

Basic Course in Ornithology
Chris Bowden
Saving Asia's Vultures from Extinction (SAVE)

Lecture 36
Avian Conservation Case study 5

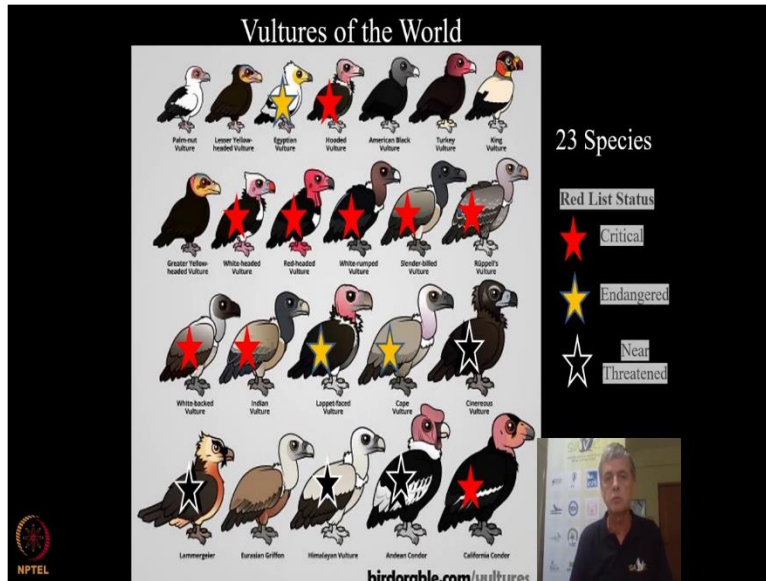
I am Chris Bowden, I work for the Royal Society for Protection of Birds (RSPB), and I am the SAVE program manager and the vulture specialist group co-chair. So, I have been working on vultures for almost 20 years now. Vultures of course are an unusual group of bird species which are obligate scavengers feeding only on dead carcasses.

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There are 23 species worldwide.

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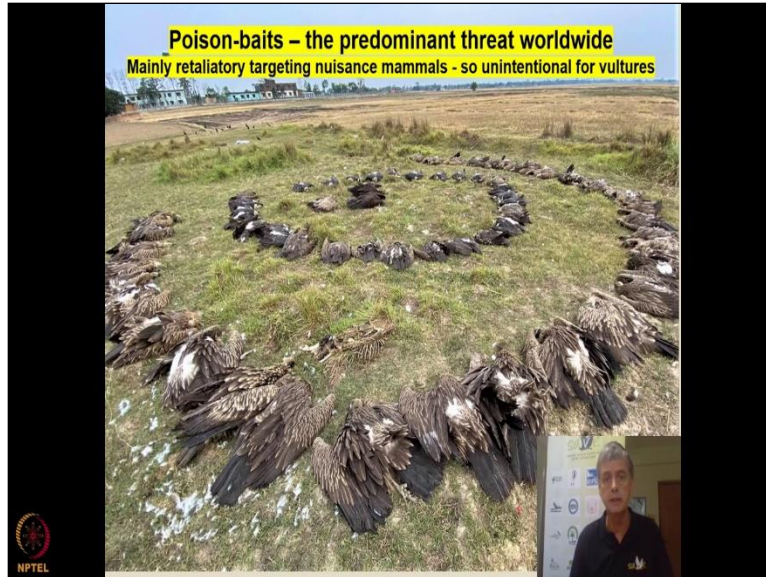
And they are almost well over half of them are now in the higher threat categories of IUCN red list. So, they are a group that is really in trouble old world and new world.

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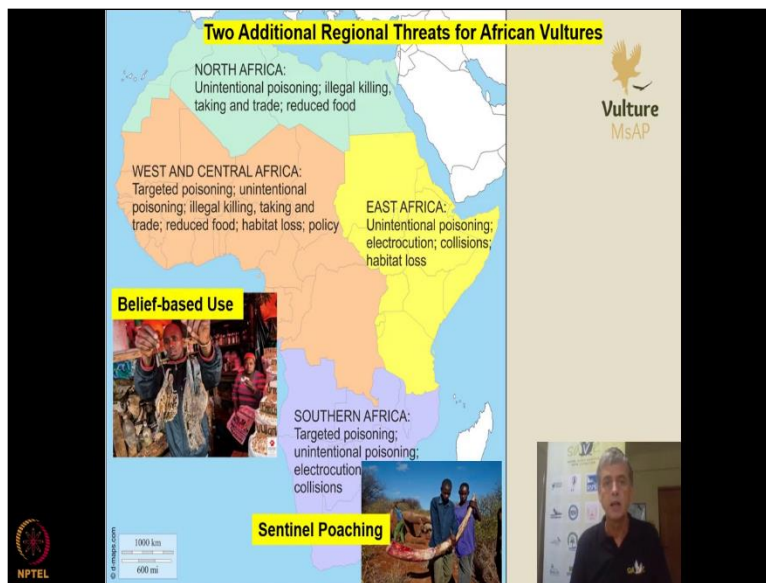
But and the threats to vultures and reasons why these declines have been ongoing and caused a lot of concern have been assessed by the conventional migratory species raptors MoU Multi-Species Action Plan. And in fact, the threats in different parts of the world are different and different priorities but the predominant threat throughout and that also includes the new world vultures is poison baits.

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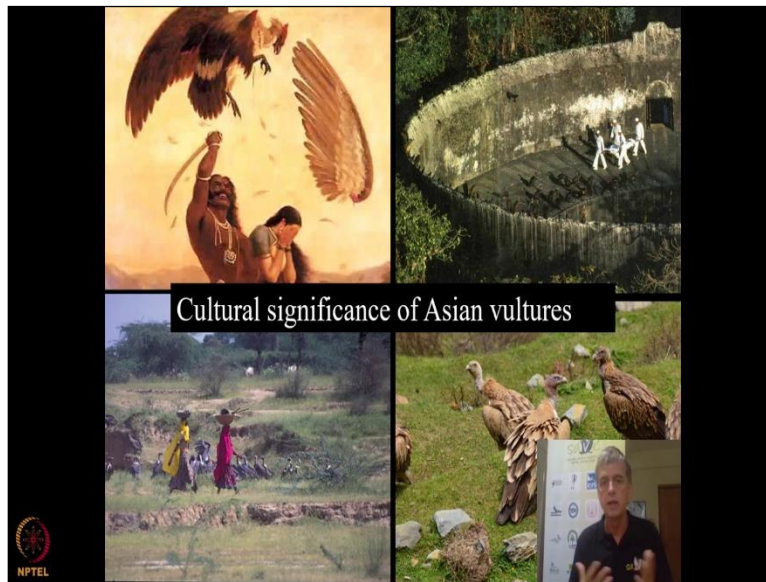
So, unintentional usually; but the threat of poisons targeting other species normally but inadvertently killing large numbers of vultures.

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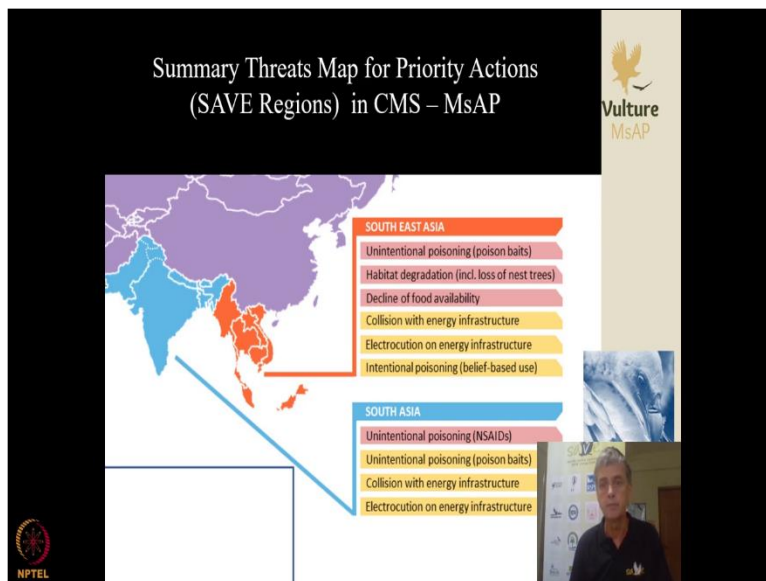
So, that is the top threat, if we look at a little bit more detail at threats in Africa for example on to vultures there we see that although poison base is indeed the overriding threat we have, but belief based use. So, people using vulture parts for various so-called medicinal use or other uses and that actually for Africa may well be the top threat of all. But there is also sentinel poaching because vultures alert the authorities to poaching events, the vultures end up getting targeted by the poachers themselves.

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So, in Africa it is one set of threats.

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In Asia where of course vultures have a lot of cultural and religious significance, there are different threats or different order of threats I should say. In fact, slightly more similar order of threats in southeast Asia. But in south Asia the diclofenac threat, the veterinary use of a painkiller has inadvertently been the primary reason for the most dramatic declines of all.

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And there we have the veterinary use of diclofenac.

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Safety of commonly used NSAIDs in veterinary practice in South Asia


Drug name	Threat / safety	Known effect
Meloxicam	Safe	Tested and shown to be safe for vultures (Swarup D. et al. 2007)
Tolfenamic acid	Safe	Recently tested and results show it is also safe (Chandramohan et al. submitted and endorsed 2021)
Carprofen	Toxic at high doses	Shown to be at toxic levels for cattle tissues around the injection site (Fourie et al. 2015)
Flunixin	Toxic	Shown to be toxic to Gyps vultures in Spain and Italy with dead wild birds showing goat & flunixin in tissues. No full safety trials.
Nimesulide	Confirmed toxic	Banned in many countries due to safety issues in humans and banned in India for under 12s. Fast becoming popular in India & Nepal. Confirmed cases of dead wild vultures with goat and nimesulide but no diclofenac (Nambirajin et al. 2021) and safety trials demonstrate toxicity (Calligan et al. in press 2021).
Aceclofenac	Confirmed toxic	Metabolises into diclofenac in cattle so equivalent effect to diclofenac (Galligan et al. 2016, Sharma 2012)
Ketoprofen	Confirmed toxic	Trials carried out on Gyps vultures showed toxicity at concentrations found in treated cattle in India (Naidoo et al. 2009).
Banned Bangladesh only		National ban in Bangladesh 2021.
Diclofenac	Confirmed toxic	Confirmed highly toxic in 2003 (Diabo et al. 2009 since 2006).
Banned India, Pakistan, Nepal, Bangladesh, Cambodia, Iran, Oman		

But we have now realized that other threat other drugs are becoming replacing diclofenac are not only the safe drugs but also other toxic drugs. So, still some issues with other drugs as well as diclofenac particularly for south Asia.

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Other Recognised Threats (Mainly unquantified)

- Reduced Food Availability
- Power Infrastructure:
 - Electrocuting Pylon design, Wires
 - Collision with wires
 - Collision with wind turbines
- Collision with vehicles (trains/cars)
- Destruction of nest trees (nest habitat)
- Hunting
- Human Disturbance



But there are other recognized threats in addition to the ones I have mentioned so, far reduced food availability is a very difficult threat to quantify but as undoubtedly a problem in some parts. Power infrastructure is a very widespread threat and one which clearly kills large numbers of vultures whether it is having population impacts is again hard to be certain in parts of Africa it seems pretty clear.

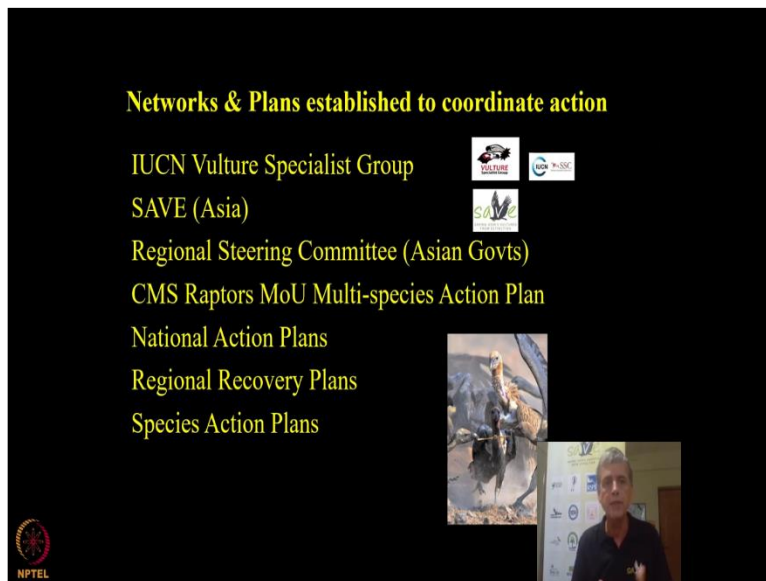
And for Egyptian vulture for example that is a very important threat. So, but other power infrastructure threats are collisions with wires, collisions with wind turbines. In Spain, one percent of Eurasian griffon vultures are killed by wind turbines. Collisions with vehicles; trains and cars certainly a localized problem in some areas, destruction of nest trees and nest habitat (nesting habitat) is clearly an important problem in some areas. Hunting human disturbance, so, that is the full list of the main mortality threats.

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But so, what does the reaction mean to to overcome or address all these threats? Now groups such as the saving Asia's vultures from extinction, consortium which is what I am most involved with has been established 24 partners working together to agree prioritize threats.

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But that is just well that is one and obviously predominant here in Asia, but we have got the IUCN vulture specialist group established around the same time in 2011. Regional steering committee of the inter-government committee for the Asian governments has been established co-chaired by IUCN Asia. The CMS (Conventional Migratory Species) raptors MoU has pulled together a multi-species action plan which I have referred to the threats earlier.

But there are national action plans, regional recovery plans including the save blueprint which is reviewed annually and other species related recovery plans.

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Poison response awareness & training



- Detailed response protocols produced, community net
- Other mitigation such as enhanced compensation sche
- Mortality databases developed for all regions... (for cla



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So, that is part of what is happened there are over a hundred actions listed in the multi-species action plan but of course as I mentioned, the poison baits being the predominant threat. This is a key one to address and has been addressed in a lot of detail and with a lot of effort particularly in Europe and very successfully in Europe vulture populations are doing relatively well.

But poison response protocols community networks and other mitigations and because of often poison baits are set against problem mammals you know I am trying to tackle that from a different direction and getting making sure that people instead of poisoning those mammals are properly compensated and various other things. But there is a lot of reactions to that, it is a particularly difficult problem to address. But mortality databases are being developed in all the regions including Asia.

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Legislation



Bangladesh National Ketoprofen Ban Declared February



To try and at least understand which threats are predominant and to make sure we do really understand exactly what level of threat poison base for example is in Asia. Legislation that banning these veterinary drugs diclofenac;

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Key progress from initial work: national bans

diclofenac

meloxicam

Vet diclofenac ban India 2006

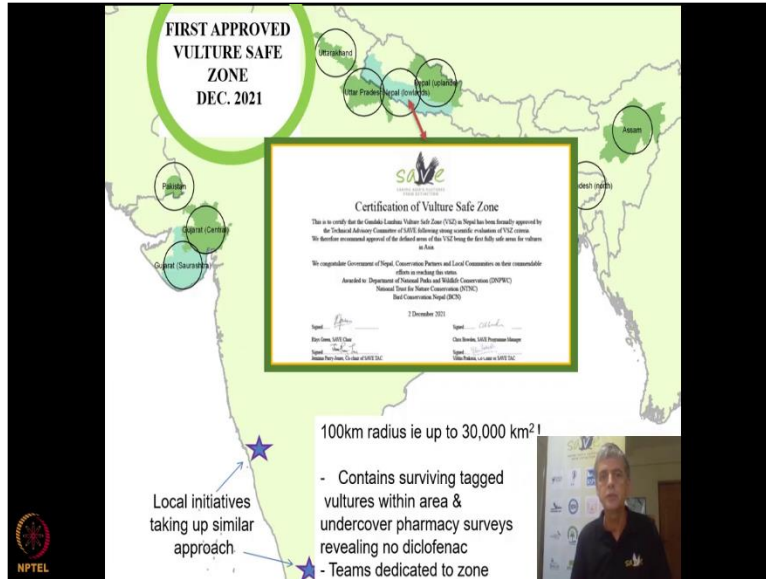
Human diclofenac vial size restriction to max 3ml in 2015 (Upheld 2018)

Vet diclofenac bans: Pakistan, Nepal 2006

- : Bangladesh 2010
- : Iran 2016
- : Cambodia 2019

And most recently ketoprofen in Bangladesh has been really important and very successful in probably preventing the total extinction of south Asian vultures the Indian and Pakistan.

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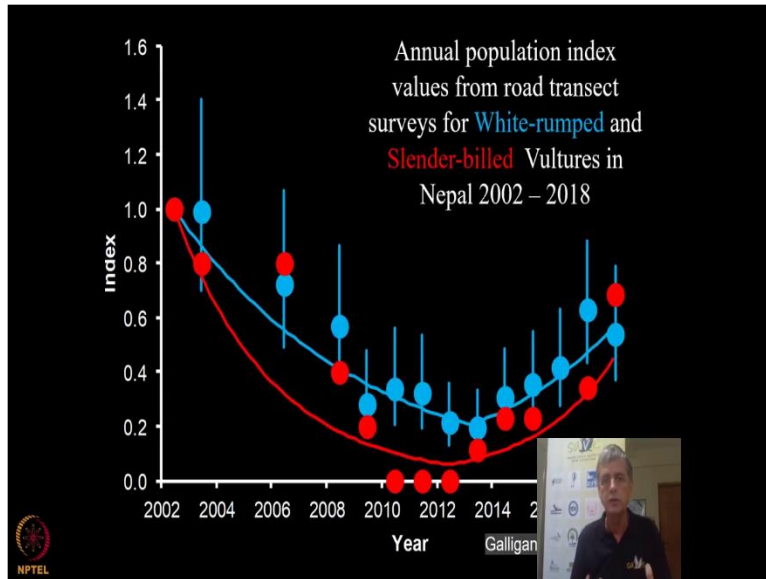
And Nepal ban back in 2006 really important but there are other ways of tackling this vulture safe zones being established there is a whole a more localized initiative. Awareness work and we have just had the first vulture safe zone certified as being safe in southern Nepal.

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There is breeding programs and releases and tracking of the birds that are released is another initiative.

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And this graph shows how these approaches and the vulture safe zone approach in Nepal has been really successful in the first Asian populations of vultures to start recovering unlike much of the area.

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So, you can get a lot more information from the SAVE website. But I hope that gives a quick overview of the predominant threats and the reactions for this protecting this very vulnerable group of obligate scavengers, thank you.