KEY FACTS ABOUT THAR DESERT

There is growing evidence to suggest that the Thar Desert could undergo a surprising future transformation: it could become greener.

Thar Desert is one of the **largest subtropical deserts i**n the world. It is located partly in **northwestern India**, and **partly in eastern Pakistan.**

- It extends across the states of **Rajasthan, Gujarat**, and **Haryana** in India, and the provinces of **Sindh and Punjab in Pakistan**. The majority of the Thar desert is in India (15 percent lies in Pakistan).

- It is **bordered by** the irrigated **Indus River plain** to the west, the **Punjab Plain** to the north and northeast, the **Aravalli Range** to the southeast, and the **Rann of Kachchh** to the south.

- It is separated from the Greater Rann of Kutch to the west by the low-lying marshy lands of the **Luni River**.
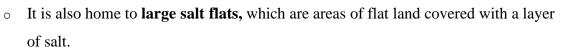
Climate:
  o The desert features a **hot and arid climate**, with temperatures often reaching over 50 degrees Celsius during the day and dropping significantly at night.
  o **Rainfall is scarce**, with the majority of the desert receiving less than 50mm of rain annually.

Landscape:
  o It is characterized by a **vast and rugged landscape**, with a variety of different terrains.
  o It is known for its **vast expanses of rolling dunes**, which can reach heights of up to 200 meters.
  o The desert is also characterized by **rocky outcroppings**, which are clusters of large rocks that rise from the desert floor.

- It is also home to **large salt flats,** which are areas of flat land covered with a layer of salt.
- **Large, flat plains,** which are covered with a thin layer of soil and vegetation, are also found here.

Mineral Resource:

- It is rich in a variety of minerals, including one **of the largest coal reserves** in India.
- It is also a major source of **gypsum, Limestone, salt, Bauxite, silica**, etc.

WHAT IS A BAMBI BUCKET?

Recently, Indian Air Force's MI 17 V5 helicopter was deployed to extinguish the raging forest fires in Nainital and the helicopter used a "Bambi Bucket".

Bambi Bucket is also known as helicopter bucket or a It is a specialised aerial firefighting tool which has been in use since the 1980s.

- It is suspended by cable under a chopper, and which can be filled by lowering into a river or pond before being flown above a fire and discharged aerially by opening a valve at the bottom of the bucket. It is essentially a **lightweight collapsible container** that releases water from underneath a helicopter to targeted areas.
- One of its key features is that it can be quickly and easily filled. The bucket can be filled from various sources, including lakes and swimming pools, which allows firefighters to swiftly refill it and return to the target area.
- **Features:** It can be stored within the helicopter until development and it discharges **a solid column of water,** "resulting in a more accurate and effective water dump, less evaporation on the descent and greater impact force.
- It is especially helpful in fighting wildfires that are difficult or impossible to reach from the ground.

WHAT IS BIOHACKING?

Biohacking is picking up in India especially in metro cities like Delhi and Mumbai and also slowly making inroads into Tier II and III cities too.

Biohacking is a term used to describe various tips and tricks for enhancing the **body's ability to function** at peak performance—and maybe even extend one's lifespan.

- It includes the practice of employing methods drawn from fields like **biology, genetics, neuroscience and nutrition** to enhance physical or mental performance, improve overall health and well-being, or achieve a specific health outcome.

  Most types of biohacking generally fall into one of the following categories below:

  - **Lifestyle:** It focuses on making positive health and behavior choices. It is probably the most accessible way most people can start experiencing biohacking, as it includes factors like dietary **shifts, breathwork, meditation and exercise**.

  - **Molecular:** It involves the use of **natural and synthetic molecules** that can help shift one's biology. Taking supplements would fall into this biohacking category.

  - **Biologics:** These are biological products that are meant to improve or enhance biology. They could be cells, or they could be small little information packets like exosomes, which are basically biological bundles of **DNA, mRNA proteins and growth factors**. Biologics typically need to be ingested, injected (such as stem cells) or delivered intravenously (i.e. by IV transfusion).

    Technology: It includes devices like **wearables** (such as smartwatches) and **diagnostics** (such as blood sugar monitors). In such cases, biohacking uses technology to gather data about the body and its functioning so an individual can use that information to adjust their health as they strive for improved performance.

- There are currently **no laws in India** that specifically address biohacking.

NEW INSURANCE RULES

Why in news?

The Insurance Regulatory and Development Authority of India (Insurance Products) Regulations, 2024, came into force on April 1.

What do the new regulations address?

- **Expanding Insurance Coverage**
    - The April 1 notification aims to broaden insurance coverage, aligning with the IRDAI's goal of 'Insurance for All by 2047'.

- **Aimed at Improving Insurance**
    - The recent regulations introduced by the IRDAI are also designed to help insurance companies better meet the changing needs of the market, simplify business operations & protecting the interests of policyholders.

- **Emphasis on Good Governance**
    - To ensure policyholders are treated fairly, insurance companies are encouraged to follow good governance practices when creating and pricing their products.

- **Reduction of the waiting period** for specific diseases and treatments
    - Previously, policyholders had to wait for four years, but now they only need to wait three years to get coverage for specific diseases and treatments, except in cases of accidents.

- **Focus on AYUSH Treatment Coverage**
    - The new regulations highlight the importance of covering AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy) treatments in health insurance policies.

- **Renewal Assurance**
    - The regulator has advised insurance companies **against refusing to renew** health insurance policies solely because the insured made claims in previous policy years.

What changes are relevant to senior citizens?

- **Previous Regulations on Entry and Exit Age**
  - Under the Health Insurance Regulations of 2016, it was stipulated that health insurance policies must allow entry up to the age of 65 years.

- **Special Focus on Senior Citizens**
  - The new regulations also mandate insurers to establish a separate channel dedicated to addressing health insurance claims and grievances specifically for senior citizens.

How significant are the changes?

- This decision to eliminate age restrictions on health insurance policies marks a shift in the nation's insurance landscape.
- This move promises increased accessibility to comprehensive healthcare coverage for individuals of all ages.
- However, concerns arise regarding waiting periods. IRDAI has mandated to cap waiting periods at a maximum of three years from the current four years.
  - This adjustment is expected to prompt most insurers to increase the cost of insurance by 10-15% across the board.

UTTARAKHAND FOREST FIRES

A massive fire is spreading through the forests near Nainital in Uttarakhand. It has been burning

for 60 hours, leading to the deployment of Indian Air Force personnel and Mi-17 choppers in an effort to quell the raging fire. According to the officials, these forest fires have gutted over 142 hectares of forest land in the State.

What are Forest Fires/Wildfires?

- It is an unplanned, uncontrolled & unpredictable fire in an area of combustible vegetation.
- **Causes:**
  - These include natural (lightning, high atmospheric temperatures and low humidity (dryness) and man-made (agricultural practices like Jhum, a source of fire (cigarette, bidi, etc)].
  - Three conditions must be present in order for any fire to exist: fuel, oxygen and a heat source. This is often referred to as the **fire triangle**.
  - In the case of a forest, oxygen is in ample supply, and fuel is supplied in the form of dry trees, shrubs, grasses and litter - particularly in the dry, hot summer months.
  - Dry weather, drought and dry vegetation can offer easy kindling for a fire. Strong winds further help the spread of a forest fire.
  - As per a 2019 report from the Forest Research Institute, 95% of forest fires are caused by humans.
    - Often, grazers set fire to dry grass in the hopes of encouraging the cultivation of new grass.
    - Slash and burn and shifting cultivation also use fire. Unattended campfires, burning of waste, lit cigarette stubs as well as intentional lighting of fires with criminal intent are some other man-made causes.

Understanding the TYPES OF WILDFIRE

GROUND FIRES
Fueled by buried, dead vegetation such as peat
Move slowly underground, but can ignite surface fires
Difficult to extinguish if fuel is abundant
Can last for months or even years

SURFACE FIRES
Fueled by surface detritus, such as fallen leaves, twigs & dry vegetation
Generally the easiest to extinguish

CROWN FIRES
Burn in the tree canopy
Most dangerous type of wildfire, burning extremely hot & often spreading rapidly

  - Natural causes included the rubbing of dry trees or bamboo, sparks set off by stones, or lightning.

How can forest fires be tackled?

- **Awareness and controlled burning**

- o Besides spreading awareness, there are certain measures that can be undertaken to reduce the incidence of forest fire.
- o This includes the removal of biomass through controlled or prescribed burning.
  - ▪ Limited and controlled forest burns have been shown to be useful in promoting healthy forest growth, getting rid of undergrowth, dead trees and litter. Fresh healthy plants replace such areas.
- o Once a patch of land is burned or cleared of dried biomass by a ground-fire, it is difficult for another fire to occur there.
- o This process is usually done by taking 5.2-metre-wide fire-lines or fire-belts in forested areas to which people have access.

- **Other preventive steps**
  - o Engaging temporary fire watchers, desilting of water sources within the forest, and having fire safety equipment at hand.
  - o Increase surveillance of forests using drones

- **Steps taken by the govt**
  - o A satellite-based fire alert system introduced by the Forest Survey of India. This makes it easy for staff to find out whether there are fires inside the forest.
  - o Forest staff use methods like beating the fire with green, leafy boughs, and counter-fires. They also carry fire beaters and blowers.

WHAT EC CAN DO IN CASE NORMAL POLLING PROCESS IS DISRUPTED?

Framework for Handling Situations where the Normal Polling Process is Disrupted:

- **India's election laws provide a framework** for handling situations where the normal polling process is disrupted for any reason, including -
  - o Damage to EVMs,
  - o Booth-capturing,
  - o Natural disasters, or
  - o A candidate's death.

- The provisions for repolls, adjournments and the voiding of polls **ensure that the democratic process remains fair, transparent and uninterrupted.**

Some Circumstances when the Normal Polling Process is Disrupted:

- **Intentional destruction, taking away of EVMs:**
  - **Under Section 58 of the RPA** ('Fresh poll in the case of destruction, etc., of ballot boxes'), the EC can declare the poll at a polling station to be void if:
    - An unauthorised person has unlawfully taken away any EVM;
    - Any EVM has been accidentally or intentionally destroyed, or lost, or damaged, or tampered with; or
    - A mechanical failure develops in any EVM during the recording of votes.
  - In such cases, **the Returning Officer (RO) immediately informs the ECI and the Chief Electoral Officer** (CEO) of the state about the relevant facts and material circumstances.
  - After considering this, the ECI can declare the poll void and formally fix the date and time for a new poll.
  - During the repoll, **the voters' left middle fingers are inked** to distinguish between the mark made during the original poll (on their left forefinger).
- **Booth capturing:**
  - Booth-capturing, **defined in Section 135A of the RPA**, includes all or any of the following activities by any person or persons:
    - Seizure of a polling station, affecting the conduct of elections;
    - Taking possession of a polling station, allowing only his or their supporters to vote;
    - Intimidating or threatening any elector and preventing him from going to the polling station;
    - Seizure of a counting place affecting the counting of votes;
    - Involvement of any person in government service in any of the above activities.

- **Natural disasters, other disruptions to polling:**
  - The Presiding Officer of a polling station can adjourn the poll at a polling station under **section 57(1) of the Representation of the People Act 1951**, in case of:
    - A natural calamity like a flood, a severe storm;
    - Non-receipt or loss or damage to essential polling materials like EVM, electoral roll etc;
    - Interruption or obstruction due to any riot or, open violence;
    - Non-arrival of the polling party due to obstruction or any other serious difficulty; or
    - Non-commencement of the poll within two hours from the scheduled time due to malfunctioning of EVM, or any other reason.
  - After seeking the ECI's approval on the date and hours, the adjourned poll will recommence from the stage at which it was left immediately before the adjournment.
  - **Only electors** who have not already voted before the poll was adjourned are permitted to vote.

- **Death of a candidate:**
  - **As per Section 52 of RPA** (amended in 1996), the poll shall be adjourned **only in case of the death of a recognised political party's candidate**.
  - The above provision applies if the candidate with a valid nomination dies at **any time after 11.00 a.m. on the last date for making nominations**, until the commencement of the poll.
  - The RO reports the fact to the EC and orders the adjournment of the poll to a date to be notified later by the Commission.
  - The EC then calls upon the concerned political party to nominate another candidate for the said election in place of the deceased candidate.
  - The political party must make the nomination **within seven days**.