



drishti

# CURRENT AFFAIRS

**ECOLOGY & ENVIRONMENT**

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BusinessLine



## 1. Kyasanur Forest Disease

### Why in News?

There is a proposal to set up a **research centre on Kyasanur Forest Disease (KFD)** in Sagar, Karnataka.

- The State government has already allocated ₹15 crore for establishing the centre, which will take up study and research on tackling KFD.

### Kyasanur Forest Disease

- It is caused by **Kyasanur Forest disease Virus (KFDV)**, a member of the virus family Flaviviridae.
- It was **first identified in 1957** in a sick monkey from the Kyasanur Forest in Karnataka.
  - Since then, between 400-500 human cases per year have been reported.
- KFD is **endemic** to the Indian state of **Karnataka**.
- **Transmission:**
  - Transmission to humans may occur after a tick bite or contact with an infected animal, most importantly a sick or recently dead monkey.
  - No person-to-person transmission has been described.
- **Signs and Symptoms:**
  - After an incubation period of 3-8 days, the symptoms like chills, fever, headache, severe muscle pain, vomiting, gastrointestinal symptoms and bleeding may occur.
  - Patients may experience abnormally low blood pressure, and low platelet, red blood cell, and white blood cell counts.
- **Diagnosis:**
  - It can be diagnosed in the early stage of illness by molecular detection by Polymerase Chain Reaction (PCR) or virus isolation from blood.
  - Later, serologic testing using enzyme-linked immunosorbent serologic assay (ELISA) can be performed.
- **Treatment and Prevention:**
  - There is no specific treatment for KFD although a vaccine is available and is used in endemic areas of India.
  - Additional preventative measures include insect repellents and wearing protective clothing in areas where ticks are endemic.

## 2. CPCB Notifies Contaminated Sites

### Why in News?

According to the **Central Pollution Control Board (CPCB)**, there are 128 sites in India contaminated by toxic and hazardous substances.

- **West Bengal** led the list with 27 sites followed by **Odisha** at 23.

- The Union Environment Ministry has been monitoring and has begun to commission clean-up jobs at sites known to be contaminated.

### **Incidents of Contamination**

- Oil contamination in Tamil Nadu
- Pesticide and heavy metal contamination in creeks at Eloor, Kerala
- Chromium contamination at Rania
- Electronic waste lying on the banks of **river Ramganga**, Moradabad
- Mercury contamination of the soil at Kodaikanal, Tamil Nadu, and Ganjam, Odisha
- Chromium contamination at Ranipet, Tamil Nadu, and Lohianagar, Uttar Pradesh.

### **Central Pollution Control Board**

- CPCB is a **statutory organisation** set up under the Water (Prevention and Control of Pollution) Act, 1974.
- It works under the aegis of the Ministry of **Environment, Forest and Climate Change** according to the provisions of Environment (Protection) Act of 1986.
- It was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.
- **Functions:**
  - to promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution.
  - to improve the quality of air and to prevent, control or abate air pollution in the country.

### **Ramganga River**

- The Ramganga river rises from **Dudhatoli ranges** in the Garhwal district of **Uttarakhand**.
- It is a **left-bank tributary of the Ganga**. It enters the Ganga Plain near Kalagarh.
- Ramganga flows by the **Corbett National Park** near Ramnagar of Nainital district.
- The **Ramganga Dam**, also known as the **Kalagarh Dam**, is an embankment dam on the Ramganga River.
- **Tributaries:** Khoh, the Gangan, the Aril, the Kosi, and the Deoha (Gorra).

### 3. Illegal Trade of Red Panda

#### Why in News?

Recently, **TRAFFIC** has released a report titled “**Assessment of illegal trade-related threats to Red Panda in India and selected neighbouring range countries**”.

- It analysed poaching and illegal trade of the species **for the ten-year period from July 2010 to June 2019**.

#### Key Findings

- The red pandas are **crucial for the eastern and north-eastern Himalayan subalpine conifer forests and the eastern Himalayan broadleaf forests**.
- The animal has been **hunted for meat and fur, besides illegal capture for the pet trade**.
  - An estimated **14,500 animals are left** in the wild across Nepal, Bhutan, India, China and Myanmar.
- The report has indicated that the **traditional demand for red panda meat and related products has reduced** over time.
- Also, the reduction in poaching and illegal trade of red panda is indicative of the **success of awareness campaigns** about the conservation of the species.

#### Recommendations

- **Community-based conservation** and protection for the species as its habitat stretches across remote areas.
- **Trans-boundary law enforcement co-operation** through the use of multi-government platforms like **SAWEN (South Asia Wildlife Enforcement Network)**.
  - SAWEN was formally established at an inter-governmental meeting hosted in Paro (a town in Bhutan) by the Royal Government of Bhutan, in January **2011**.
  - It aims to establish **multilateral collaboration to fight wildlife crime** in the region.

#### Red Panda

- The red panda is a **small reddish-brown arboreal mammal**.
- The only living member of the **genus Ailurus**.
- **Protection Status:**
  - **IUCN Red List: Endangered**
  - **CITES: Appendix II**
  - **Indian Wildlife Protection Act, 1972: Schedule I**
- **Habitat: India, Nepal, Bhutan Myanmar and southern China**
  - India: Sikkim, Assam, Meghalaya, West Bengal and northern Arunachal Pradesh.

- It is also the state animal of **Sikkim**.
- It thrives best at 2,200-4,800m, in **mixed deciduous and conifer forests** with dense understories of bamboo.

### **TRAFFIC – The Wildlife Trade Monitoring Network**

- TRAFFIC is a leading **non-governmental organisation** working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.
- It is a joint program of **WWF and IUCN** – the International Union for Conservation of Nature created in 1976.
- TRAFFIC focuses on leveraging resources, expertise and awareness of the latest globally urgent species trade issues such as tiger parts, elephant ivory and rhino horn.

### **4. White Giraffe**

#### **Why in News?**

Poachers have killed two extremely rare white giraffes in northeast Kenya, leaving just one such animal in the world.

#### **Key Points**

- The white giraffe was first spotted in 2016 with its **unique white hide**.
- It is **white but not albino**.
  - The white appearance of the giraffe is due to **leucism**, a genetic condition that causes skin cells to have no pigmentation.
- **Leucism and Albinism:**
  - The condition leucism is different from albinism where no melanin is produced at all.
  - Unlike albinism, animals with leucism continue to produce dark pigment in their soft tissue, thus her eyes were dark in colour.

#### **Giraffe**

- **Habitat:** Found in **savanna region/woodland habitats** and range widely throughout Africa.
- **IUCN Red List Status: Vulnerable**
- **Factors leading to population decline:**
  - Habitat loss
  - Civil unrest
  - Poaching
  - Ecological issues

## 5. Water Crisis in Himalayan Region

### Why in News?

According to a survey, eight towns in the Hindu Kush Himalayan region of Bangladesh, Nepal, India and Pakistan were nearly 20%-70% deficient in their water supply.

### Key Points

- **Major Challenges:**

- The places surveyed are extremely dependent on springs (ranging between 50% and 100%) for their water, and three-fourths were in urban areas.
  - Under current trends, the demand-supply gap may double by 2050.
- Communities are coping through short-term strategies such as groundwater extraction, which is proving to be unsustainable.
- Projections show that over 50% of the population will be living in cities by 2050, placing “tremendous stress” on water availability in these areas.
  - At present only 3% of the total Hindu Kush Himalayan population lives in larger cities and 8% in smaller towns.
- Rural areas have typically garnered much of the attention in terms of development and issues surrounding urban environments have been “sidelined”.

- **Factors Responsible:**

- Unplanned urbanisation
- Climate change
- Encroachment and degradation of natural water bodies (springs, ponds, lakes, canals, and rivers)
- Growing disappearance of traditional water systems (stone spouts, wells, and local water tanks)
- Poor water governance

- **Way Forward:**

- A holistic water management approach that includes springshed management and planned adaptation is paramount.

### **Hindu Kush and Himalayan Range (HKH)**

- It is part of the “Third Pole” as it forms the largest area of permanent ice cover outside of the North and South Poles.
- It has significant implications for climate.
  - It contains vast cryospheric zones and is also the world’s largest store of snow and ice outside the polar region.
- **Generally, areas covered under HKH Region:**
  - Afghanistan
  - Bangladesh

- Bhutan
- China
- India
- Myanmar
- Nepal
- Pakistan

## 6. Effects of Changing Groundwater Levels on Himalayas

### Why in News?

Researchers from the **Indian Institute of Geomagnetism (IIG)** have found that the Himalayan range subsides and moves up depending on the seasonal changes in groundwater, apart from the normal and common reasons.

- IIG is an autonomous institute under the Department of Science & Technology (DST).
- It is the **first time that the rising Himalayas has been looked at** from a hydrological standpoint.

### Major Findings

- The **Global Positioning System (GPS)** and **Gravity Recovery And Climate Experiment (GRACE)** data were used to quantify the variations of hydrologic mass.
  - The GRACE satellites were **launched by the US in 2002**.
  - **Aim:** To monitor changes in water and snow stores on the continents, enabling the researchers to study terrestrial hydrology.
- In the Himalaya, seasonal water from glaciers, as well as monsoon precipitation, plays a key role in the deformation of the crust and the seismicity associated with it.
  - Water acts as a lubricating agent, and hence when there is water in the dry season, the rate of slip of the fault in this region is reduced.
  - The subsidence rate is associated with groundwater consumption.
- The combined GPS and GRACE data suggest a **12% reduction in the rate of the subsurface slip**.
  - Subsurface slip refers to how fast the fault is slipping relative to the foot and hanging wall.
- The slip occurs at the **Main Himalayan Thrust (MHT)**, due to hydrological variations and human activities, over which there is the periodic release of accumulated strain.
  - The Indian plate under thrusts the Eurasian plate along a northerly dipping detachment surface known as Main Himalayan Thrust (MHT)
  - It separates the downgoing Indian plate from the overriding Himalayan wedge.