Time: 45 min   **Date: 11-10-2021**

Global Minimum Tax Deal

Syllabus: GS2/ Agreements involving India and/or affecting India's interests

In News

- Recently, a global deal to ensure big companies pay a minimum tax rate of **15%** and make it harder for them to avoid taxation has been agreed by 136 countries.

What will the global minimum tax deal mean?

- **Meaning:** The new proposal is aimed at squeezing the opportunities for MNEs to indulge in profit shifting, ensuring they pay at least some of their taxes where they do business.

- **Negotiation by OECD:** The two-pillar package – the outcome of negotiations coordinated by the OECD for much of the last decade - aims to ensure that large Multinational Enterprises (MNEs) pay tax where they operate and earn profits, while adding much-needed certainty and stability to the international tax system.

  - **Pillar One** will ensure a fairer distribution of profits and taxing rights among countries with respect to the largest MNEs, including digital companies. It would re-allocate some taxing rights over MNEs from their home countries to the markets where they have business activities and earn profits, regardless of whether firms have a physical presence there.

  - **Pillar Two** seeks to put a floor on competition over corporate income tax, through the introduction of a global minimum corporate tax rate that countries can use to protect their tax bases.

Pillar One		Pillar Two
▶ **Will cover** top 100 global companies	▶ **A portion of their profits would be taxed in jurisdictions** where they have sales	▶ **Minimum global tax of 15%** and subject to tax rules
▶ **Re-allocation of an additional share** of profit to the market jurisdictions	▶ **Between 20–30% of profits** above a 10% margin may be taxed	▶ **The effective tax rate should be at least 15%,** else additional taxes would be owed in a company's home jurisdiction
▶ **'Amount A' would apply to firms** with over €20 billion in revenues and a profit margin above 10%	▶ **Review of €20 billion threshold** to €10 billion after 7 years	
	▶ **India and other developing countries** were pitching for a threshold of €1 billion	

- **Signed by:** One hundred and thirty-six countries, **including India**, agreed to enforce a minimum corporate tax rate of 15%, and an equitable system of taxing profits of big companies in markets where they are earned.
- **Not yet signed:** Four countries – Kenya, Nigeria, Pakistan and Sri Lanka – had not yet joined the agreement, but the countries behind the accord together accounted for over 90% of the global economy.

Who are the targets?

- Apart from low-tax jurisdictions, the proposals are tailored to address the low effective rates of tax shelled out by some of the world's biggest corporations, including **Big Tech majors** such as Apple, Alphabet and Facebook, as well as those such as Nike and Starbucks.
  - These companies typically rely on **complex webs of subsidiaries** to hoover profits out of major markets into low-tax countries such as Ireland, the British Virgin Islands, the Bahamas, or Panama.
- The US loses nearly $50 billion a year to tax cheats, according to the Tax Justice Network report, with Germany and France also among the top losers.
- India's annual loss due to corporate tax abuse is estimated at over $10 billion.

Working of tax deal

- **Applicable to:** The global minimum tax rate would apply to overseas profits of multinational firms with 750 million euros ($868 million) in sales globally.
- **Local Tax Valid:** Governments could still set whatever local corporate tax rate they want, but if companies pay lower rates in a particular country, their home governments could "top up" their taxes to the 15% minimum, eliminating the advantage of shifting profits.
- **Excess Profit:** A second track of the overhaul would allow countries where revenues are earned to tax 25% of the largest multinationals' so-called excess profit – defined as profit in excess of 10% of revenue.

Significance of the tax

- **Fair Share:** A majority of the world's nations have signed a historic pact that could force multinational companies to pay their fair share of tax in markets where they operate and earn profits.
- **Ending Tax competition:** The minimum tax and other provisions aim to put an end to decades of tax competition between governments to attract foreign investment.
- **Necessary for Government:** With budgets strained after the COVID-19 crisis, many governments want more than ever to discourage multinationals from shifting profits – and tax revenues – to low-tax countries regardless of where their sales are made.

- **Patent angle:** Increasingly, income from intangible sources such as drug patents, software and royalties on intellectual property has migrated to these jurisdictions, allowing companies to avoid paying higher taxes in their traditional home countries.

Economic Impact

- **Revenue generation:** The OECD, which has steered the negotiations, estimates the minimum tax will generate $150 billion in additional global tax revenues annually.
- **Shift to source countries:** Taxing rights on more than $125 billion of profit will be additionally shifted to the countries where they are earned from the low tax countries where they are currently booked.
- **Boost to Home Economies:** The deal will encourage multinationals to repatriate capital to their country of headquarters, giving a boost to those economies.
- **Limits Impact on Low Income Countries:** Various deductions and exceptions baked into the deal are at the same time designed to limit the impact on low tax countries like Ireland, where many US groups base their European operations.

Where does India stand?

- **Reservation to accepting:**
  - India has had reservations about the deal, ultimately backing it in Paris.
  - India is likely to try and balance its interests, while asserting that taxation is ultimately a **"sovereign function"**.
- **Withdraw:**
  - India may have to withdraw its digital tax or equalisation levy if the global tax deal comes through.
  - OECD said the Multilateral Convention (MLC) will "require all parties to remove all Digital Services Taxes and other relevant similar measures with respect to all companies, and to commit not to introduce such measures in the future."
- **Equalisation levy:**
  - To address "the challenges posed by the enterprises who conduct their business through digital means and carry out activities in the country remotely", the government has the 'Equalisation Levy', introduced in 2016.
- **Amended IT Act:**
  - Also, the IT Act has been amended to bring in the concept of "Significant Economic Presence" for establishing "business connection" in the case of non-residents in India.

- **Investment activity:**
  - There are apprehensions on the impact of this deal on investment activity.
  - India, China, Estonia and Poland have said the minimum tax could harm their ability to attract investment with special lures like research and development credits and special economic zones that offer tax breaks to investors.
- **Plugging loopholes:** India has already been proactively engaging with foreign governments in double taxation avoidance agreements, tax information exchange agreements, and multilateral conventions to plug loopholes. This proposal of a common tax rate, thereby, adds no further benefits to India.

Challenges

- Getting all major nations on the same page.
- It impinges on the right of the sovereign to decide a nation's tax policy.
- A global minimum rate would essentially take away a tool countries use to push policies that suit them.
- Bringing in laws by next year so that it can take effect from 2023 is a tough task.
- The deal has also been criticised for lacking teeth: Groups such as Oxfam said the deal would not put an end to tax havens.

Conclusion

- The two-pillar solution will ensure that once again, the world will be global, at least in following the principles of taxation.
- It will ensure the minimum payment of taxes by various multinationals.
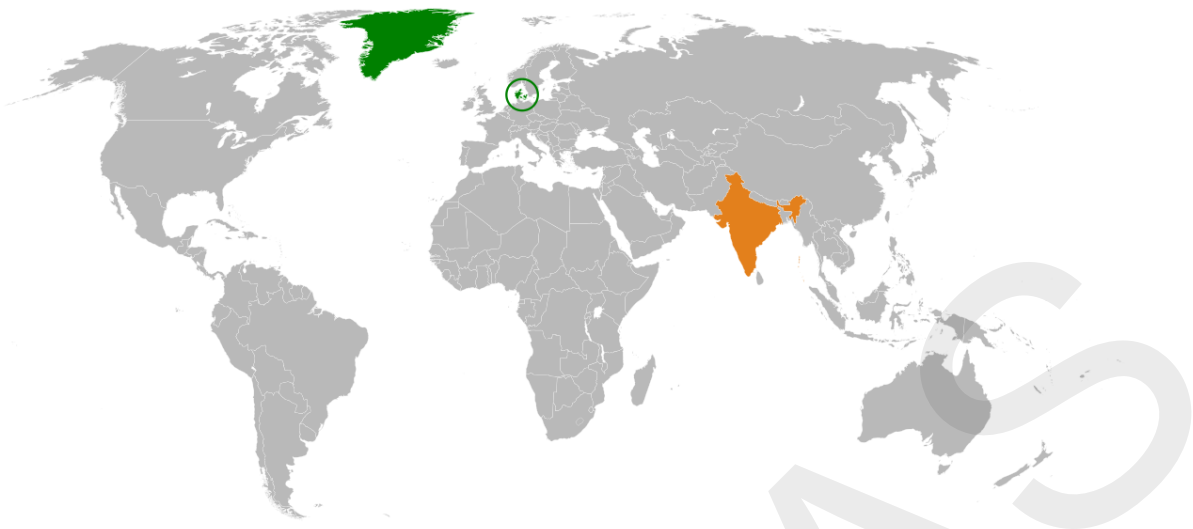
Source: IE

International Relations

India-Denmark Green Strategic Partnership

Syllabus: GS2/ Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests; GS3/ Environmental Pollution and Degradation

In News

- Recently, India and Denmark agreed on a five-year action plan to implement their ambitious "green strategic partnership".

About

- This was the first summit-level visit to India since the COVID pandemic, and the first State visit by a Danish leader since a bilateral freeze on ties a decade ago.
- India and Denmark signed **two agreements** on research in climate change, while **another MoU** on setting up a "green hydrogen" electrolyser plant was signed between Reliance Industries and Danish company Stiesdal Fuel Technologies.

Green Strategic Partnership

- **Background:**
  - India and Denmark both have ambitious goals within the climate agenda.
- **Stats:**
  - India is the world's third largest CO2 emitter and by 2030, the country is expected to have doubled its carbon emissions.
  - The Danish government has an ambition to reduce CO2 emissions with 70 percent by 2030 and aims to undertake international leadership on **SDG 7 on affordable and clean energy**.
- **On September 28 2020:**
  - The two Prime Ministers agreed to elevate the Indo-Danish relations to a Green Strategic Partnership after an exchange of views in a friendly atmosphere on bilateral relations, the Covid-19 pandemic and global matters, including climate change and green transition.
- **Overall:**
  - The two countries firmed up a five-year action plan to implement their ambitious "green strategic partnership" and signed four agreements to deepen cooperation in green technologies

- **Aim:**
  - The green partnership aims to create a framework for significant expansion of cooperation in areas of renewable energy, environment, economy, climate change and science and technology.
- **Time period:**
  - Joint action plan for five years from 2021 to 2026 for the implementation of the "green strategic partnership" that was firmed up last year.
- **Based on:**
  - The Green Strategic partnership builds on and consolidates the existing agreement establishing a Joint Commission for Cooperation between India and Denmark.
  - The partnership is a **mutually beneficial arrangement** to advance political cooperation, expand economic relations and green growth, create jobs and strengthen cooperation on addressing global challenges and opportunities; with focus on an **ambitious implementation of the Paris Agreement and the UN Sustainable Development Goals**.
- **Low carbon growth:**
  - Focused on ways to augment and consolidate green and low carbon growth as reflected in the five year action plan. "
  - his includes the following sectors:
    - water,
    - environment,
    - renewable energy and its integration into the grid,
    - climate action,
    - resource efficiency and circular economy,
    - sustainable and smart cities,
    - business, trade and investments

Talks on Topics

- **Arms drop case:**
  - India raised the issue of extradition of Kim Davy, the prime accused in the 1995 Purulia arms drop case, and it was agreed that the legal process in the matter must go forward.
- **Afghanistan:**
  - Contemporary regional and global developments including the situation in Afghanistan and expressed their commitment to continuing support to the Afghan people.

- ○ Underlined focus on the need for inclusivity in Afghanistan, counter-terrorism guarantees and respect for human rights, in particular women's rights, in accordance with **UNSC Resolution 2593**.
  - ■ The **UNSC resolution**, adopted on 30 August under India's presidency of the global body, talked about the need for upholding human rights in Afghanistan, demanded that Afghan territory should not be used for terrorism and that a negotiated political settlement should be found out to the crisis.

- **Climate Change:**
  - ○ Reiterated the commitment to increasing cooperation on climate change in the near future.
  - ○ Denmark has become a member of the **International Solar Alliance**. This has added a new dimension to the cooperation between the two countries.

- **EU strategy on Indo Pacific:**
  - ○ Both countries welcomed the recent announcement of a EU strategy on Indo-Pacific and noted the plans for increased European engagement in the region.
  - ○ The decision by India and the European Union to resume negotiations of an ambitious, balanced, comprehensive and mutually beneficial free trade agreement and launch negotiations on a separate investment agreement.

- **UNSC Permanent Membership:**
  - ○ Denmark reiterated its support for India's permanent membership of a reformed and expanded UN Security Council.

- **Agriculture:**
  - ○ In order to increase the agricultural productivity and income of farmers in India, it is decided to cooperate in agriculture-related technology.
  - ○ Under this, work will be done on the **technologies of many areas** like:
    - ■ food safety,
    - ■ cold chain,
    - ■ food processing,
    - ■ Fertilizers,
    - ■ fisheries, aquaculture,
  - ○ Cooperation in Smart Water Resource Management, 'Waste to Best', and efficient supply chains.

- **Agreements:**
  - The two sides inked **four government-to-government agreements** that will provide for deepening of cooperation in areas of:
    - water,
    - science and technology and
    - climate change.
  - **Three commercial agreements** were also announced that included an MoU between Reliance Industries and Stiesdal Fuel Technologies for developing a hydrogen electrolyser and its subsequent manufacturing and deployment in India.
  - **Another MoU** between Infosys Technologies and Aarhus University was finalised to establish a centre of excellence for sustainability solutions in Denmark.

Significance

- **Boost to Make in India:**
  - Currently, over 140 Danish companies are participating in the Make in India initiative.

- **Fighting air Pollution:**
  - Danish companies with niche technologies and expertise have offered to help India in meeting its air pollution control targets, including in the key area of tackling the problem of burning crop stubble.

- **Green growth:**
  - The Green Strategic Partnership is a mutually beneficial arrangement to advance political cooperation, expand economic relations and green growth, create jobs and strengthen cooperation on addressing global challenges and opportunities; with focus on an ambitious implementation of the Paris Agreement and the UN Sustainable Development Goals.

- **Promote rule based multilateral system:**
  - This includes strong multilateral cooperation to face the urgency to step up global efforts to combat the global challenges on energy and climate change and common commitment to the International Energy Agency, the International Renewable Energy Agency and the International Solar Alliance.

- **Sharing healthy best practices:**
  - Expanding dialogue and sharing best practices on health policy issues, including on epidemics and vaccines, especially to combat Covid-19 and future pandemics. They agreed to work on expanding commercial opportunities for businesses by creating more favorable environments for the life science sector, including research collaborations.

Way Ahead

- Continue to expand the scope of the cooperation, adding new dimensions to it.
- Initiate new partnerships in the field of health.
- By partnering, India and Denmark will demonstrate to the world that delivering on ambitious climate and sustainable energy goals is possible.

Denmark

Image Courtesy: BBC

- Denmark is situated north of Germany and is surrounded by its Scandinavian neighbours. Denmark also has two autonomous provinces – the Faroe Islands and Greenland.
- Denmark is known for its strong welfare state system and it is one of the most egalitarian societies in the world. In 2013 Denmark was once again ranked the happiest country in the world.

- **Basic facts:**
  - **Population:** Approximately 5,4 million inhabitants - this amounts to roughly 1,4 % of the total EU population
  - **Capital:** Copenhagen (1 million inhabitants)
  - **Form of government:** Denmark is a monarchy and a modern democracy
  - **Placement:** Denmark is located in Northern Europe between the North Sea and the Baltic. Denmark also includes the Faroe Islands and Greenland in the North Atlantic. Denmark lies between 54° and 58° of latitude north and 8° and 15° of longitude east.
  - **The islands in Denmark:** The country consists of the peninsula of Jutland and approximately 406 islands, of which 78 are inhabited (2003). Of these, the largest and most densely populated are Zealand on which the capital of Copenhagen is situated. In addition to Denmark itself, the kingdom also includes the Faroe Islands and Greenland.
  - **Geography:** The highest point is 170.68 meter above sea level. Everywhere in Denmark is 50 km from the sea.
  - **Climate:** The climate is temperate coastal climate, January and February are the coldest months with an average temperature of 0.0°C and August the warmest with an average temperature of 15.7°C. The average wind force across the year is 7.6 m per second, which helps explain why Denmark is the world's largest exporter of wind turbines.
  - **Cultivation:** 62% of Denmark's total area is cultivated, the highest percentage in Europe. 56% of the land is used for growing corn (cereal), 20% for grass, 4% for roots and 4% for seed.

Source: PIB

Health

World Mental Health Day

Syllabus :GS 2/Health

Context

- World Mental Health Day 2021 celebrated every year on October 10.

About World Mental Health Day

- It was first observed on *October 10, 1992* as an annual activity of the World *Federation for Mental Health.*

- The Day provides an opportunity for all *stakeholders working on mental health* issues to talk about their work, and what more needs to be done to make mental health care a reality for people worldwide.
- *Overall Objectives :* To *raise awareness of mental health issues* around the world and to *mobilize efforts in support of mental health.*

What are Determinants of Mental Health?

- Multiple *social, psychological, and biological factors* determine the level of mental health of a person at any point in time.
- For example, violence and persistent socio-economic pressures are recognized risks to mental health. *The clearest evidence is associated with sexual violence.*
- Poor mental health is also associated with
    - rapid social change,
    - stressful work conditions,
    - gender discrimination,
    - social exclusion,
    - unhealthy lifestyle,
    - physical ill-health and
    - human rights violations.
- There are specific psychological and personality factors that make people vulnerable to mental health problems. Biological risks include genetic factors.

Mental health in India: Data

- WHO estimates that about *7.5 percent of Indians suffer from some mental disorder* and predicts that by the end of this year roughly 20 percent of India will suffer from mental illnesses.
- According to the numbers, *56 million Indians suffer from depression* and another 38 million Indians suffer from anxiety disorders.
- WHO states that there is a *huge shortage of psychiatrists and psychologists* in India.
- India also accounts for 36.6 percent of suicides globally.
- As per the *National Mental Health Survey 2015-16*, conducted by the NIMHANS, Bengaluru, it was revealed that *9.8 million teenagers* in the age group 13-17 years suffer depression and other mental health disorders and are "in need of active intervention".
- A report published in The Lancet Psychiatry in February 2020 indicates that in 2017, there were 1*97.3 million people with mental disorders in India.*

COVID-19 and Mental Health

- People are experiencing fear, worry, and stress due to the pandemic.
- The fear of contracting the virus has led to significant changes in the daily lives of people.
- The new realities of working from *home, temporary unemployment, home-schooling of children*, and lack of physical contact with other family members, friends and colleagues, are creating mental health issues.
- People with mental health conditions are at a *higher risk of dying prematurely.*
- *Depression* one of the *commonest mental health illnesses* is one of the leading *causes of disability* while suicide is the s*econd leading cause of death among 15-29-year-old.*

WHO response

- WHO supports governments in the goal of *strengthening and promoting mental health.*
  - It has evaluated the evidence for *promoting mental health* and is working with governments to disseminate this information and to integrate effective strategies into policies and plans.
- In 2013, the World Health Assembly approved a "*Comprehensive Mental Health Action Plan for 2013-2020"*.
  - The Action Plan's overall goal is to *promote mental well-being, prevent mental disorders, provide care, enhance recovery, promote human rights and reduce* the mortality, morbidity and disability for persons with mental disorders.
- It focuses on **4 key objectives** to:
  - strengthen effective leadership and governance for mental health;
  - provide comprehensive, integrated and responsive mental health and social care services in community-based settings;
  - implement strategies for promotion and prevention in mental health; and
  - strengthen information systems, evidence and research for mental health.

Government of India Initiatives

- **National Mental Health Programme (NMHP) in 1982**
  - To ensure the *availability and accessibility of minimum mental healthcare* for all in the foreseeable future, particularly to the most vulnerable and underprivileged sections of the population.

- **Mental Healthcare Act, 2017**
  - It was passed in 2017, came into effect in May 2018 and replaced the Mental Health Act of 1987.
  - To the joy of most Indian medical practitioners and advocates of mental health, the act decriminalised suicide attempts in India.
  - It also **included WHO guidelines in the categorisation of mental illnesses**.
  - The most significant provision in the **act was "advanced directives", which allowed individuals with mental illnesses t**o decide the course of their treatment and also appoint someone to be their representative.
  - It also **restricted the use of electro-convulsive therapy (ECT),** and banned its use on minors, finally introducing measures to tackle stigma in Indian society.

- **Rights of Persons with Disabilities Act, 2017**
  - The Act acknowledges mental illness as a disability and seeks to enhance the *Rights and Entitlements of the Disabled* and provide an effective mechanism for ensuring their empowerment and inclusion in the society

- **Manodarpan Initiative**
  - An initiative under Atmanirbhar Bharat Abhiyan aims to provide *psycho-social support* to students for their mental health and well-being.

- **Kiran Helpline**
  - The helpline is a giant step towards suicide prevention and can help with *support and crisis management.*
  - The helpline aims to *provide early screening, first-aid, psychological support, distress management*, mental well-being, and psychological crisis management and will be managed by the Department of Empowerment of Persons with Disabilities (DEPwD).

- **SAATHI:** It is a South-Asian Mental Health Outreach Program of ASHA International that aims to:
  - Promote awareness about mental health and emotional wellbeing
  - Improve access to care

More Ways to Promote Mental Health

- Support children through *life skills programmes*, child and youth development programmes, mental health promotional activities in schools.
- *Socio-economic empowerment of women* by improving access to education and microcredit schemes. Mental health interventions at work (e.g. stress prevention programmes).

- *Social support for elderly populations* befriending initiatives, community and day centres for the aged.
- *Programmes targeted at vulnerable people*, including minorities, indigenous people, migrants and people affected by conflicts and disasters (e.g. psycho-social interventions after disasters)
- *Promoting an environment* that respects and protects basic civil, political, socio-economic and cultural rights.
- *Community development programmes* (e.g. integrated rural development); poverty reduction and social protection for the poor; anti-discrimination laws and campaigns.
- *National mental health policies* should be concerned both with mental disorders and with broader issues that promote mental health.
  - Mental health promotion should be mainstreamed into governmental and non-governmental policies and programmes.
  - In addition to the health sector, it is essential to involve the education, labour, justice, transport, environment, housing, and welfare sectors.

Constitution and Legal Provisions
- **Article 21:** The right to a dignified life extends to the right to seek Mental Health care.
- **Article 47:** Duty of the state to raise the level of nutrition and the standard of living and to improve public health.

Way Forward
- There is a need for massive awareness and sensitivity to tackle the stigma associated with mental illness.
- The increase in the expenditure in mental healthcare in the overall budget.
- Medical workers should be trained in dealing with mentally ill patients.

Source: HT

Geography

Heatwave Occurrences Increasing in India

Syllabus :GS 1/Important Geophysical Phenomena

In Context
- A recent analysis by the Mahamana Centre of Excellence in Climate Change Research (MCECCR) at Banaras Hindu University (BHU), in collaboration with

the Department of Science and Technology and the Ministry of Earth Sciences, *has found a spatial shift of heatwaves in India,* with this weather event now occurring in new regions in the country.

- ○ The MCECCR study has looked at *temperature data of pre-monsoon (March-May)* and early summer monsoon (June-July) seasons from the **India Meteorological Department,** spanning 65 years from 1951-2016, to assess the monthly, seasonal, decadal and long-term trends in heatwaves in the country.

Major Points of study

- It has found a *warming pattern over northwestern and southern India,* while a progressive *cooling phase over northeastern and southwest regions* of the country.

- During the period 1961–2010, from March-July, the highest number of heatwave days were experienced over the *northwestern, northern, central, and eastern coastal regions*, with an average of eight heatwave days and 1-3 severe heatwave days during the season.

    - ○ The *eastern and western coasts,* which are currently unaffected by heatwaves, will be severely impacted in the future.

- The study has revealed a *"Spatio-temporal shift"* in the occurrence of heatwave events, with a significantly *increasing trend in three prominent heatwave prone regions — northwestern, central, and south-central India,* with the highest being in west Madhya Pradesh (0.80 events/year).

- Both *heat waves and severe heat waves* are increasing — and they are finding new locations where these events are taking place, especially in the last two decades.

- It found heatwaves in southern M*adhya Pradesh, Andhra Pradesh, Karnataka and Tamil Nadu,* where they would traditionally not take place.

- The study has also found a significant decrease in heat waves over the eastern region, that is Gangetic West Bengal (−0.13events/year).

- **Elements involved in exacerbating heatwave conditions:** the increase in nighttime temperatures, which disallows heat discharge at night, and increasing humidity levels

- **Impacts :** The analysis has further found a jump in heat-related deaths, from 5,330 deaths reported during 1978–1999 to extreme cases of 3,054 and 2,248 deaths in 2003 and 2015, respectively.

Heat Waves

- Heatwaves are defined as *prolonged episodes of extreme temperature* over any region.
    - Apart from temperature, humidity is an important parameter considered for declaring heat-related stress.
- A Heat Wave is a period of *abnormally high temperatures*, more than the normal maximum temperature that occurs during the *summer season* in the *North-Western parts of India* in the month of March to June.
- *Factors*: The possible factors responsible for Heat Waves include shifting of jet streams, *El-Nino and La-Nina*, anthropogenic factors like *heat islands* etc.
- Heatwave is considered if the maximum temperature of a station reaches:
    - at least 40 degrees C or more for **Plains**
    - at least 30 degrees C or more for **Hilly regions**.

Categories of Heat Wave

- Based on Departure from Normal
    - Heat Wave: Departure from normal is 4.5 degrees C to 6.4 degrees C
    - Severe Heat Wave: Departure from normal is >6.4 degrees C
- Based on Actual Maximum Temperature
    - Heat Wave: When actual maximum temperature ≥ 45 degrees C
    - Severe Heat Wave: When actual maximum temperature ≥47 degrees C

Favourable conditions for Heat Wave

- Transportation / Prevalence of hot dry air over a region (There should be a region of warm dry air and an appropriate flow pattern for transporting hot air over the region).
- Absence of moisture in the upper atmosphere (As the presence of moisture restricts the temperature rise).
- The sky should be practically cloudless (To allow maximum insulation over the region).
- Large amplitude anticyclonic flow over the area.
    - Heatwaves generally develop over Northwest India and spread gradually eastwards & southwards but not westwards (since the prevailing winds during the season are westerly to north westerly).
    - But on some occasions, heat waves may also develop over any region in situ under the favourable conditions.

ANATOMY OF A HEATWAVE

What causes a heatwave?

Heatwaves are generally the result of trapped air.
They occur when a system of high atmospheric pressure
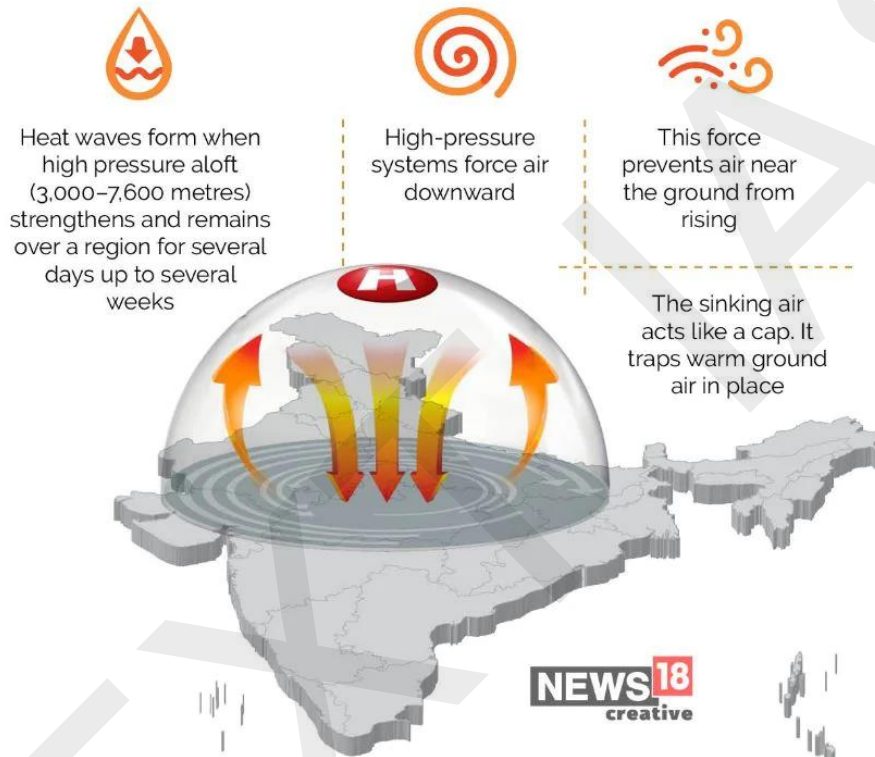moves into an area and lasts two or more days

Heat waves form when high pressure aloft (3,000–7,600 metres) strengthens and remains over a region for several days up to several weeks

High-pressure systems force air downward

This force prevents air near the ground from rising

The sinking air acts like a cap. It traps warm ground air in place

Image Courtesy: News18

Implications of Heat Waves

- It leads to *physiological stress*, which sometimes can *claim human life.*
- There are **five physiological mechanisms** that are triggered by heat exposure:
    - Ischemia (reduced and restricted blood flow),
    - heat cytotoxicity (cell death),
    - inflammatory response (swelling),
    - disseminated intravascular coagulation (abnormal blood clotting), and
    - rhabdomyolysis (breakdown of muscle fibres).
- These mechanisms **affect seven vital organs**: The brain, heart, intestines, kidneys, liver, lungs and pancreas.

- There are 27 lethal combinations of these mechanisms and organs that have been shown to be caused by heat.
- **Severe heat waves** have caused catastrophic crop failures, thousands of deaths from hyperthermia, and widespread power outages due to increased use of air conditioning.
- The signs and symptoms are as follows:
  - **Heat Cramps:** Ederna (swelling) and Syncope (Fainting) generally accompanied by fever below 39°C i.e.102°F.
  - **Heat Exhaustion:** Fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
  - **Heat Stroke:** Body temperatures of 40°C i.e. 104°F or more along with delirium, seizures or coma. This is a potential fatal condition.
- Exposure to heatwaves compromises the *body's ability to regulate temperature* and can result in a cascade of illnesses, including heat cramps, heat exhaustion, heatstroke, and hyperthermia.
- It affects the t*ransmission of diseases, health service delivery*, air quality, and critical social infrastructures such as energy, transport, and water.

Strategies To Address Heat Waves

- Establishment of **Early Warning System** and **Inter-Agency Coordination** for prediction of heatwaves and issuance of alert.
- **Public Awareness** and **community outreach** to increase public awareness on how to protect against extreme heat through different mediums.
- **Capacity building** and **training programme** for health care professionals at different levels to recognize and respond to heatwave related illnesses.
- Collaboration with **non-government organisations (NGOs)** and civil society to provide support in distress situations.
- Encourage traditional methods of handling heat waves like wearing cotton clothes etc.
- Reviewing labour laws and other regulations taking climatic conditions into account.
- Improving the infrastructure setup like including shadowed windows, insulated houses etc.

Additional information

- **El Nino**
  - This is a name given to the periodic development of a **warm ocean current** along the **coast of Peru as** a temporary replacement of the cold Peruvian current.
  - **'El Nino' is a Spanish** word meaning **'the child'**, and refers to the baby Christ, as this current starts flowing during Christmas.
  - The presence of the El Nino leads to an **increase in sea-surface temperatures** and a weakening of the **trade winds in the region**.
  - In a normal monsoon year (without El Nino), the pressure distribution along the coast of Peru in **South America has a higher pressure** than the region near northern Australia and South East Asia.

- **India Meteorological Department (IMD)**
  - It was established in 1875.
  - It is an agency of the **Ministry of Earth Sciences** of the Government of India.
  - It is the principal agency responsible for meteorological observations, weather forecasting and seismology.
  - IMD has been continuously redefining its focus for **accurate Prediction of Monsoon and cyclones as our GDP** is mainly based on agriculture.

- **Initiatives of weather predictions**
  - **Mausam App:** It is a new mobile application called "Mausam" for the Indian Meteorological Department (IMD) which will help users track weather updates and also bring in the enhanced forecast as well as warning services from the government.
  - **Meghdoot App:** The Ministries of Earth Sciences and Agriculture have launched a mobile application that will provide the location, and crop and livestock-specific weather-based agro advisories to farmers in local languages
  - **Damini App:** The Indian Institute of Tropical Meteorology (IITM) launched 'Damini', a free mobile-based application that can warn people about lightning at least 30-45 minutes before it strikes.

Sources: IE

Polity and Governance

Appointment of Chief Justice of High Courts

Syllabus: GS2/Judiciary

In Context

- Recently, *transfers and appointments* of *13 chief justices took place to various high courts.*
- It is a step to fill up the pending vacancies *by the Supreme Court Collegium led by Chief Justice N.V. Ramana.*
    - The Constitution doesn't determine the strength of HC but leaves it to the President.

Key Points

- **Constitutional Provision for High Courts:**
    - *Article 214 of the Constitution of India* provides that there shall be a High Court in each State.
    - *Under Article 231*, Parliament has the power to establish a common High Court for two or more States.
- **Eligibility of appointment as a Judge of High Courts:**
    - A person to be qualified for appointment as a Judge of a High Court:
        - He must be an *Indian citizen.*
        - *Must have served in a judicial capacity in India for at least ten years.*
        - *For at least 10 years, he must have worked as an advocate in a High Court or two or more such Courts in succession.*
- **Appointment of HC Judges:**
    - **Article 217 of the Constitution:**
        - It states that the Judge of a High Court shall be *appointed by the President in consultation with the Chief Justice of India (CJI)* and **the** *Governor of the State.*
        - In the case of *appointment of a Judge* other than the Chief Justice, the *Chief Justice of the High Court is consulted.*
- **Consultation Process:**
    - High Court judges are *recommended by a [Collegium](#) comprising the CJI and two senior-most judges.*
    - The *proposal, however, is initiated by the Chief Justice of the High Court concerned in consultation with two senior-most colleagues.*

- **Recommendation:**
    - It is *sent to the Chief Minister, who advises the Governor to send the proposal to the Union Law Minister.*
- The Chief Justice of the High Court is appointed as per the *policy of having Chief Justices from outside the respective States.*
- **Ad-hoc Judges**:
    - The *appointment of retired judges* is provided in the Constitution under **Article 224A.**
    - Under the Article, the Chief Justice of a High Court for any State may at any time, with the previous consent of the President, request any person who has held the office of judge of that court or of any other High Court to sit and act as a judge of the High Court for that State.

Collegium System

- It is the system of appointment and transfer of judges that has evolved through judgments of the SC, and not by an Act of Parliament or by a provision of the Constitution.

Criticism of the Collegium System:

- *Opaqueness and a lack of transparency.*
- Scope for *nepotism.*
- *Embroilment in public controversies.*
- Overlooks several talented junior judges and advocates.

Attempts to reform the Appointment System:

- In 2014 Government brought the *99th Constitutional Amendment Act, the National Judicial Commission Act (NJAC)* **to** *replace the collegium system for the appointment of judges.*
- In 2015, a *five-judge Constitution Bench declared them unconstitutional* **on** *the ground that they posed a threat to the independence of the judiciary.*
- Bench declared that judges' appointments shall continue to be made by the collegium system in which the CJI will have "the last word".

Issues Involved in Judiciary

- **Vacancy in High Courts:**
    - The total sanctioned strength of judges across the 25 high courts is 1,098 but the working strength is only 645, a shortfall of 453 judges.

- **High Pendency of Cases:**
  - The total pendency of cases in the several courts of India at different levels sums up to a total of about 3.7 crores thus increasing the demand for a better and improved judicial system.

- **Cumbersome Process:**
  - The delays in the appointment of High Court judges affect the justice delivery mechanism.

- **Lack of transparency:**
  - Presently, there is no structured process to investigate if a judge who is recommended by the collegium has any conflict of interests.

- **Improper Representation**:
  - The collegium system tends to favour particular sections of society and is far from being representative of the population for whom it seeks to deliver justice.

Conclusion

- The current step by the government is a *collaborative process* involving both the executive and the judiciary important for fulfilling up the vacancies.

- But, a *permanent, independent body to institutionalize the process* with adequate safeguards to preserve the judiciary's independence is required.

- Instead of selecting the number of judges required against a certain number of vacancies, the collegium must provide a panel of possible names to the President to appoint in order of preference and other valid criteria.

Source: LM

Biodiversity & Environment

Central Asian Flyway

Tags:GS3/Conservation

In News

- A virtual two-day CAF range countries' meeting was held recently.

About

- **What is a Flyway?**

  It is a *geographical region within which a single or a group of migratory species completes its annual cycle – breeding, moulting, staging and non-breeding.*
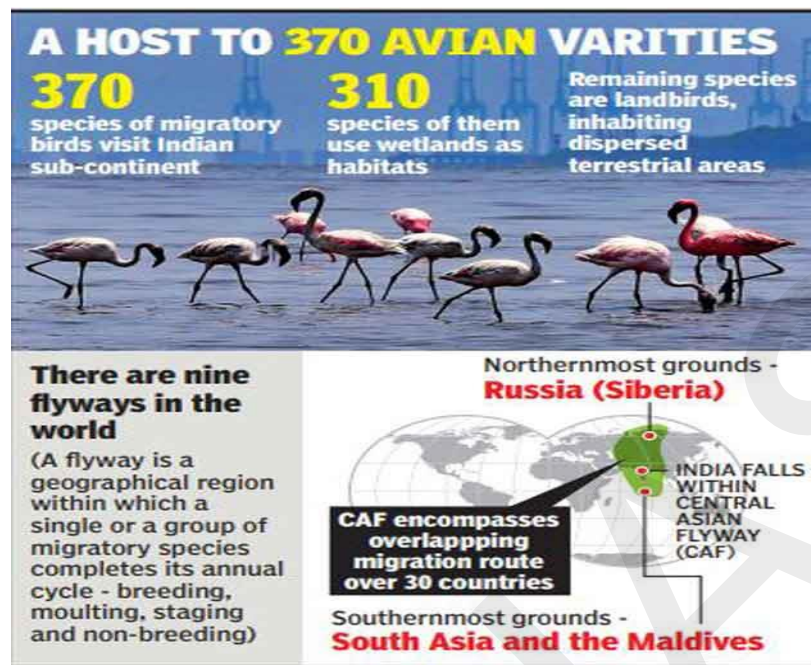
Image Courtesy:

- **Background:**
  - At the *13th meeting of the Conference of Parties (CoP) to the Convention on Migratory Species (CMS)*, held at Gandhinagar in February 2020, **a resolution was adopted** under the leadership of India with the *aim to agree on conservation action for migratory birds.*
  - With a view to fulfil its commitment, India organized a two-day online meeting recently, with CAF Range Countries, anchored in the Wildlife Institute of India.

- **Central Asian Flyway**
  - **Area Covered**
    - CAF covers a large area of Eurasia between the Arctic and Indian Oceans.
  - Including India, *there are 30 countries under the Central Asian Flyway.*
  - **Extent**
    - It involves *migration routes of waterbirds,* *extending from the northernmost breeding grounds in Siberia to the southernmost non-breeding wintering grounds in West Asia, India, the Maldives and British Indian Ocean Territory.*
  - These wintering areas are geographically separate and present entirely different ecological, historical and cultural situations.
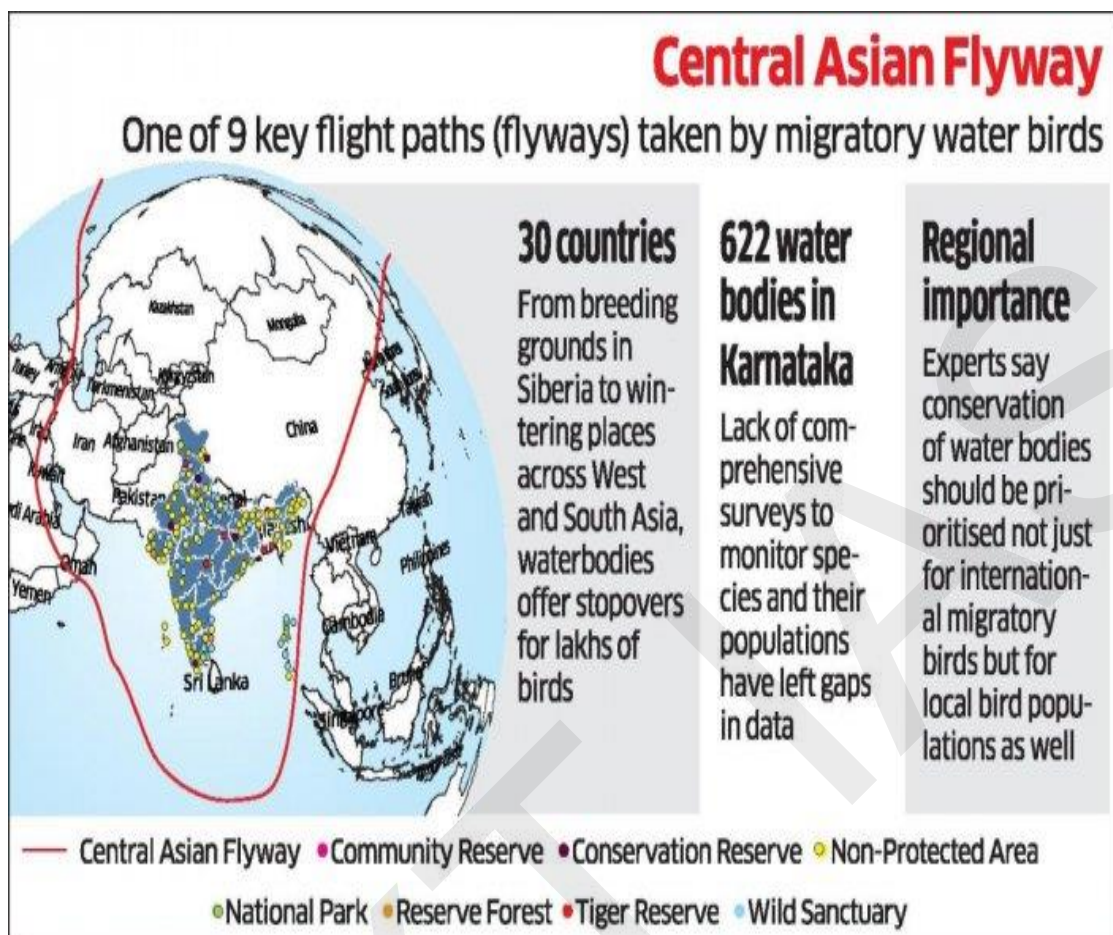
Central Asian Flyway

One of 9 key flight paths (flyways) taken by migratory water birds

30 countries
From breeding grounds in Siberia to wintering places across West and South Asia, waterbodies offer stopovers for lakhs of birds

622 water bodies in Karnataka
Lack of comprehensive surveys to monitor species and their populations have left gaps in data

Regional importance
Experts say conservation of water bodies should be prioritised not just for international migratory birds but for local bird populations as well

— Central Asian Flyway •Community Reserve •Conservation Reserve ○Non-Protected Area
○National Park •Reserve Forest •Tiger Reserve •Wild Sanctuary

Image Courtesy: DeccanHerald

What is migration? Why is it significant?

- Migration is an **adaptation mechanism** to help birds overcome weather adversities and the unavailability of food in colder regions.

- The importance of bird migrations on the health of the ecosystems is well-established.

- Saving migratory birds means saving the wetlands, terrestrial habitats and saving an ecosystem, benefiting communities dependent on wetlands.

Challenges faced by migratory birds

- **Increased habitat loss** globally during the last decade.

- The decreased area under water bodies, wetlands, natural grasslands and forests.

- Increased weather variability and climate change have resulted in the loss of biodiversity for migratory birds.

Major Migratory Birds

Critically Endangered	Northern bald ibis, white-bellied heron, Baer's pochard
Endangered	Greater adjutant
Vulnerable	Black-necked crane, Indian skimmer, lesser adjutant, masked finfoot, Socotra cormorant, wood snipe
Near Threatened	Black-headed ibis, lesser flamingo, pygmy cormorant, white-eyed gull

Why do countries need to protect Flyways?

- Approximately one in five of the world's 11,000 bird species migrate, some covering enormous distances.
- Safeguarding flyways means protecting the birds from poachers, rejuvenating wetlands among others. Saving the wetlands, terrestrial habitats help in fulfilling the bigger purpose of saving an ecosystem.

Way Forward

- Conserving migratory birds requires cooperation and coordination along the entire Central Asian Flyway (CAF) between countries and across national boundaries.

Source: PIB

Facts In News

Defence

Territorial Army Day

Syllabus: GS3/Defence

In News

- Every year on *9th October* is marked and observed as *Territorial Army Raising Day.*

Territorial Army

- **Background:**
  - In 1920, the Britishers raised the Territorial Army (TA) through the *Indian Territorial Act of 1920.*
  - Post-Independence, the Territorial Army Act was passed in the year 1948.
  - The *first Indian Governor-General C Rajagopalachari* formally initiated the *Territorial Army* on 9 October 1949. Since then, the day has been celebrated and recognised as Territorial Army Raising Day.
  - The Territorial Army, also known as the *'Terriers'*, is considered the second line of national defence after the regular Army.
  - The territorial Army comes *under the Defence Ministry.*

- **Roles:**
  - To assist the civil administration in dealing with natural disasters, relieving the Regular Army from static responsibilities, and maintenance of essential service in situations that affect the security of the country or life of the communities.
  - The units of the Territorial Army have provided active services in North-East, Jammu and Kashmir, and India's western and northern borders.
  - The force was also a part of the Indian Peace Keeping Force (IPKF) in Sri Lanka from 29 July 1987 to 24 March 1990.

- **Eligibility:**
  - Any male Indian citizen *between the ages of 18 and 42* can apply and enter into the TA service provided they clear the written test, interview, medical examination and the necessary training.

Source: PIB

Biodiversity & Environment

Lukha River

Syllabus: GS3/ Environmental Pollution & Degradation/ Conservation

In News

- Recently, the detoxing pilot *project of the Meghalaya state* has brought a *Lukha river* back from the dead.
    - *Acid mine drainage, run-off from coal mines* led to contamination of the Lukha river.

About

- The *phytoremediation method* was used to detoxify the river, where algae were used to *remove major toxic contents from the water*.
- The pilot project was undertaken under the *District Mineral Fund* after reports of low pH levels affecting the aquatic life in the river.
    - *pH is a measure of how acidic/basic water is*. The range goes from 0 to 14, with 7 being neutral. pHs of less than 7 indicate acidity, whereas a pH of greater than 7 indicates a base. The pH of water is a very important measurement concerning water quality.

Lukha River

- It is located in the *southern part of East Jaintia Hills of Meghalaya*.
- It receives water from the Lunar river (Wah Lunar) and small streams draining from the Narpuh Reserve Forest and the undulating hills of the area while flowing down.
- The river is mainly fed by *monsoon rain and flows in the southwest direction* and later takes a southern path after joining the Lunar river near the Khaddum village.
- The river *passes via the Sonapur village* and then into the Surma valley and ultimately ends up in the flood plains of Bangladesh.

Source: TH

Biodiversity and Environment

Red Sanders

Syllabus GS 3/Species in News /Environmental Impact Assessment

In News

- Recently, Personnel of the *Special Enforcement Bureau (SEB)* nabbed one of the most wanted red sanders smuggling operatives allegedly having links with global syndicates.

About

- Red sanders *(Pterocarpus santalinus)*, known for their *rich hue and therapeutic properties.*

- It is *high in demand across Asia,* particularly in *China and Japan*, for use in *cosmetics and medicinal products* as well as for making furniture, woodcraft and musical instruments.

- Red Sanders usually *grow in the rocky,* degraded and fallow lands with Red Soil and a hot and dry climate.

- It is declared *Near Threatened* in the International Union for Conservation of Nature (I.U.C.N.) red list

- It is listed in *Appendix II* of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

- It is among the endangered species of wood found in Chittoor, Kadapa, Kurnool and Nellore districts of Andhra Pradesh.

Source: TH

Art & Culture

Vayalar Ramavarma Memorial Literary Award

Syllabus: GS 1/Literature

In News

- Recently, Well-known Malayalam writer Benyamin bagged the *45th Vayalar Ramavarma Memorial Literary Award* for his book *"Manthalirile 20 Communist Varshangal".*

  - He is best known for award-winning novels such as *'Aadujeevitham' (Goat Days)* and *'Mullappoo Niramulla Pakalukal' (Jasmine Days)* and short stories, presents the inhabitants of Manthalir village, and how the heady mix of politics and religion impacts their daily struggles for existence in this essentially bucolic setting.

  - The novel was selected for the 2021 edition of the coveted prize by a jury consisting of the writers K. R. Meera, George Onakkoor and C. Unnikrishnan.

About Award

- It is given for *best literary work in Malayalam* instituted by *Vayalar Ramavarma Memorial Trust* in 1977.

- The award commemorates the *celebrated poet and lyricist.*
- It carries a purse of ₹ 1 lakh, a bronze statuette crafted by the sculptor *Kanayi Kunhiraman and citation.*

Health

Rabies Virus

Syllabus: GS 2/Health

In News

- A proper study has been sought into the recent deaths due to *rabies* among people who are vaccinated against the infection.

About Rabies

- It is a *zoonotic viral disease.*
- It is caused by the *Rabies virus, of the Lyssavirus genus, within the family Rhabdoviridae.*
  - It is a *Ribonucleic Acid (RNA) virus* that is present in the saliva of a rabid animal (dog, cat, monkey, etc).
- *Rabies is 100% fatal but 100% vaccine-preventable.*
- *33% of global rabies deaths are recorded in India.*
- **Common Vectors/ Reservoirs of Virus**
  - The most common reservoir of the virus is *the domestic/street dog* especially in South Asia and Africa.
  - *More than 99% of human deaths due to rabies* are caused by dog-mediated rabies.
  - In developed nations like the USA, animals that transmit rabies are bats, foxes, raccoons, and skunks.
  - Most mammals can carry the virus and hence can cause the disease.
- It *spreads by the bite of a rabid animal* that leads to the deposition of the saliva and the virus in the wound.
  - The *incubation period* varies from 4 days to 2 years or sometimes even more.
  - **The *incubation period*** means the time interval between the bite and the occurrence of symptoms/signs of the disease.

- **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.
- The death invariably occurs in 4 days to 2 weeks due to cardio-respiratory failure.

Control and Prevention of Rabies

- Get rabies vaccination to prevent the infection.
- Vaccinating your pet against the disease.
- Maintain distance from the wild animals.
- Wash wounds with soap and water and maintain good hygiene.
- Keep your pets away from the other stray dogs.
- Prevent bats from wandering around your campuses and living places.

World Rabies Day

- It is celebrated on 28 September which marks the anniversary of Louis Pasteur's death.
  - Louis Pasteur was a French chemist and microbiologist, who developed the first rabies vaccine.
  - He also discovered Pasteurisation, Vaccines for Anthrax and Cholera and Chamberland filters.
- In 2007, the first World Rabies Day (ERD) was organised by the two founding partners namely
  - Alliance for Rabies Control (ARC) and
  - the Centre for Disease Control and Prevention, Atlanta (CDC).
- The theme for World Rabies Day 2021 is **_Rabies: Facts, not Fear_**.

Source: TH

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