UPSC Daily Current Affairs | Prelim Bits 13-07-2020

Forest Fires in India

- According to the report of the Forest Survey of India, between 2003–2017, a total of 5,20,861 active forest fire events were detected in India.
- *About 54% of the forest cover in India is exposed to occasional fire.*
- Most fire prone regions - Northeast India, Madhya Pradesh, Odisha, Chhattisgarh, Himachal Pradesh and Uttarakhand.
- Western Himalaya have shown a sharp *increase of carbon monoxide, nitrogen oxides and ozone* during high fire activity periods.
- The occurrence of high fire intensity at the low altitude Himalayan hilly regions may be *due to the plant species (pine trees) in the area and proximity to villages.*
- Villages make them more susceptible to anthropogenic activities like forest cover clearance, grazing and so on.
- The sharp increase in average and maximum air temperature, decline in precipitation, and change in land-use patterns have caused the increased episodes of forest fires in most of the Asian countries.

Burn Indices

- The *Normalized Burn Ratio* is an effective burn index commonly used to identify burnt regions in large fire zones.
- In normal conditions, healthy vegetation exhibits a very high reflectance in the near-infrared spectral region and considerably low reflectance in the shortwave infrared spectral region.
- These conditions get dismantled and reversed if a fire occurs.
- ***Remote Sensing Burn Indices -*** The spectral differences between healthy vegetation and burnt forest areas can easily be identified and highlighted by remote sensing burn indices.
- Remote sensing based models to measure primary productivity over an area and also looked at burn indices, *which help to demarcate the forest fire burn scars using satellite imagery.*
- It can be a promising tool for land resource managers and fire officials.

Zinc Gluconate

- Element Zinc is vital for maintaining normal bone homeostasis, and its levels are reported to get reduced in rheumatoid arthritis patients and arthritis-induced animals.
- It is also known that oral supplementation of zinc in the form of zinc gluconate have very low bioavailability in humans.
- Institute of Nano Science & Technology (INST) has formulated nanoparticles with chitosan and loaded these nanoparticles with zinc gluconate for reducing the severity of rheumatoid arthritis.
- Zinc gluconate-loaded chitosan nanoparticles *exerted superior therapeutic effects compared to the free form of zinc gluconate.*
- Chitosan is nontoxic, biocompatible, biodegradable natural polysaccharide.
- It is one of the most abundant biopolymers obtained from the exoskeleton of crustaceans have shown absorption promoting characteristics.

Rheumatoid Arthritis

- Rheumatoid arthritis (RA) is a long-term autoimmune disorder that primarily affects joints.
- It typically results in warm, swollen, and painful joints.
- Most commonly, the wrist and hands are involved, with the same joints typically involved on both sides of the body.
- This may result in a low red blood cell count, inflammation around the lungs, and inflammation around the heart.
- While the cause of rheumatoid arthritis is not clear, *it is believed to involve a combination of genetic and environmental factors.*
- Pain medications, steroids, and NSAIDs are frequently used to help with symptoms.

Reservations for Divyangjan

- The Supreme Court, in a significant decision, confirmed that persons with disabilities are also socially backward.
- The decision highlighted Divyangjan are entitled to the same benefits of relaxation as Scheduled Caste and Scheduled Tribe candidates in public employment and education.
- SC upheld a 2012 judgment of the *Delhi High Court in Anamol Bhandari vs. Delhi Technological University.*

Constitutional provisions on reservations

- **Article 15 (4)** empowers the State to make special provision for the advancement of the SCs and the STs.
- E.g. providing fee concession in admission to any educational institution, building hostels for SCs/STs.
- **Article 15 (5)** empowers the State to reserve seats for SCs and the STs in admission to educational institutions including private educational institutions, whether aided or unaided by the State.
- However, it excludes minority educational institutions referred to in Article 30 (1).
- **Article 16 (4)** empowers the State to make provisions for the reservation of appointments or posts in favor of SCs/STs.
- **Article 46 -** Empower the state to promote educational and economic interests of the weaker sections of the people, and, in particular SC & ST and shall protect them from social injustice and all forms of exploitation.

NATGRID

- It is the integrated intelligence grid connecting databases of core security agencies of the Government of India.
- It functions under *Ministry of Home Affairs.*
- It was proposed as a counter-terrorism measure after the terrorist attacks on Mumbai in 2008.
- It is a medium for at least 10 Central agencies such as the Intelligence Bureau and the Research and Analysis Wing to access data on a secured platform.
- The data will be procured by NATGRID from *21 organizations such as the telecom, tax records, bank, immigration etc.*
- Recently, NATGRID has signed a MoU with the National Crime Records Bureau (NCRB) *to access the centralized online database on FIRs and stolen vehicles.*
- The MoU will give NATGRID access to the Crime and Criminal Tracking Network and Systems (CCTNS) database, a platform that links around 14,000 police stations.
- *All State police are mandated to file FIRs in the CCTNS.*

National Crime Records Bureau (NCRB)

- NCRB functions under Ministry of Home Affairs.
- It was established in 1968 based on the recommendations

1. National Police Commission (1977-1981)
2. MHA's Task Force (1985).

- It releases the *Crime in India report* which serves as a statistical tool in understanding the law and order situation across the country.
- *It developed CCTNS in 2009* which aims at creating a comprehensive and integrated system for effective policing at all levels through adoption of principles of e-Governance.

Himalayan Viagra

- Ophiocordyceps sinensis, also known as Himalayan Viagra is a fungus.
- It is known for its *aphrodisiac and rejuvenation properties*
- Recently IUCN has placed the fungus, in the *'vulnerable'* category.
- According to IUCN its spread has declined by at least 30% over the past 15 years as a result of overharvesting.
- It is *endemic to the Himalayan and Tibetan plateau* and is found in China, Bhutan, Nepal and India.
- In India, it is primarily found in Uttarakhand in the higher reaches of districts like *Pithoragarh and Chamoli.*
- It is world's costliest fungus which sells in international markets for upwards of Rs.20 lakh per.

Source: PIB, the Hindu

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