2020

drishti

CURRENT AFFAIRS

ECOLOGY & ENVIRONMENT

6th January - 11th January

THE HINDU | The Indian EXPRESS | live mint

BusinessLine | PIB

1. **Australian Bushfire**

Why in News?

Australia is witnessing widespread bushfires, and a State of emergency has been declared in parts of Australia.

- These fires have been especially severe in New South Wales and Victoria.
- More than 11 million Acres of **land** has been burnt.
- Up to a billion **Animals** have been killed.
- Around 30% of the population of **Koalas** has been killed.

What is Bushfire?

- A bushfire is a wildfire that occurs in the bush (collective term for forest, scrub, woodland or grassland of Australia, New Zealand, New Caledonia).

Are bushfires new to Australia?

- Bushfires are a routine occurrence in the country.
- The Australian climate is hot, dry and prone to droughts.
- So, at any time of the year, some parts of Australia are prone to bushfires.
- Such fires happen when grass, branches, trees start burning in an uncontrolled manner.
- For New South Wales and Queensland, the peak risks for bushfires are during spring and early summer, which is around November-December.

What's New this time?

- Australia's deadly fires have been fuelled by a combination of extreme heat, prolonged drought and strong winds.

- The country is in the grip of a heatwave, with record-breaking temperatures over the last few months.
- In mid-December the nation saw the hottest day in history - the average temperature was 41.9 degrees Celsius.
    - All this follows the **country's driest spring since records began 120 years ago**, with much of New South Wales and Queensland experiencing rainfall shortfalls.
    - Australia is also witnessing the positive phase of the Indian Ocean Dipole (IOD).
        - During a positive IOD phase, the west Indian Ocean warms up anomalously (creating lower pressure and wet climes) relative to the east (higher pressure and a dry phase, towards the Australian side).

What causes bushfires?

- The natural vegetation -trees, shrubs and grasslands - fueled by extreme heat conditions, triggered fire in Australia.
    - Bushfires, while are generally slow moving, have a higher heat output and can smoulder for days.
- They can be caused by both human activities (Tourism etc.) and natural (lightning etc.), which is responsible for about half of ignitions in Australia.

Is there a climate change link to this?

- While the bushfires are not directly triggered by climate change, climate change is increasing the risk of more frequent and intense bushfires.
- Some of its manifestations are:
    - This time, fires are burning in places and at intensities never experienced before. e.g. rainforests in northern NSW, tropical Queensland, and the formerly wet old-growth forests in Tasmania
    - The drought being faced is more intense than the Millennium Drought, with higher levels of evaporation due to higher temperatures.

2. State Energy Efficiency Index

Why in News?

The government has released the 'State Energy Efficiency Index 2019' which tracks the progress of Energy Efficiency initiatives in 36 states and union territories based on 97 significant indicators.

About the Index

- This index has been developed by the Bureau of Energy Efficiency (BEE) in association with the Alliance for an Energy Efficient Economy (AEEE).
- The first such Index, the "State Energy Efficiency Preparedness Index 2018", was launched on August 1, 2018.
- The 2019 index incorporates qualitative, quantitative and outcome-based indicators to assess energy efficiency initiatives in following sectors:
    - Buildings
    - Industry
    - Municipalities
    - Transport
    - Agriculture
    - DISCOMs.
- New indicators for 2019 index include adoption of Energy Conservation Building Code (ECBC) 2017, energy efficiency in MSME clusters, etc.

Key Points

- States/UTs are grouped into four groups based on aggregated Total Primary Energy Supply required to meet the state's actual energy demand (electricity, coal, oil, gas, etc.) across sectors.
- It categorises states as 'Front Runner', 'Achiever', 'Contender' and 'Aspirant' based on their efforts and achievements towards energy efficiency implementation.
- The top performing states- Haryana, Kerala and Karnataka - are in the **'Achiever' category.**
- Manipur, Jammu & Kashmir, Jharkhand and Rajasthan performed the worst in the **Aspirant groups.**
- Since there isn't any 'front runner' state, it can be inferred that a lot more can be done at the state level to realise energy savings from energy efficiency
- It will help states contribute towards national goals on energy security and climate action by helping drive EE policies and program implementation at the state and local level
- It will track progress in managing the states' and India's energy footprint.

3. Great Indian Bustard

Why in News?

A conservation centre for the Great Indian Bustard has been set up in Desert National Park Jaisalmer, Rajasthan.

- The Great Indian Bustard has long been on the brink of extinction.
- Barely 150 of these birds are estimated to be surviving now globally.

Desert National Park

- It is situated in Rajasthan.
- Set up in 1981.
- It comprises crescent – shaped dune (Barchan), which is one type of sand dune produced by the action of wind.
- The most important feature of this national park is that the status of the land is mostly under the category of padath (culturable waste), whereas land status in other national parks is under the category of 'protected' or 'reserve forest'.
- It has a collection of fossils of animals and plants.
- It is one of the largest adobes for the highly endangered Great Indian Bustard.
- **Flora:** Palm trees
- **Mammals:** Desert fox, Bengal fox, desert cat, wolf, hedgehog, chinkara & migratory birds.

Great Indian Bustard

Status

- Listed in **Schedule I** of the Indian Wildlife (Protection) Act, 1972.
- **Appendix I** of **CITES** (the Convention on International Trade in Endangered Species of Wild Fauna and Flora).
- **IUCN Red List -** Critically Endangered
- India is the only country that habitats the Great Indian Bustard.

Threats

- Hunting
- High voltage power lines are a major threat to the GIB as the bird has poor frontal vision, which restricts it from spotting power lines early and get trapped in them.
- Habitat loss due to widespread agricultural expansion and mechanized farming.

4. Mhadei Wildlife Sanctuary

- Mhadei Wildlife Sanctuary is an International Bird Area located in Western Ghats Goa.
- The three highest peaks in Goa – **Sonsogod, Talache Sada and Vager**i are located in the hill ranges within the sanctuary.
- Vazra Sakla and Virdi waterfalls are located in it.
- Mhadei River, known downstream as the Mandovi River, flows through it and drains into Arabian Sea.
- **Flora**: Endemic orchids and sacred groves.
- **Fauna**:Leopard, Sloth Beer.
- The sanctuary is particularly well-known for its sacred groves.
- One of the most unusual trees found here is an evergreen variety of the Ashoka tree with peculiar saffron coloured flowers.

5. Nalabana Bird Sanctuary

Why in News?

Recently, a record number of migratory birds have arrived at the Nalabana Bird Sanctuary in Odisha.

- The record number of birds seen this year is a result of rooting out the illegal prawn-rearing enclosures from the Chilika Lake.
- For over two decades, the Chilika lagoon area was ravaged by illegal prawn farming, choking one of the world's finest biodiversity hotspots.

About Nalabana Bird Sanctuary

- The Nalabana Island is **part of the Chilika Lake,** India's largest brackish water lagoon.

- Nalabana was declared a **bird sanctuary in 1973** under the Wildlife Protection Act, 1972.
- The Nalabana Bird Sanctuary is a winter **home for migratory birds** from the **Arctic and Sub-Arctic regions**.
- The island gets partially submerged during the monsoon and emerges again in winter when the water recedes.
- **Nalabana** and **Mangalajodi** (on the banks of Chilika Lake) are the two major places in Chilika where the birds congregate.
- Few important migratory birds seen here are: Bar-headed geese, greater flamingos, herons, black-tailed godwits and rare Great Knot. The Great Knot was seen after five years.

About Chilika Lake

- Chilika Lake is **Asia's largest and world's second-largest lagoon** after the **New Caledonian Barrier Reef** in New Caledonia (France).
- It is the largest coastal lagoon in India, located at the mouth of the Daya River which flows into the Bay of Bengal.
- It is designated as a **wetland of international importance** under the Ramsar Convention.
- Last year, four new species were added to the bird atlas of Chilika- Eurasian bittern, glossy ibis, Goliath heron and eastern curlew.

6. Demand for Declaration of Goa Sanctuaries as Tiger Reserve

Why in News?

Activists and politicians from Goa have demanded that certain areas in wildlife sanctuaries- **Netravali Wildlife Sanctuary & Bhagwan Mahaveer Sanctuary** of Goa be notified as a tiger reserve.

Netravali Wildlife Sanctuary

- Netravali Wildlife Sanctuary is located in the Western Ghats region of Goa, India.
- Netravali or Neturli is an important tributary of River Zuari, which originates in the sanctuary.
- It has two scenic waterfalls which are known as Savri and Mainapi.
- Forests here mostly consist of moist deciduous vegetation interspersed with evergreen and semi-evergreen vegetation.
- Great Pied Hornbills, Black Panther, Slender Loris and the Giant Squirrel are the animals found in wildlife sanctuary.

Bhagwan Mahaveer Sanctuary

- Bhagwan Mahaveer Sanctuary is a protected area located in the Western Ghats region of Goa.

- Dudhsagar Falls and Tambdi Falls are part of this sanctuary.
- The parkland is also home to a community of nomadic buffalo herders known as the Dhangar.
- In it, lies the Mollem National Park.
- **Flora:** Tropical Evergreen forests, Semi-evergreen forests and Moist deciduous forests.
- **Fauna:** Pangolin, Porcupine, Slender loris, Sambar

7. New Energy Performance Standards for Air Conditioners

Why in News?

The Central Government in consultation with the Bureau of Energy Efficiency (BEE) has notified new energy performance standards for Room Air Conditioner (RACs).

Key Points

- The **24°C default setting** has been made **mandatory** from Jan 1, 2020 for all room air conditioners covered under the ambit of BEE star-labelling program.
- The new norms provide that the Indian Seasonal Energy Efficiency Ratio (ISEER) as per the new standards will range from 3.30 to 5 for split and 2.70 to 3.50 for window air conditioners.
    - The ISEER is the energy performance index used for RACs and its assessment is based on the bin hours defined in ISO 16358.
- The primary objective was to **reduce the energy intensity** of Indian economy and to **create awareness** and disseminate information for efficient use of energy and its conservation.
- It is estimated that by increasing the temperature of the room by 1°C, about 6% of electricity can be saved. Annually, this may translate to saving potential of about 20 billion units of electricity. This would go a long way in **energy efficiency and sustainable development.**
- BEE launched the voluntary star labelling program for fixed-speed room air conditioners (RACs) in 2006, and this program became mandatory in January 2009.
- Thereafter, in 2015, a voluntary star labelling program for inverter room air conditioners was launched and which was made mandatory with effect from 1st January 2018.

About Bureau of Energy Efficiency (BEE)

- BEE is a **statutory body** under the **Ministry of Power,** Government of India.
- It assists in **developing policies and strategies** with the primary objective of reducing the energy intensity of the Indian economy.

- BEE coordinates with designated consumers, designated agencies, and other organisations to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the energy conservation act.

8. Mandovi River

- The Mandovi River originates at Bhimgat located in the Western Ghats, Karnataka and drains into the Arabian Sea.
- It is also known as **Mahadayi** River in Goa.
- Mandovi joins with the Zuari at Cabo Aguada, forming the Mormugao harbour in Goa.
- Panaji, the state capital of Goa is situated on the banks of the Mandovi River.
- Its catchment area lies in Goa, Karnataka and Maharashtra.

9. Re-grassing After Mining

Why in News?

Recently, the Supreme Court of India (SC) ordered the government to include **re-grassing of mined areas as a mandatory condition** in every mining lease, environmental clearance and mining plan across the country.

- It also held that mining leaseholders should take responsibility for re-grassing mined areas so that biodiversity can flourish in such areas.

Key Points from the Order

- The SC ordered the government to file a report in three weeks after taking appropriate actions and directed it to devise methods to ensure compliance by mining leaseholders.
- **The cost of re-grassing the mined area and wherever damage was caused would be entirely borne by the licence holder.**
- The mandatory re-grassing would be in addition to the other conditions to restore biodiversity imposed on the licence holder in the mine closure plan.
    - Mine closure plan imposes conditions on the licence holder to restore biodiversity.

10. Miyawaki in Kerala

Why in News?

Kerala government has decided to replicate the Miyawaki method of afforestation in schools, government buildings, residential complexes and revenue land in the state.

- The government intervention comes in the wake of the highly successful technique, pioneered by Japanese botanist **Akira Miyawaki.**

- The replication of the model across Kerala, which has suffered floods, landslips and soil erosion, assumes significance under the Rebuild Kerala initiative.
- Earlier, Tamil Nadu, Maharashtra, Telangana and some other states adopted this method.

Miyawaki Method of Afforestation

- *It **originated in Japan,** and is now increasingly adopted in other parts of the world.*
    - *It promotes natural vegetation on land destroyed by natural calamities and man-induced mistakes- leading to the rise of mini forests.*
- *It has **revolutionised the concept of urban afforestation** by turning backyards into mini-forests.*
- **Miyawaki Process**
    - A pit has to be dug, and its dimensions depend on the available space. As there is very little space to work around with, trees with varying heights should be chosen.
    - It is filled with one layer of compost, followed by a layer of natural waste such as bagasse and coconut shells and then topped with a layer of red soil.
    - Saplings are planted at intervals and as per tree height specifications.
    - The whole process can be completed in two to three weeks.
    - The saplings have to be maintained regularly for a year.

- **Advantages:**
    - These forests **serve as a natural bulwark** against soil erosion and tsunamis.
    - In contrast to conventional planting techniques, this method allows for **planting more number of trees in small spaces.**
    - The trees grow faster too and are **free of chemicals and fertilisers.**
    - The saplings need **minimum maintenance.**

Cost analysis

- The exercise will cost approximately ₹ 20,000 for a 600 sq. ft mini forest.