



1B-OP-08

DYNAMICS OF SCAVENGING ECOSYSTEM SERVICE ROLE IN THE ABSENCE OF VULTURES IN THE TERAI REGION OF UTTARAKHAND AND ITS IMPLICATIONS

Khima Nand Balodi^{1,2*} and Choudhury, B.C.³

¹*School of Environment & Natural Resources, Doon University*

²*Himalayan Institute for Sustainable Environment & Research Society*

³*Wildlife Institute of India, 7, Lane 7, D-Block, AmanVihar, Sahasrardhara Road, Dehradun, Uttarakhand- 248001;*

**Email: knbalodidoon@gmail.com*

The decline in vulture population in the Indian sub-continent has resulted in the loss of critically important ecosystem services which has widespread consequences. The present study was conducted during August 2014 to June 2018, to document the implications of population decline of vultures in six districts of Terai region of Uttarakhand. A drastic decline of nine species of vultures that used to occur in the region was documented. A shift from vultures to feral dogs, crows, kites and egrets filling the scavenging niche was also observed. Only during the winter months, seven species of vultures and steppe eagles migrating in to the Terai region marginally fulfilled the scavenging role of dead livestock carcasses along with the other scavenging agents earlier mentioned. In the post vulture decline scenario, the district administrations are using skinners and traditional livestock carcass removers for removal and dumping of livestock carcasses in predetermined areas to keep the environment free from decaying and decomposing livestock carcasses. In the 31,400 sq km of the study area around 350 livestock carcass dumping sites were estimated, of which around 58% (200) were in rural areas and 42% (150) in the urban landscape. Thirty five dumping sites (20 in rural and 15 in urban) out of the 350, were monitored opportunistically ranging from an interval of one week to one month. In addition, the skinners and carcass dumping agents were interviewed regularly to supplement the field data. On an average the rural dumping sites received 0.87 carcasses/day, whereas the urban dumping sites received 1.25 carcass/day, which makes it approximately 1.34 lakh livestock carcasses per years disposed of in the entire study area. On an analysis, it was observed that during the months of May to November, the feral dogs constituted to be the major scavenger followed by Egyptian vulture, crows, kites and egrets in that order. During the months of December to April, Himalayan vultures, Egyptian vulture, Eurasian vultures, Steppe Eagle, Cinereous vulture migrating in to the study area in small numbers also contributed to scavenging. Occasionally, White-rumped vulture and Red-headed vulture were observed in some of the dumping sites. The dominant role of scavenging dynamics has now shifted from vultures to feral dogs in the 35 monitored carcass dumping sites. The pack sizes of feral dogs were observed to be ranging from 30-35 to 90-100 in number. In urban dumping sites, black kites were documented which are more catholic in their dietary choice, while in rural areas the additional scavengers includes jackal, wild boars and monitor lizard. This changing dynamics of scavenging role has resulted in an unprecedented increase in the feral dogs. While livestock carcasses are not available the feral dogs were reported preying on micro-livestock in the rural areas as also on the wild herbivores and other wild animals close to the forested landscape of the study area. It is undertrained whether the new scavenger guilds including the feral dogs are contributing to scavenging ecosystem service role or transmitting disease and posing threats to human life.

Key words: Ecosystem services, Livestock carcass dumping sites, Scavenger, Skinner, Vultures