



## Research on vultures in the Faculty of Veterinary Science, University of Pretoria



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
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### Faculty of Veterinary Science

Fakulteit Veeartsenykunde  
Lefapha la Diseanse tša Bongakadiriwa

Vultures are endangered globally and Southern Africa is home to 8 old-world vulture species, all of which are endangered

- Numerous threats have been identified, including some non-steroidal anti-inflammatory drugs that are uniquely toxic to vultures when consumed in contaminated cattle carcasses
- Other concerns include malicious poisonings, exposure to leaded bullets, power line injuries and nutritional disorders from domestication of their diets.
- Current research is aimed at protecting the future of southern Africa's endangered vultures.

### Ongoing research a possible solution

In 2005 Prof Vinny Naidoo, Deputy Dean: Research and Postgraduate Studies in the Faculty of Veterinary Science at the University of Pretoria, and collaborators, initiated this research project on protecting vultures following the devastating effect of the non-steroidal anti-inflammatory drug (NSAID) diclofenac in cattle on the Indian subcontinent, which was responsible for the deaths of over 10 million vultures in a ten year period. Deaths in the vulture were characterised by severe kidney failure that followed approximately 48 hours after exposure to cattle carcasses that were treated with the drug shortly before death.

Extensive research demonstrated that meloxicam was a safe replacement for diclofenac, and the veterinary use of diclofenac was banned in India, Nepal and Pakistan in 2006 (and Bangladesh in 2010) in order to protect the remaining vultures. Vulture populations have stopped declining after a decrease in illegal diclofenac use, but these magnificent birds may now be pushed over the brink by an increase in legal aceclofenac use.

Several other NSAIDs of unknown toxicity to vultures have, unfortunately, since become available on the ban after the diclofenac, leading into further investigations on ketoprofen, carprofen, phenylbutazone and flunixin. In the most recent of these studies by Prof Naidoo's team in collaboration with partners from SAVE (Saving Asia's Vultures from Extinction) have shown that cattle rapidly metabolise drugs aceclofenac, into vulture-killing diclofenac with the same resultant effect as being directly treated with diclofenac. Although aceclofenac is not yet as popular as diclofenac, the Government of India's ban on veterinary diclofenac resulted in an increase in aceclofenac use due to the local pharmaceutical companies advocating the drug as a legal and harmless substitute for diclofenac.

In addition to the NSAID project, research is also being focused on applied anatomy of vultures, vulture nutrition, GPS-tracking of vulture mobility, lead intoxication, treatment of organophosphor poisonings, and applied genetic/genomics studies.

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