

## Short Communication

# Vulture Safe Zone: a landscape level approach to save the threatened vultures in Nepal

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Vultures were very common a couple of decades ago across its range in the Indian subcontinent. Now they are in grave danger of extinction in the region. Research and monitoring of vulture species in lowland areas of Nepal has revealed a decline of 91% for white-rumped vulture *Gyps bengalensis* and 96% for slender-billed vulture *Gyps tenuirostris* between 1995 and 2011 (Chaudhary et al. 2012). Due to similar declines in South Asian region in 1990s, four out of nine species of vultures found in Nepal, white-rumped vulture, long-billed vulture *Gyps indicus*, slender-billed vulture and red-headed vulture *Sarcogyps calvus* have been listed under the highest threat category of IUCN Red List as Critically Endangered (Paudel et al. 2016). The cause behind such steep decline has been attributed to the veterinary drug diclofenac which is widely used to treat livestock in Asia. Vultures are highly susceptible to diclofenac which causes kidney failure. They are exposed to it when they feed on carcasses of livestock that have been treated with this drug.

In order to stop the decline of vultures in Nepal, both in-situ and ex-situ conservation of these birds has been practiced. The Government of Nepal banned the production and use of veterinary diclofenac in 2006. In 2009 the Vulture Conservation Action Plan for Nepal (2009-13) was prepared. At present the revised Vulture Conservation Action Plan for Nepal (2015-19) is being implemented.

Nepal initiated a pioneer idea in the world of working with local communities to establish a Vulture Safe Zone (VSZ) in 2009 in Gaidatal Village Development Committee (VDC), Rupandehi district. A VSZ is an area surrounding one or more wild vulture nesting colonies, large enough to encompass the mean foraging range (>30,000 km<sup>2</sup>) completely free from diclofenac use. This VSZ concept originally emerged from some brilliant conservation efforts to create diclofenac-free areas using a district by district, province by province approach across the country.

The effort to create a scientifically validated VSZ is currently underway. Bird Conservation Nepal (BCN) in collaboration with government institutions and different conservation organizations, works with communities within potential VSZs to bring an end to diclofenac and other threats to vultures prior to declaring the area as VSZ. Such areas are known as provisional VSZs (pVSZs). In doing

so, BCN engages government agencies, non-government organizations and community groups to further disseminate vulture conservation messages and take actions to protect vultures. Vulture team from BCN regularly communicates with the community, monitors vulture populations and the prevalence of diclofenac, and investigates additional threats to vultures.

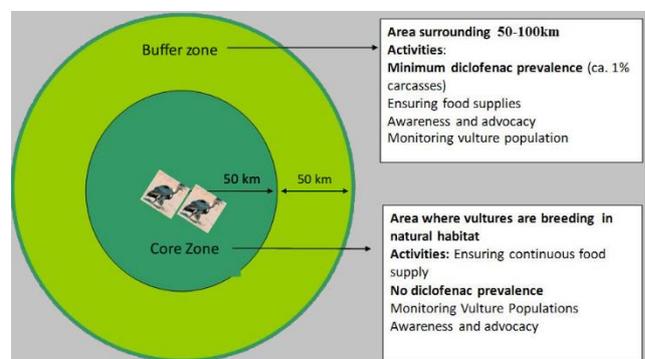


FIG. 1: Vulture Safe Zone concept

At present there are three pVSZs in Nepal centered around Pithauli (Nawalparasi), Bijauri (Dang) and Khutiya (Kailali) VSFS (FIG. 1). Approximately 30 nesting colonies of vultures (largely white-rumped vulture, and other resident breeders) are protected within these pVSZs.

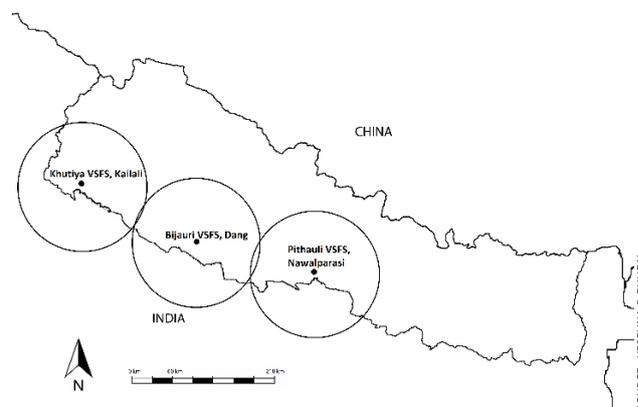
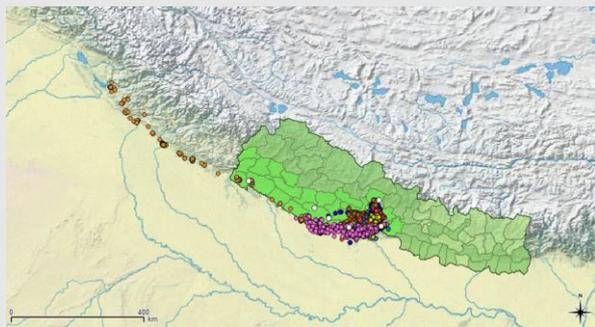


FIG. 2: Map showing the three provisional Vulture Safe Zones (pVSZs), indicated by the circular regions.

Within these three pVSZs, six community-run Vulture Safe Feeding Sites (VSFSs), popularly called Jatayu restaurants have been established. VSFS take in old and ailing cattle from local farmers and care for these animals

without the use of vulture-toxic Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), until their natural death and then provide their carcasses to vultures. Only animals that die after ten days in the care of the community are provided to ensure that the vultures are fed diclofenac free meat. The communities sell the hides, bones and manure of the animal for income in return for caring for these cattle and vultures. These communities are further supported with other income generating activities like nature guide training, homestay training, vegetable farming, candle and incense making training, equipment support for milk collection centre, bee keeping, and goat farming. VSFS provides nature enthusiasts a rare opportunity to see significant numbers of multiple threatened species, the thrilling spectacle of vultures feeding, and conservation messages. This participatory conservation approach creates a successful VSZ.

*To validate VSZ, telemetry tagging on captive and wild vultures has begun in Nepal. Seventeen free-ranging white-rumped vultures were fitted with satellite transmitters in Pithauli, Nawalparasi district, Nepal and released, which are now providing valuable data on their movements and favourite locations.*



*On average, the tagged vultures flew over ~ 24000 sq.km area of ~15 districts of Nepal. One vulture was an exception, it visited Himachal Pradesh in India in January travelling through western Nepal and Uttarakhand and returned to the release site in February. It has started its journey again following the previous route to Himachal Pradesh and has gone further west to Jammu and Kashmir close to Pakistan's border, ~ 1100 km far from its release site.*

In 26 November 2010, Dang district was declared as the first Diclofenac Free District and till date 61 out of 75 districts are declared Diclofenac Free Zones (DFZs). The declaration of DFZ is government certified, in line with Vulture Conservation Action Plan for Nepal and an important step towards creating VSZs.

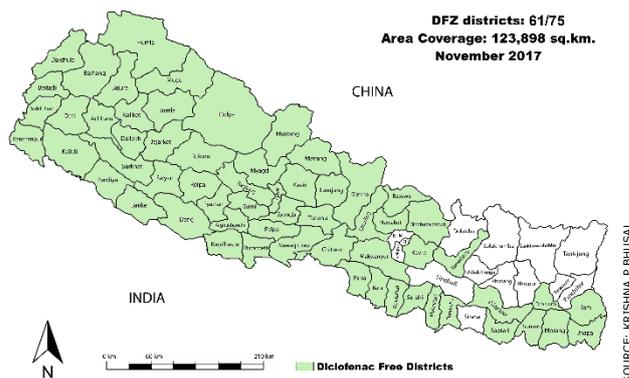


FIG. 3: 61 out of 75 districts of Nepal have been declared as Diclofenac Free District

Continuous conservation actions in Nepal have been successful in lowering the misuse of diclofenac in Nepal. Surveys have shown that the population of white-rumped vulture has remained stable in the last couple of years (BCN 2017). Following this lead, pVSZs are now being implemented in Bangladesh, India, and Pakistan. However, diclofenac and other potentially harmful NSAIDs (Nimesulide, Aceclofenac and Ketoprofen) are still being used in many districts including DFZs. Besides diclofenac and other veterinary drugs there are other threats to vultures in Nepal such as accidental poisoning, human persecution, electrocution, localised shortage of food due to alternative disposal mechanisms of carcasses, etc. These reasons collectively prevent vulture populations from returning to pre-decline numbers. VSZ is an innovative way to ensure that these threats are minimised, and favourable conditions been maintained for vulture population to flourish.

## References

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## Biosketch

KRISHNA PRASAD BHUSAL has been engaged in vulture research and conservation in Nepal for a decade and is currently managing the Vulture Conservation Program in Bird Conservation Nepal as Program Officer.