

Social Costs of Vulture Decline

Why in news?

Recent study reveals that there is a strong link between Vulture decline in India and its impact on human health crisis.

What is the status and role of vultures in India?

- Distribution It is <u>now extinct in South East Asia</u> with current populations existing <u>mostly in central and peninsular India</u>, south of the Gangetic plains.
- It is also found in southwest Pakistan, Bangladesh and Nepal.
- **Types** There are <u>*nine species*</u> of vultures, <u>*five belong to the genus Gyps*</u> and the rest <u>*four are monotypic*</u>.
 - Oriental White-backed Vulture G.bengalensis
 - $\circ\,$ The Long-billed Vulture $\,$ G.indicus
 - Slender-billed Vulture G.tenuirostris
 - $\circ\,$ The Himalayan Vulture $\,$ G.himalayensis
 - $\circ\,$ The Eurasian Griffon $\,$ G.fulvus
 - $\circ\,$ Egyptian Vulture Neophron percnopterus
 - $\circ\,$ Red-headed Vulture Sarcogyps calvus
 - Cinereous Vulture Aegypius monachus
 - Bearded Vulture (Lammergeier) Gypaetus barbatus
- **Role in Ecosystem** They feed on carrion, the remains of dead animals, and act as the 'rubbish collectors' of the natural world.
- It help eliminating potentially harmful bacteria from the environment, potentially limiting the spread of diseases such as anthrax and rabies.
- **Role in culture** The <u>Dakhma or 'Towers of Silence'</u> is a unique and environmentally conscientious method of laying the dead to rest practised by the Parsi community.
- The *vultures* performs the pivotal role of stripping away the flesh from the bones through their scavenging process.

Why vulture population is declining in India?

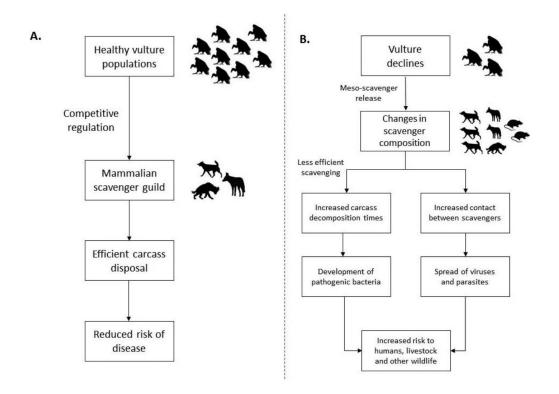
- Decline In the mid-1990s, India's vulture population reached near extinction
 - White-rumped Vulture, Indian Vulture, and Red-headed Vulture declined by 98%, 95%, and 91% respectively.
- India's remaining vulture populations are largely confined to protected areas and feed primarily on wildlife.
- **Veterinary drugs** It is primarily due to the widespread use of diclofenac in livestocks.
- Vultures consuming the carcasses of treated livestock suffered fatal kidney failure.

Diclofenac, a non-steroidal anti-inflammatory drug (NSAID) used to treat sick cattle.

- Alternatives to diclofenac such as aceclofenac, ketoprofen, and nimesulide also affected vultures.
- **Usage of NSAIDs** Nonsteroidal anti-inflammatory drugs are the most prescribed medications for treating conditions such as arthritis.
- Diclofenac and aceclofenac, continue to be produced for human use.
- Loss of Habitat It is due to *urbanization, quarrying and mining*.
- **Dwindling availability of food** Carcasses increasingly being *buried and burned* and also due to *competition from feral dogs* continue to pose risks.
- **Poisoning** Deliberate *poisoning of carcasses*, intended to kill dogs and other carnivores, also kills vultures.

What are social and economic impacts of decline in vulture population?

- Dramatic decline over vulture population over the past two decades has had unforeseen consequences for both wildlife and human health.
- **Sanitation crisis** Rotting carcasses left unattended, potentially contaminates and pollutes soil, air and water sources.
- It allows for increased feeding and breeding of stray dogs.
- **Proliferation of harmful microbes** The absence of vultures allowed bacteria and pathogens to proliferate.
- **Disease in humans** Growth of harmful microbes led to a surge in human diseases and deaths.
 - Diseases such as *rabies got exacerbated* by the rise in stray dog populations.
- Treatment *increases the health expenditure* of individuals and the government.
- **Deaths in humans** 4% increase in death rates in areas where vultures once thrived and now absent.
 - It caused approximately <u>100,000 additional human deaths</u> annually between 2000 and 2005.
- Economic Loss The economic impact of these additional deaths is estimated at <u>over</u> <u>\$69 billion per year in mortality damages</u>.



- **Impact on tanning industry** India's tanning industry once relied on quick removal of carrion by vultures.
- In their absence, shifting to burying or burning cattle <u>reduced the supply of cattle skin</u> for leather manufacturing.
- **Cultural Impact** It *affects the tradition of Dhakma of the Parsi* whereby the burial rituals require vultures to consume the body.

Conservation measures by India

• Asia's first <u>vulture re-introduction program</u> in 2016 by Jatayu Conservation Breeding Centre, Pinjore.

• <u>Vulture Action Plan 2020-25</u> by Union Ministry of Environment, Forest and Climate change.

• SAVE (*Saving Asia's Vultures from Extinction*) program by Consortium of regional and international organizations.

• Diclofenac is banned in veterinary medicine since 2008 while Aceclofenac and ketoprofen were banned for animal us in 2023.

What lies ahead?

- Creating awareness among people about the importance of vulture.
- *Adopting One Health approach* for holistic coverage of human, animal and environmental health.
- Preventing misuse of veterinary & NSAIDs by ensuring their sale only on prescription.
- Scientific manner of disposal of livestock carcasses animals that died during treatment.
- Finding nontoxic alternatives for animal steroids.
- In- Situ conservation of vulture for the captive breeding.
- Continued action is necessary to ensure the survival and recovery of these vital scavengers.

References

- 1. Indian Express | Vulture decline, a human health crisis
- 2. India Today | Declining vulture population
- 3. <u>BFI.UChicago.EDU</u> Social Costs of Keystone Species Collapse

