Threats, and impacts of vanishing Birds of prey-_their Conservation strategies

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Abstract: A lot of ecological, economic, and cultural services are provided by Vultures which are most successful scavengers.. Vultures live scavenging life and are obligate scavengers with unique adaptation. In this paper, we reviewed threats, and impacts of the decline of Birds of prey with particular reference to Kota Rajasthan. Vultures are medium to large-sized scavenging birds that primarily feed on carrions. , They deliver an array of services such as ecological, economic and cultural. Many harmful diseases like brucellosis, rabies, anthrax, plague, tuberculosis, etc. are prevented by Vultures as they feed on rotten carcasses .They are excellent indicators of biological status of environment in a particular area In the last two decades, drastic reduction in the numbers of vulture populations have been observed. A non-steroidal anti-inflammatory drug named diclofenacin is the main culprit for such decline. However, other factors such as food scarcity, habitat loss are also recognized for decline in vulture population. Less vulture population has resulted in serious threats to wildlife, livestock, and human health.

Keywords: Distribution, habitat preferences, threats, decline, vultures.

INTRODUCTION

Vultures may not be the prettiest of birds and they often reviled for their looks, but they do the dirty work cleaning up after death, helping to keep the ecosystem healthy and prevent the spread of diseases .Chambal River Valley is a good habitat for vultures because of the availability of water and food. However, the vulture population in the Chambal valley faces threats from predators like dogs(Prakash, V. 1999;2000a,2000b,2001). Conservation and monitoring of vultures, setting up rescue centers, and captive breeding programs is the need of hour.

Chambal Valley has four resident vulture species — the King vulture, Long Billed vultures, White Backed vultures and Egyptian vultures along with three migratory species.

The long-billed and white-backed vultures come under the critically endangered category of Wildlife Protection Act (WPA) Act and The International Union for Conservation of Nature (IUCN).There are around 30 King vultures with a dozen nests on trees, 30 pairs of White Backed vultures and 600 Egyptian vultures (the least threatened species) in Kota.

MATERIALS & METHODS

Field Survey:

Field survey was carried out on Kota Baran Road route. This route connects Kota and Baran district. Roosting, nesting and breeding activities in the colonies, were seen along roadside over small Acacia leucophloea trees. Part of the area was covered through vehicles and final location points on foot.

Equipment and Gadgets Used:

• Digital still camera (with optical zoom)
• Binoculars (8x40 DPSI)
• Checklist for recording observation and "The book of Indian Birds" written by Dr. Salim Ali (BNHS).

Indian vulture

Vultures are found in various parts of India but they are native to Pakistan, and Nepal as well. They are usually found in open habitats around villages, cities, near cultivated areas and along roadside feeding on carcasses. They are muscular with a light yellow bill, pale eye rings. They have black neck with a white neck-ruff. They have brown feathers on back and upper wings that fade to cream on the underside. The thighs are also feathered . The youngones have pinkish head and neck with cream striped undersides.

Habitat

Indian vultures are commonly seen near human habitation in cities, towns, and villages. They are found in temperate climates, usually in plains but also in steep areas. Gyps bengalensis prefers open areas and fields with a few scattered trees. Indian vultures eat largely on the ground, but they also roost and nest in trees and cliffs, and they spend a lot of time soaring on wind currents in search of carrion. The average height of a nest is 2 to 18 meters above the ground

Table 1 list of vulture species recorded on Kota -Baran route site 1 and site2

Common name and Scientific name	Number of Vultures recorded in site 1	Number of Vultures recorded in site 2
Long-billed Vulture (Gyps Indicus)	18	20
White-backed Vulture (Gyps Bengalensis)	05	01
Egyptian Vulture (Neophron Percnopterus)	01	01

Statistical analysis:-
Shannon–Wiener diversity index was done which estimates species diversity. The index takes into account the number of species living in a habitat (richness) and their relative abundance (evenness).

OBSERVATIONS AND RESULT

Shannon Weiner diversity index of site1 is 0.675,Evenness = 0.614
Richness (number of species) = 3
Total number of individuals = 24
Average population size = 8
And for site 2
Shannon diversity index = 0.368
Evenness = 0.335
Richness (number of species) = 3
Total number of individuals = 22
Average population size = 7.33

RESULTS AND CONCLUSION

On comparing both sites it was found that site1 has higher species diversity index than site2.A variety of explanations and hypotheses like reduction in food availability, poisoning, habitat loss, pesticide intoxication, calcium deficiency, infectious disease or a viral disease have been proposed. The clear cause of mortality remains unidentified but is suspected to be an infectious disease. (Patidar, T. and Shrivastava, S. 2023). Recently diclofenac residues have been identified as a cause for declining gyps vulture population in South Asia. (Cunningham, A.A.;2000,2001; Reinde, M. 2019) threats were observed to the population of vultures

1.Electrocution: - Dead vulture was seen by local people at electric pole, near thedumping ground.
2.Feral dogs: Attack by street dogs wasobserved by the local people at dumpingsite during the feeding(Rasmussen, P.C. and Parry, S.J. 2001).
3.Veterinary drug: Use of veterinary drug to treat livestock,and this drug causing a threat to vulturesince which l feed on livestock(Reinde, M. September 3, 2019).
4.Habitat loss: Due to humanencroachment, vultures lost many of theroosting sites. Rao, M. M. (2020).
5.Tourism: It is creating disturbance to the population of vulture, due to which they are forced to leave their roosting place and shift to some other habitat
6.Lack of dumping places: At some sites, dumping places are far away due to which vultures cannot reach to the carcass timely and when they reach by the time carcass was already finned by feral dogs and other birds (Watson R.;2000).

CONCLUSION

As a result, it is obvious and critical to identify and comprehend vulture risks, habitat preferences, and habitat consumption prior to the implementation of any management plan to conserve these birds. The reduction in vultures is attributed to both natural environmental changes and human-caused concerns, according to the study. The vultures have also been harmed by the sanitary handling of carcasses in order to avoid negative outcomes. Given the continued reduction in vulture populations, the research suggests that vultures be monitored on a regular basis across India to assess population trends and identify potential dangers or cause variables so that immediate and accurate conservative action can be taken.

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