mission Gramin-Phase II.
 - It is central to the attainment of Swachh Bharat Mission Gramin objectives
- It aims to support villages in effectively managing their cattle and biodegradable waste.
- It is expected to promote community awareness and ownership, and help villages manage cattle, agro residues and other biodegradable waste.
- **The Department of Drinking Water and Sanitation** is working with different ministries and departments, along with State Governments, Public and Private Sector institutions and village communities to give this a shape of '**Jan Andolan**'.

Benefits of GOBARdhan:

- **Manages Waste:** Helps manage the major solid waste in villages, i.e, cattle dung, and promotes environmental sanitation;
- **Promotes Health:** Substantially reduces the incidence of vector-borne diseases and promotes public health;

- **Employment:** Promotes employment and income generation opportunities for SHGs/farmers groups;
- **Generates Organic Manure:** Helps generate organic manure, which boosts agriculture and farm productivity;
- **Improves savings:** Promotes household income and savings as the use of biogas as fuel will cut down the LPG cost;

[Source: PIB](#)

Code of Conduct in Lok Sabha

Syllabus: GS2/Indian Polity

Context:

- As Parliament moved to a new building, members of Lok Sabha seek a commitment to good behaviour and proper conduct from them.

About:

- Members of Lok Sabha (Lower House of the Parliament) seeks:
 - The formulation of a Code of Conduct for members of Lok Sabha; and
 - A declaration of members' business interests.
- Both conditions have long been applicable to members of Rajya Sabha.

Code of Conduct for Lok Sabha:

- The Lok Sabha Ethics Committee submitted its report on proposed amendments to the Rules of Procedure and Conduct of Business in Lok Sabha to the Speaker in 2014.
- Its recommendations were included in the **report of the Rules Committee of Lok Sabha**.
 - It said [the Ethics Committee] shall 'formulate a Code of Conduct for Members and suggest amendments or additions to the Code of Conduct from time to time'.
 - Rajya Sabha is already maintaining a register of their Members' interest.

Background:

- The **first Ethics Committee** in Lok Sabha was constituted on May 16, 2000, and **reconstituted every year**.
- As per the Lok Sabha website, the Ethics Committee shall:
 1. **Examine every complaint** relating to unethical conduct of a member of Lok Sabha **referred to it by the Speaker** and make such recommendations as it may deem fit;
 2. **Formulate a Code of Conduct for members** and suggest amendments or additions to the Code of Conduct from time to time.
- After the Ethics Committee's report is tabled in the House, it is taken up for discussion. Once approved by the House, it goes to the Rules Committee, which drafts Rules based on the recommendation.

Ethics Committee in Rajya Sabha:

- The **first Ethics Committee in Rajya Sabha** was inaugurated by Chairman K R Narayanan on May 30, 1997 *to oversee the moral and ethical conduct of the Members and to examine the cases referred to it with reference to ethical and other misconduct of Members.*

- As per the ‘**Rule 293 of the Rules of Procedure and Conduct of Business in the Council of States (Rajya Sabha)**’, there shall be maintained a ‘Register of Member’s Interests’ in such form as may be determined by the [Ethics] Committee which shall be available to members for inspection on request.
- The **Fourth Report of the Committee** was adopted by Rajya Sabha on April 20, 2005, and a **14-point Code of Conduct** for members of the House has been in force ever since.

Private Interest Vs Public Office:

- If Members find that there is a **conflict between their personal interests and the public trust** which they hold, they should resolve such a conflict in a manner that their **private interests are subordinated to the duty of their public office**;
- Members should always see that their **private financial interests** and those of the members of their immediate family **do not come in conflict with the public interest** and if any such conflict ever arises, they should try to resolve such a conflict in a manner that the **public interest is not jeopardised**;

Matter of Probity:

- Members should never expect or accept any fee, remuneration or benefit for a vote given or not given by them on the floor of the House, for introducing a Bill, for moving a resolution or desisting from moving a resolution, putting a question or abstaining from asking a question or participating in the deliberations of the House or a Parliamentary Committee.

[Source: IE](#)

Rabies in India

Syllabus: GS-2/Health

Context

- The Union Ministry of Animal Husbandry and Dairying has deleted a social media post where it said that a rabies infection results in mild fever, restlessness and headache.

About Rabies:

- Rabies is a zoonotic, viral disease affecting the central nervous system. It causes progressive and fatal inflammation of the brain and spinal cord.
- **Virus:** Rabies Virus, its scientific name is ‘**genus Lyssavirus**’
- It is one of the **neglected tropical diseases (NTD)** that predominantly affects already marginalized, poor and vulnerable populations.

About Neglected Tropical Diseases (NTDs)

- These diseases are a diverse group of 20 conditions that are mainly prevalent in tropical areas, where they affect more than 1 billion people who live in impoverished communities.
- They are caused by a variety of pathogens including viruses, bacteria, parasites, fungi and toxins. These diseases cause devastating health, social and economic consequences to more than one billion people.
- They are ‘**neglected**’ because they are almost absent from the global health

agenda.

- Clinically, it has **two forms**:
 - **Furious rabies** – characterized by hyperactivity and hallucinations.
 - **Paralytic rabies** – characterized by paralysis and coma.
- It is a vaccine preventable disease.
- It is estimated to cause 59 000 human deaths annually in over 150 countries, with 95% of cases occurring in Africa and Asia.
- **Transmission**:
 - Through a deep bite or scratch from an animal with rabies
 - Direct contact with the saliva of infected animals
- **Symptoms**:
 - Fever, Headache, Nausea, Vomiting
 - Anxiety, Confusion, Hyperactivity, Hallucinations, Insomnia
 - Difficulty swallowing
 - Excessive salivation
 - Partial paralysis
 - Fear brought on by attempts to drink fluids because of difficulty swallowing water, etc
- **Severity**: If a person does not receive the appropriate medical care after a potential rabies exposure, the virus can cause disease in the brain, ultimately resulting in death.
- **Treatment**:
 - Extensive washing with water and soap for at least 15 minutes and local treatment of the wound as soon as possible after a suspected exposure;
 - A course of potent and effective rabies vaccine that meets WHO standards; and
 - The administration of rabies immunoglobulin or monoclonal antibodies into the wound, if indicated.
- **Prevention**: Rabies can be prevented by vaccinating pets, staying away from wildlife, and seeking medical care after potential exposures before symptoms start.
- **Facts and Figures**:
 - India accounts for 36% of the world's rabies deaths.
 - About 30-60% of reported rabies cases and deaths in India occur in children under the age of 15 years as bites that occur in children often go unrecognized and unreported.

Did you Know?

- **World Rabies Day** is celebrated on **28 September** which marks the anniversary of Louis Pasteur's death.
- The theme for the **year 2022** was **Rabies: One Health, Zero Deaths**.
- Louis Pasteur was a French chemist and microbiologist, who developed the first rabies vaccine.

Initiatives Taken:

- **National Action Plan for Dog Mediated Rabies Elimination (NAPRE):** Under this, the union will encourage all the States and UTs to make Rabies a notifiable Disease.
 - A notifiable disease is any disease that is required by law to be reported to government authorities.
- **Joint Inter-Ministerial Declaration Support Statement** for Elimination of Dog mediated Rabies from India by 2030 was also launched. It emphasized on the need of One Health Approach for achieving the 2030 targets.
- **The Animal Welfare Board of India (AWBI)** has also requested the concerned authorities to take appropriate action and to effectively implement the Animal Birth Control (Dogs) Rules, 2023 to control the dog population.
- **National Rabies Control Programme (NRCP):** It provides rabies vaccine and immunoglobulin through free national drug initiatives, conducting training on appropriate animal bite management, prevention and control of rabies, surveillance and intersectoral coordination, strengthening surveillance of animal bites and rabies deaths reporting and creating awareness about rabies prevention.

Source: TH

Cancer Deaths of Indian Women

Syllabus: GS2/Health

Context:

- Lancet reported that more than 63% of cancer deaths of Indian women were preventable.

About:

- A **Lancet Commission report** on gender and cancer treatment titled, *‘Women, Power and Cancer’* highlighted *societal apathy towards women’s health, lack of awareness and absence of quality expertise at the primary care level delayed their access to cancer prevention, detection and care.*

Highlights of the report:

In terms of mortality:

- Women in India diagnosed with cancer died because of **family apathy, their own indifference to their condition, lack of access and finance.**
- According to official data, in terms of cancer deaths among women, the top three cancers in India — **breast, cervical, ovarian.**
 - It includes the **HPV virus, which causes cervical cancer,** and **Hepatitis B and C infections that increase the risk of liver cancer.**
- **Infection continues to be the biggest risk factor** for cancer in Indian women, contributing to 23% of deaths.
- **Tobacco is the second important risk factor,** contributing to 06% of the cancer deaths.

- **Alcohol and obesity** each contributed to 01% of cancer mortality in India.

Economic impact of premature deaths because of cancer:

- **BRICS** (Brazil, Russia, India, China, South Africa) nations lost out on USD 46.3 billion **because of productivity loss** as a result of premature cancer deaths.
- It estimates that the value of **unpaid cancer care-giving by women** is about 3.66% of India's national health expenditure.

The Gender Gap in Healthcare:

- The **long-standing discriminatory practices** which undermine women's interaction with the health system, leading to poorer outcomes for women.
- Women are **less likely to be in a position of power** and may be unable to determine their care.
- **Patriarchy** dominates cancer **care, research, and policy making.**

About Cancer:

- In our body, cell growth and differentiation is highly controlled and regulated. **In cancer cells, there is breakdown of these regulatory mechanisms.**
- Normal cells show a property called **contact inhibition** by virtue of which contact with other cells inhibits their uncontrolled growth.
- Cancer cells appear to have lost this property. As a result of this, **cancerous cells just continue to divide giving rise to masses of cells called tumours.**

Tumours:

- These are of two types: **benign and malignant.**
 - **Benign tumours** normally **remain confined to their original location** and do not spread to other parts of the body and cause little damage.
 - **The malignant tumours** are a **mass of proliferating cells called neoplastic or tumour cells**, which grow very rapidly, invading and **damaging the surrounding normal tissues. Metastasis** is the most feared property of malignant tumours.

Causes of cancer:

- Transformation of normal cells into cancerous neoplastic cells may be induced by physical, chemical or biological agents, called **carcinogens.**
- **Ionising radiations** like X-rays and Gamma rays and **non-ionizing radiations** like UV cause DNA damage leading to **neoplastic transformation.**
- The **chemical carcinogens** present in tobacco smoke have been identified as a major cause of lung cancer.

Cancer detection and diagnosis:

- **Early detection** of cancers is essential, which is **based on biopsy and histopathological studies** of the tissue and blood and bone marrow tests for increased cell counts in the case of Leukemias.
- **Techniques** like **radiography** (use of X-rays), **CT** (computed tomography) and **MRI** (magnetic resonance imaging).

Treatment of cancer:

- The common approaches for treatment of cancer are **surgery, radiation therapy and immunotherapy**.
- Most cancers are treated by combination of surgery, radiotherapy and chemotherapy.

Way Forward:

- Nearly 63% of cancer deaths among women in India could have been **prevented** by reducing risk factors or screening or diagnosis and 37% deaths averted with **appropriate and timely treatment**.
 - Around 6.9 million cancer deaths among women in India were **preventable** and 4.03 million were **treatable**.
- Women often are subject to overlapping forms of **discrimination**, such as due to **age, race, ethnicity and socio-economic status**, that render them structurally marginalised.

[Source: IE](#)

Copyright Infringement

Syllabus:GS3/Economy

News

- The Delhi High Court has issued summons to an Instagram account called People of India (POI), in a copyright infringement suit filed by the storytelling platform Humans of Bombay (HOB).

Background

- In HOB Stories Pvt. Ltd. vs. POI Social Media, the HOB was seeking an injunction restraining **infringement of the copyright** of its copyrighted content, including its literary works, materials, films, and creative expressions.
- Besides copyright infringement, HOB's plea said that the similarities between the infringing content and its own amounted to "**passing off and unfair competition**"

What is copyright?

- "**Copyright**" refers to the right given by the law to creators of literary, dramatic, musical, and artistic works and producers of cinematograph films and sound recordings.
- It's a bundle of rights that includes rights of reproduction, communication to the public, adaptation, and translation of a work.
- **The Copyright Act, 1957**, aims to safeguard creative works, which are considered to be the creator's intellectual property.

What is copyright infringement?

- A copyrighted work will be considered "infringed" only if **a substantial part is made use of without authorisation**.

- In cases of infringement, the copyright owner can take legal action against any person who infringes on or violates their copyright and is entitled to remedies such as **injunctions, damages, and accounts.**

What is an injunction?

- **An injunction** is “an official order given by a law court, usually to stop someone from doing something.
- However, an injunction only acts as a deterrent and does not mean that all alleged instances of misuse will be corrected immediately. This is because even when a court grants it, it is not easy to track all such cases and act on them.

What is passing off?

- Passing off means if a brand logo is misspelled in a way that’s not easy for the consumer to recognize. In such cases, even if the infringing products are not identical, the similarity in the nature, character, and performance of the goods of the rival traders has been established.
- To make a claim of ‘passing off’, some form of deception, misrepresentation, or harm to the goodwill and reputation of the owner of a mark has to be established.
- **Supreme Court in Cadila Healthcare Limited vs. Cadila Pharmaceuticals Limited (2001) ruling**, said that passing-off is a “species of unfair trade competition or of actionable unfair trading by which one person, through deception, attempts to obtain an economic benefit of the reputation which another has established for himself in a particular trade or business”.

Source:[IE](#)

Medical Technology Sector in India

Syllabus:GS2 / Health

News

- Recently the National Policy on Research and Development and Innovation in Pharma-MedTech Sector in India and Scheme for promotion of Research and Innovation in Pharma MedTech Sector (PRIP) was launched.

Scheme for promotion of Research and Innovation in Pharma MedTech Sector (PRIP)

- **The Department of Pharmaceutical** has proposed the PRIP scheme with a budget outlay of **Rs. 5000 crores.**
- **Objective:** To transform the Indian pharmaceuticals sector from cost based to innovation-based growth by strengthening the research infrastructure in the country.
- **The aim of the scheme** is to promote industry-academia linkage for R&D in priority areas and to inculcate the culture of quality research and nurture our

pool of scientists. This will lead to sustained global competitive advantage and contribute to quality employment generation in the country.

- The scheme has two components:
 - **Component A:** Strengthening the research infrastructure by establishment of 7 Centers of Excellence (CoEs) at NIPERs.
 - **Component B:** Promoting research in the pharmaceutical sector by encouraging research in **six priority areas** like New Chemical Entities, Complex generics including biosimilars, medical devices, stem cell therapy, orphan drugs, Antimicrobial resistance etc.

Benefits of the PRIP scheme

- **Development of Research Infrastructure:** The scheme would help in building a world class research atmosphere at NIPERs and other institutes and help in creating a talent pool of qualified trained students.
- Promote **industry-academia linkages** by promoting collaboration between the Private sector and Govt. institutes.
- To launch commercially viable products which will accelerate the growth of the Indian pharmaceutical sector by **increased revenue** and creating **employment opportunities**.
- **Development of affordable, accessible solutions for primary areas of health concern** thus reducing health care burden.

National Policy on Research and Development and Innovation in Pharma MedTech Sector in India

- The policy will help to create an ecosystem of skills and capacities including the academia and the private sectors and give impetus to new talent among the youth through start-ups.
- It proposed to set up an **Indian Council of Pharmaceuticals and Med-tech Research and Development** to facilitate and promote collaboration among industry, academia and research institutions.
- Promotion and coordination of research in areas related to the pharmaceutical sector; international co-operation in pharmaceutical research, inter- sectoral coordination and all matters relating to **National Institutes of Pharmaceutical Education and Research (NIPERs)**.
- **To encourage R&D in pharmaceuticals and medical devices** and to create an ecosystem for innovation in the sector in order for India to become a leader in drug discovery and innovative medical devices.
- Indian pharmaceutical industry is the **3rd largest pharmaceutical industry** in the world by volume with current market size of around **USD 50 Billions**. The aim is to grow to **USD 120-130 Billion** over the next decade.

Source: [PIB](#)

Vibrio vulnificus

Syllabus: Prelims/Current Events of national importance

News:

- According to Researchers, the number of cases of *Vibrio vulnificus* could increase significantly in the coming years.

Vibrio vulnificus:

- **What is it?** *Vibrio vulnificus* is a species of Gram-negative, motile, curved rod-shaped (vibrio), pathogenic bacteria of the genus *Vibrio*.
- **Habitat:** It is present in marine environments such as estuaries, brackish ponds, or coastal areas.
- **Conditions preferred:** These pathogens thrive in the tropics or subtropics, where sea or brackish water temperatures reach 20°C or higher. They also prefer waters with low salinity. High rainfall also reduces salt levels in the sea, which suits the bacteria.

Infection with V vulnificus

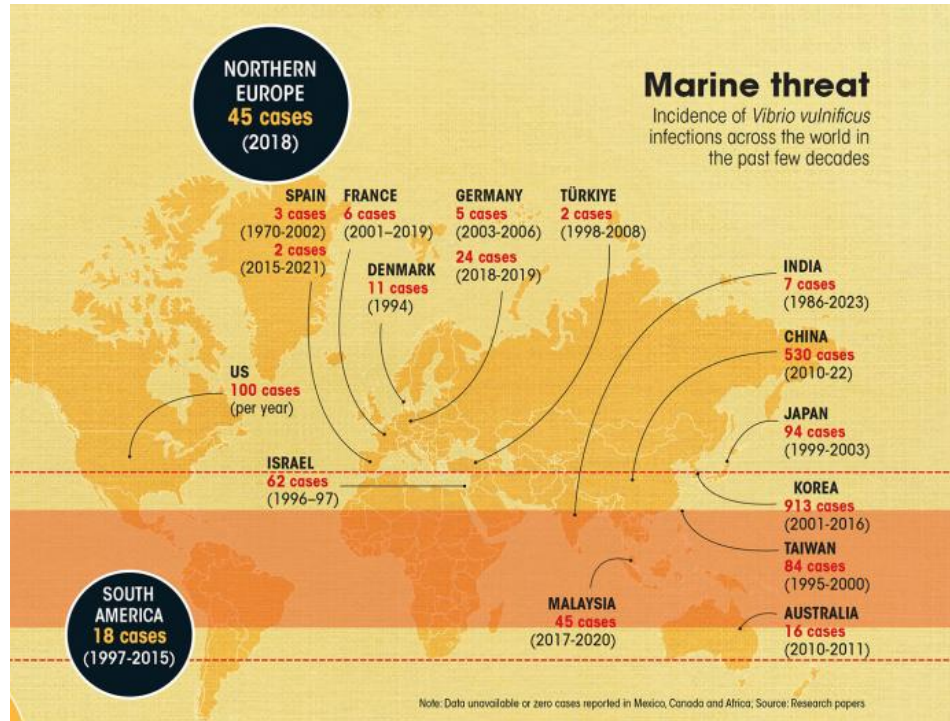
- **Transmission:** People can get *V. vulnificus* by eating infected raw shellfish (which results in diarrhoea, vomiting, fever) or by exposing wounds to waters where the bacteria live.
- **Health Impact:** Infection with *V. vulnificus* leads to rapidly expanding skin infections by entering a wound causing cellulitis or even sepsis. *V. vulnificus* is also a source of foodborne illness.

Comparison with Vibrio cholerae

- **Transmission:** *V. vulnificus* belongs to the same family as *Vibrio cholerae*, which causes cholera, a highly contagious diarrhoeal disease. But *V. vulnificus* is not a pandemic like cholera.
- **Mortality Rate:** For *Vibrio cholerae*, the mortality rate is 1 per cent if properly treated. For *V. vulnificus*, the mortality rate is 15-50 per cent despite prompt diagnosis and treatment.

Global Scenario and Northern movement

- **The first case of V vulnificus in humans was recorded in 1976 in the US.** The country now records at least 100 cases every year.
- The species has also been moving northwards at 48 km per year. **The northward movement of V vulnificus is through marine organisms.**
- Since then, it has spread to Europe and Canada, where it has caused outbreaks. **The Baltic Sea** has been identified as a high-risk environment since it has low salinity and high warming rates.
- *V. vulnificus* infections are also reported in South Korea, Taiwan, Japan, and Mexico.



Indian Scenario:

- Till now 7 cases of **V vulnificus** have been reported in India with the last one being in Kerala. In 2018, India documented an outbreak of V vulnificus in a **tilapia farm in Kerala**. Originally from Africa and West Asia, **tilapia** is one of the most traded food fish globally.
- In India, the **sea surface temperatures average 28°C**, making the waters conducive to growth and proliferation of V vulnificus.
- **The salinity in the Bay of Bengal is one of the lowest** in the world since it gets high precipitation and freshwater influx from rivers. This is a concern as they prefer waters with low salinity.

Steps taken

- **Researchers are developing risk-warning tools** like satellite-based sensors to measure sea surface temperature and chlorophyll levels from phytoplankton.
- High phytoplankton blooms are associated with increased V vulnificus infections and deaths.
- The European Centre for Disease Prevention and Control has developed **Vibrio Map Viewer**, a tracker for Vibrio species to **calculate the infection risk index** based on sea surface temperature and sea surface salinity.

Source: [DTE](#)

Phosphorus

Syllabus: GS3/Economy/Environment

In News

- Phosphorus is a **scarce resource** and Phosphorus availability is a **concern for India**.

Phosphorus (P)

- It is the **nonmetallic chemical element** having **atomic number 15**.
- It is colourless at room temperature, semitransparent, soft, waxy solid that **glows in the dark**.

Significance:

- Phosphorus, like nitrogen, is a **critical nutrient required for all life**.
- The most common form of phosphorus used by biological organisms is **phosphate (PO₄)**, which plays major roles in the **formation of DNA, cellular energy, and cell membranes (and plant cell walls)**.
- Phosphorus is a **common constituent of agricultural fertilizers**, manure, and organic wastes in sewage and industrial effluent.

Use of Phosphorus in Agriculture

- Phosphorus is an **essential nutrient** both as a part of several key plant structure compounds and as a **catalysis in the conversion of numerous key biochemical reactions in plants**.
- Phosphorus is noted especially for its role in capturing and converting the sun's energy into useful plant compounds.

How abundant is Phosphorus in Nature?

- The history of phosphorus spans its discovery in **guano** to current global supply chains.
 - Guano is an **accumulated excrement and remains** of birds, bats, and seals, valued as fertilizer.
- Today, a handful of countries control most of the world's reserves of phosphorus. **This is a major geopolitical concern**.
- The world's largest reserves are in **Morocco and the Western Sahara region**.
 - But here, phosphorus **coexists with cadmium**, a heavy metal that can accumulate in animal and human kidneys when ingested.
 - Removing cadmium is also an expensive process.
- Only six countries have substantial cadmium-free phosphorous reserves. Of them, China restricted exports in 2020 and many EU countries no longer buy from Russia. So the market for safe phosphorus has suddenly exploded.
- Today, **India is the world's largest importer** of phosphorus, most of it from the cadmium-laden deposits of West Africa.

Concerns

- Only about a fifth of the phosphorus mined is actually consumed through food. Much of it is lost directly to water bodies as **agricultural run-off**, due to the excessive application of fertilisers.
- It is then absorbed by the algal blooms that grow in response to the high nutrient supply, and when they decompose, the bacteria that feed on them consume the dissolved oxygen.
- **The result:** water bodies become oxygen-starved, leading to fish deaths. The algal blooms are also toxic, causing respiratory issues, nausea, and other ailments to people exposed to them.
- Bank erosion occurring during floods can transport a lot of phosphorus from the river banks and adjacent land into a stream, lake, or other water body.

Way Ahead

- Since much of the phosphorus is not actually taken up by crops, one way to ameliorate the phosphorus paucity is to **reduce the use of chemical fertilisers through precision agriculture**.
- **Mining phosphorus from sewage** allows countries to control their own phosphorus production while also addressing the problem of water-body eutrophication.
- Innovators need to **lower the costs of sewage mining** to be financially viable in India; regulators need to allow the use of urban-mined phosphorus in agriculture; and Sewage treatment plants (STPs) need to be paid not based on discharge standards but on nutrient recovery.

Source: [TH](#)

Facts In News

53rd Dadasaheb Phalke Lifetime Achievement Award

Syllabus: Prelims/Current Events of national importance

News:

- Bollywood actress Waheeda Rehman will be conferred with the Dadasaheb Phalke Lifetime Achievement Award for the year 2021.

Waheeda Rehman

- Waheeda Rehman has been critically acclaimed for her roles in Hindi films, prominent among them, **Pyaasa, Kaagaz ke Phool, Chaudhavi Ka Chand, Saheb Biwi Aur Ghulam, Guide, Khamoshi** and several others.
- She was **honored with the Padma Shri** by the Government of India in 1972, later receiving the **Padma Bhushan** in 2011. She won the **National Award for Best Actress in 1971**.

Dadasaheb Phalke award

- **Criteria:** It is India's highest award in the field of cinema. The recipients are honored for their **“outstanding contribution to the growth and development of Indian cinema.”**

- **By whom:** It is presented **annually** at the **National Films Awards ceremony by the Directorate of Film Festivals**, an organization set up by the **Ministry of Information and Broadcasting**.
- **Cash Prize:** The Award comprises a Swarna Kamal (Golden Lotus) medallion, a shawl, and a cash prize of Rs. 10 lakh.
- **First recipient:** The first recipient of the award was actress Devika Rani, who was honored in 1969.
- **Recent recipients:** Waheeda Rehman (2021), Asha Parekh (2020), Rajinikanth (2019), Amitabh Bachchan (2018), Vinod Khanna (2017).

Dadasaheb Phalke:

- The award is named after Dhundiraj Govind Phalke, popularly known as Dadasaheb Phalke (1870–1944),
- He was an Indian producer-director-screenwriter, and is regarded as "**the Father of Indian cinema**".
- He directed India's first full-length feature film, **Raja Harishchandra (1913)**.

Source: [PIB](#)

DSP Pension Fund Managers for NPS

Syllabus: GS 2/Polity and Governance

In News

- PFRDA is in the process of appointing **DSP Pension Fund Managers** as the 11th fund manager permitted to manage retirement savings under the **National Pension System (NPS)**.

About DSP Pension Fund Managers

- PFRDA granted the certificate of registration to DSP Pensions, making it the country's 11th pension fund manager of **NPS**.
- DSP Pensions is starting its pension fund management journey with a capital of ₹ 60 crore (regulatory stipulation of minimum capital is ₹ 50 crore).
 - DSP Pensions is set to commence business at a time when the overall assets under management (AUM) of the NPS and Atal Pension Yojana combined together in the country crossed the ₹ 10 lakh crore mark.

The National Pension System (NPS)

- It has been implemented for all Government Employees (except armed forces) joining Central Govt. on or after 1st January 2004. Most of the State/UT Governments have also notified the National Pension System (NPS) for their new employees.
- NPS has been made available to every Indian Citizen from 1st May 2009 on a voluntary basis.
- It is being administered and regulated by Pension Fund Regulatory and Development Authority (PFRDA) set up under PFRDA Act, 2013.
- The number of subscribers under the National Pension System (NPS) and Atal Pension Yojana (APY) together have grown to more than 6.62 crore and the total Asset Under Management (AUM) has reached Rs. 10 lakh crore (Rs. 10,00,000 crore).

Features

- NPS is a market linked, defined contribution product.

- Under NPS, a unique Permanent Retirement Account Number (PRAN) is generated and maintained by the Central Recordkeeping Agency (CRA) for individual subscribers.
- NPS offers two types of accounts, namely Tier-I and Tier-II.
 - Tier-I account is the pension account having restricted withdrawals. Tier-II is a voluntary account which offers liquidity of investments and withdrawals.
- NPS can be subscribed by any Indian citizen (resident/non-resident/overseas) aged between 18-70 years on a voluntary basis.
- An NRI can open an NPS account. Contributions made by NRI are subject to regulatory requirements as prescribed by RBI and FEMA from time to time.
 - Hindu Undivided Families (HUFs) and Persons of Indian Origin (PIOs) are not eligible for subscribing to NPS.

Source : [TH](#)

Shi Yan 6

Syllabus: GS2/ International Relations

In News

- Chinese vessel Shi Yan 6 has entered the Indian Ocean amid concerns expressed by India and US over it.

About

- The Chinese vessel, named Shi Yan 6, is set to undertake scientific research projects during an 80-day operation in the Indian Ocean. Shi Yan 6 entered the Indian Ocean via Malacca Straits.
- While India has clearly told Sri Lanka to address its security and strategic concerns, China has Colombo under its thumb with mounting debt.

China's Scientific Research

- The Chinese research vessel, Shi Yan 6, is part of a geophysical scientific research expedition organized by the South China Sea Institute of Oceanology (SCSIO) under the Chinese Academy of Sciences.

Source: [HT](#)

Social Bonds

Syllabus: GS-3/Economy

Context

- The National Bank for Agriculture and Rural Development (NABARD) has issued India's first 'AAA' rated Indian Rupee denominated Social Bonds.

More In News

- NABARD has announced a Sustainability Bond Framework, which seeks to finance and refinance projects that promise energy efficiency, including green buildings, energy storage, and smart grids.

About

- This is the **first externally certified AAA-rated INR social bond** in the country.
- The bonds, issued privately to eligible institutional investors, are set to be listed on the Bombay Stock Exchange (BSE) on September 29, 2023.

- They have to be held for a **period of five years** with coupon payments taking place yearly.
- The face value of each bond is **₹1 lakh**.
- These bonds have been given the **highest AAA rating** by CRISIL Ltd and ICRA Ltd.

What are Social Bonds?

- A social bond is a type of financial instrument issued by governments, international organizations, or corporations to raise funds for projects and initiatives that have a positive social impact on society.
- These bonds are designed to finance projects that address various social issues, such as healthcare, education, affordable housing, poverty alleviation, and environmental sustainability.
- **First Social Bond:**
 - The **Pimpri Chinchwad Municipal Corporation (PCMC)** in Maharashtra's Pune, and **United Nations Development Programme (UNDP)** in 2020 co-created India's inaugural **Social Impact Bond (SIB)**.

National Bank for Agriculture and Rural Development (Nabard)

- It is an apex regulatory agency for Regional Rural Banks and Cooperative Banks under the jurisdiction of the Ministry of Finance.
- **Establishment:**
 - In 1982 on the recommendations of B.Sivaraman Committee to implement the National Bank for Agriculture and Rural Development Act 1981.
 - It replaced the Agricultural Credit Department (ACD) and Rural Planning and Credit Cell (RPCC) of Reserve Bank of India, and Agricultural Refinance and Development Corporation (ARDC).
 - The initial corpus of NABARD was Rs.100 crores.
- **Aim & Objectives:** Promoting agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity.
- **Functions:**
 - Refinance support for building rural infrastructure.
 - Prepares district level credit plans to guide and motivate the banking industry in achieving these targets.

Source: TH

Promoting heat resilient and high yielding varieties of wheat

Syllabus: GS3/ Economy, Food Security

In News

- The Centre has asked States to promote heat resilient and high yielding varieties of wheat among farmers.

About

- The National Conference on Agriculture for Rabi Campaign 2023-24 was held recently.
- The conference was to review crop performance during the preceding crop seasons and fix crop-wise targets for the rabi season in consultation with State governments, and prepare a roadmap to ensure supply of critical inputs and facilitate adoption of innovative technologies to enhance production.

Promoting a Heat-Resistant Variety of Wheat

- The Centre is targeting an increase in the coverage of area under heat-tolerant wheat varieties to 60% this season.
- The wheat varieties DBW187 and DBW222 have been found superior over HD-3086 as far as heat tolerance is concerned.
- The HD 3385 variety has been developed to not only make the crop tolerant to heat stress, but also increase the yield.
- Notably, another heat-resistant variety of the crop, HI 1636 or 'Pusa Bakula' that the ICAR released last year, has a yield potential of 72 quintal per hectare

Significance

- The development of this new wheat variety is particularly important given the increasing frequency of heatwaves in the region due to climate change.
- With rising temperatures, it is becoming more challenging for farmers to grow crops.

Source: [PIB](#)

SHAKTI-2023

Syllabus: GS-2/Society

Context:

- **SHAKTI-2023**, a mega national event was organised with the theme of 'Women in Technological Advances and Social Upliftment'.

About Shakti 2023:

- It is '*Stthree in HVACR(heating, ventilation, air conditioning and refrigeration) & Architecture and Key in Transforming the Industry*', which was organised by **Indian Society of Heating, Refrigerating and Air conditioning Engineers (ISHRAE)**, Kalpakkam Chapter and Indian Women Scientists's Association (IWSA), Kalpakkam Branch **in association with Indira Gandhi Centre for Atomic Research (IGCAR).**

Objectives:

- It focuses on **research and development of green technologies** with the help of scientists, engineers and academicians.
 - It is to **monitor, control and mitigate** household air pollution in **rural India.**
- It aims to help in achieving '**Net Zero emission by 2070**' through decarbonisation.

Source: **PIB**

Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP)

Syllabus: GS2/Government Policies and Interventions

News:

- The Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP) support is now being extended till 30th June 2024. The RoDTEP Committee has also been constituted in the Department of Revenue to recommend the ceiling rates under the RoDTEP Scheme for different export sectors.

Background:

- The RoDTEP Scheme is being implemented by the Government from 1st January 2021.
- It was formed **to replace the MEIS (Merchandise Exports from India Scheme).**
- **The US had challenged India's key export subsidy scheme, MEIS, in the WTO claiming them to harm the American workers. Consequently, a dispute panel in the WTO ruled against India, stating that the export subsidy programmes that were provided by the Government of India violated the provisions of the trade body's norms.**
- This led to the birth of the RoDTEP Scheme, so as to ensure that **India stays WTO-compliant.**

Features:

- **Objective:** It is a duty remission scheme on exports which aims to **boost exports which were relatively poor in volume** previously.
- **Functioning:** It provides a mechanism for reimbursement of taxes, duties and levies, which are currently not being refunded under any other mechanism, at the central, state and local level, but which are incurred by the export entities in the process of manufacture and distribution of exported products.
- **Coverage:** All the items under the **MEIS and the RoSTCL** (Rebate of State and Central Taxes and Levies) are now under the purview of the RoDTEP Scheme. All sectors, including the textiles sector, are covered, so as to ensure uniformity across all areas.
- **Digitalisation:** The refund will be issued in the form of **transferable electronic scripts.** These duty credits will be maintained and tracked through an electronic ledger.

Source: [PIB](#)

Angel Tax

Syllabus: GS3/Economy

In News

- The Income Tax Department has notified **new angel tax rules** that comprise a **mechanism to evaluate the shares** issued by unlisted startups to investors.

What is Angel Tax?

- The Indian government introduced **angel tax in 2012** to snuff out any chance of money laundering through start-ups.
- **Unlisted start-ups** can raise money from resident investors by selling their closed shares. Angel tax is levied on start-ups when they **receive investments in excess** of their '**fair market value**'.
 - The perceived profit is considered as income from other sources—it's taxed at **30.6% and termed as angel tax**.

Background

- Earlier, it was imposed **only on investments made by a resident investor**. However the Finance Act 2023 proposed to **extend angel tax even to non-resident investors from April 1, 2024**.
- Start-ups had raised concerns around the proposal given that **it could have impacted foreign investments** – a key source of their funding – and that it came at a time when a funding winter was setting in, making it already difficult for them to raise money.
- Government invited suggestions and feedback from stakeholders and the general public on the **Draft Rule 11UA for valuation of methods** for calculating the Fair Market price.

The key highlights of the changes in Rule 11 UA are:

- The final rules **seek to provide clarity to investors** and **give a set of valuation methods** to choose from so that the **worth of unlisted shares can be assessed accurately**.
- The rules have **broadened the scope and valuation methodology** by offering **foreign investors five additional methods** and also brought in **compulsorily convertible preference share preference shares (CCPS)**, often seen as a key element of startup financing.
- The notification of the angel tax rules is **expected to ease some of the worries of foreign investors**.
- They provide for expansion of the valuation methodologies to include **globally accepted methodology** and **provide a broad parity to resident and non-resident investors**.

Source: [TH](#)