Vultures at Risk in Protected Areas

For Prelims: Wildlife (Protection) Act, 1972, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), International Union for Conservation of Nature (IUCN), Pesticide Poisoning

For Mains: Status and reasons behind the decline of the Vulture Population, Government initiatives to tackle the issue of the declining Vulture Population, India's Collaboration With Global Wildlife Conservation Efforts.

Source: DTE

Why in News?

Recent studies have found that **even** vultures **in protected areas are not safe** from toxic drugs like **Diclofenac**. Scientists investigated the feeding habits of vultures in India by analysing the DNA in vulture faecal samples from vulture nests and roosts across six states between 2018 and 2022.

- Vultures are known for their incredible ability to cover large distances while searching for food. These vast foraging territories may even expose them to diclofenac from neighbouring countries where the drug might still be in use.

What are the Key Facts About the Vultures Species in India?

- **About:**
  - It is **one of the 22 species** of large scavenger birds that live predominantly in the **tropics and subtropics.**
  - They act an important function as nature's garbage collectors and help to keep the environment clean of waste.
    - They also play a valuable role in keeping **wildlife** diseases in check.
  - **India is home to 9 species of Vulture** namely the Oriental white-backed, Long-billed, Slender-billed, Himalayan, Red-headed, Egyptian, Bearded, Cinereous, and the Eurasian Griffon.
- **Decline in Population:**
  - A **significant decline** in vulture populations has been observed in South Asian nations, **particularly India, Pakistan, and Nepal.**
  - This decline is primarily attributed to the **widespread use of** diclofenac, a veterinary drug, during the late 1990s and early 2000s.
  - This resulted in a **population decline exceeding 97%** in some regions, creating a consequential ecological crisis.
- **Role of Vultures in Ecosystem:**
  - **Decomposition and Nutrient Cycling:**
    - Vultures efficiently consume carrion (dead animals), **preventing carcasses from accumulating and rotting.**
    - This **helps to decompose organic matter** and return nutrients back into the soil,

which benefits plant growth and the overall health of the ecosystem.

- **Disease Prevention:**
    - Vultures have **incredibly strong stomachs with very acidic digestive juices.** This powerful acid **can kill bacteria and viruses** that can cause diseases like anthrax, rabies, and botulism, thus, acting as **true “dead-end” for pathogens.**
- **Indicator Species:**
    - Vultures are **sensitive to changes** in their environment. A decline in vulture populations can be **an indicator of a wider ecological problem,** such as pollution or a shortage of food sources.

Sr. No.	Name of the Vulture Species	IUCN status	Pictorial Representation
1.	Oriental White-backed Vulture (Gyps Bengalensis)	**Critically Endangered**	
2.	Slender-billed Vulture (Gyps Tenuirostris)	**Critically Endangered**	
3.	Long-billed Vulture (Gyps Indicus)	**Critically Endangered**	
4.	Egyptian Vulture (Neophron Percnopterus)	**Endangered**	
5.	Red-Headed Vulture (Sarcogyps Calvus)	**Critically Endangered**	
6.	Indian Griffon Vulture (Gyps Fulvus)	**Least Concerned**	
7.	Himalayan Griffon (Gyps Himalayensis)	**Near Threatened**	
8.	Cinereous Vulture (Aegypius Monachus)	**Near Threatened**	
9.	Bearded Vulture or Lammergeier (Gypaetus Barbatus)	**Near Threatened**	

What are the Reasons Behind the Decline in Vulture Populations?

- **Drug Poisoning:**
  - The widespread use of veterinary drugs like **diclofenac, ketoprofen, and aceclofenac** in the **late 20th century** has had devastating consequences for vulture populations.
  - These drugs, commonly **used to treat pain and inflammation in livestock**, are **toxic to** vultures when they feed on carcasses of treated animals.
    - **Diclofenac** in particular **causes fatal kidney failure** in vultures, and similar effects have been documented with ketoprofen and aceclofenac.
- **Secondary Poisoning:**
  - Vultures are scavengers, often consuming carcasses contaminated with **pesticides or other toxins**
    - Vultures feeding on carcasses of animals hunted **with lead ammunition** can suffer fatal **lead poisoning.**
  - This "secondary poisoning" poses a significant threat, further declining their populations.
- **Habitat Loss:**
  - **Urbanisation,** deforestation**, and agricultural expansion** have led to habitat loss, destroying vulture nesting sites, roosting areas, and food sources. The lack of suitable habitat hinders their survival.
- **Collisions with Infrastructure:**
  - Vultures are vulnerable to collisions with power lines, wind turbines, and other man-made structures, leading to injuries or fatalities and contributing to population decline.
- **Poaching and Hunting:**
  - In some areas, vultures are **targeted due to cultural beliefs** or **illegal wildlife trade**, adding to their struggle to survive.
- **Disease Outbreaks:**
  - Diseases like **avian pox and avian flu** can also have a detrimental impact on vulture populations, leading to further decline.

What are the Vulture Conservation Efforts Taken by India?

- **Addressing the Drug Threat:**
  - **Ban on Diclofenac:** Recognising the devastating impact of **diclofenac**, India **banned its veterinary use in 2006.**
    - This was a critical step in protecting vultures from kidney failure caused by ingesting carcasses of treated livestock.
  - The **Ministry for Environment, Forests and Climate Change** launched a **Vulture Action Plan 2020-25** for the conservation of vultures in the country.
    - It will **ensure minimum use** of Diclofenac and **prevent the poisoning** of the principal food of vultures, the cattle carcasses.
  - **Expansion of the Ban**: In **August 2023**, India further **banned the use of ketoprofen and aceclofenac for veterinary purposes**, acknowledging their potential threat to vultures.
- **Captive Breeding and Reintroduction:**
  - **Vulture Conservation Breeding Centres (VCBCs):** India established a network of VCBCs, the **first being set up in Pinjore, Haryana in 2001.**
    - These centres **focus on the captive breeding of endangered vulture species,** providing a safe environment to raise healthy populations for reintroduction into the wild.
  - Currently, there are **nine** Vulture Conservation and Breeding Centres (VCBC) **in India,** of which three are directly administered by the **Bombay Natural History Society (BNHS).**
- **Vulture Restaurant:**
  - In a proactive effort to conserve the declining vulture population in **Jharkhand**, a **'Vulture Restaurant'** has been established in **Koderma district**. The initiative aims to address the adverse impact of livestock drugs, particularly diclofenac, on vultures.
- **Other Vulture Conservation Initiatives:**
  - Vulture species are conserved under **the Integrated Development of Wildlife Habitats**

(IDWH) 'Species Recovery Programme'.
    - The **Vulture Safe Zone programme** is being implemented at **eight different places in the country** where there were extant populations of vultures, including two in Uttar Pradesh.
    - **Bearded, Long-billed, Slender-billed, and Oriental white-backed** are protected in **Schedule 1** of the **Wildlife Protection Act 1972**. Rest are protected under 'Schedule IV'.
- **International Collaboration:**
    - **SAVE (Saving Asia's Vultures from Extinction):** The **consortium of like-minded, regional and international organizations,** created to oversee and co-ordinate conservation, campaigning, and fundraising activities to help the plight of South Asia's vultures.

Case Study on Bald Eagle of US:

- The **American bald eagle** is a powerful symbol of resilience.
- Its population once declined significantly due to the **devastating effects of**
- **Dichlorodiphenyltrichloroethane (DDT)**, a powerful insecticide that **disrupted their reproduction.**
    - DDT resulted in female eagles laying **extremely thin-shelled eggs**, leading to **nesting failures.**
- In order to tackle the issue, a **nationwide ban on DDT for agricultural use** was implemented in 1972. This crucial step, along with the passage of the **Endangered Species Act in 1973,** provided much-needed protection for the eagles.
- **Hunting restrictions**, combined with **habitat preservation around nesting sites** and even **breeding programs**, allowed the bald eagle population to steadily recover.
- According to the US officials, bald eagle **numbers have quadrupled since 2009.** This success story culminated in the eagle's well-deserved delisting from the endangered species list in 2007.

Way Forward

- There is a need for **regulating harmful veterinary drugs (like diclofenac)** and promoting safer alternatives. Also, promoting **wider bans on similar drugs like nimesulide is crucial.**
- Education on **proper carcass disposal** & establishment of vulture feeding centers with safe food availability is needed to ensure vulture protection.
- There should be **proper identification & protection of nesting or roosting sites** along with the creation of corridors between feeding and nesting areas.
- There is a need for continuous monitoring and vigilance to ensure the complete elimination of diclofenac use in veterinary practice.
- The **success of vulture conservation hinges on a multi-pronged approach**, and India's ongoing efforts offer a model for other countries facing similar challenges.

Drishti Mains Question:

Q. Discuss the status and reasons behind the decline of the Vulture Population, Also, mention the government initiatives to tackle the declining Vulture Population.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. Vultures which used to be very common in Indian countryside some years ago are rarely seen nowadays. This is attributed to (2012)

(a) the destruction of their nesting sites by new invasive species

(b) a drug used by cattle owners for treating their diseased cattle

(c) scarcity of food available to them

(d) a widespread, persistent and fatal disease among them.

Ans: (b)