Report from the 3rd meeting of

Saving Asia's Vultures from Extinction

Alipurduar & Buxa Tiger Reserve, West Bengal, India

7-9 November 2013

Report compiled and edited by Chris Bowden, SAVE Programme Manager

December 2013

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Photo credits – Sachin Ranade, Soumya Chakraborty (BNHS), Chris Bowden (RSPB), Mandy West.

1. Updated SAVE priorities for vulture conservation in 2014:

- **An immediate ban of diclofenac manufactured for human medicine in vials or ampoules larger than 3ml**

- **An effective system of regulation of veterinary drugs, based upon safety-testing on vultures (protocol already agreed for India) initiated and underway for painkillers (NSAIDs) already in and entering veterinary practice**

- **Veterinary licenses to be withdrawn for two drugs – ketoprofen and aceclofenac - based on the good existing evidence that they are unsafe for vultures**

- **Major efforts urgently needed within South Asia to address the immediate and increasing gap in funding for vulture conservation which now jeopardises the programme**

- **Promotion and expansion of network and approach of 'Vulture Safe Zones' across South Asia**

- **Maintain and support the existing vulture conservation breeding programmes throughout South Asia**

- **Prepare for first soft releases of captive bred vultures into Vulture Safe Zones by 2016**

- **Link SAVE activities and meetings to closely support the 'Regional Steering Committee' in order to facilitate the urgent implementation of the 2012 Delhi Regional Agreement**

2. Meeting Programme

6th Nov Arrival of delegates at Alipurduar

7th Nov: (Day 1) Inauguration at Nature Interpretation Centre, Rajabhatkhawa

09.00 Transfer of delegates from Alipurduar to Rajabhatkhawa by minibus

10.00 Welcome by Dr. R. P. Saini, IFS, Field Director, Buxa Tiger Reserve
10.10 Welcome and Remarks by Dr. Pradeep Vyas, IFS, APCCF (Wildlife) West Bengal
10.20 Address: Dr. Amarinder Kaur, IFS, APCCF (Wildlife), Haryana
10.30 Keynote address Mr. Bahuguna, IFS, PCCF(Wildlife) & Chief Wildlife Warden (W Bengal)
10.45 Welcome and introduction to SAVE by Dr. Ian Newton, Chairman, SAVE
11.15 Vote of thanks by Vibhu Prakash, Head Vulture Conservation Breeding Prog, BNHS

11.30 **High Tea**

13.00 **Tour of VCBC** on-site including presentations by: Dr. R. P. Saini & Soumya Chakraborty

13.30 Transfer by bus to Alipurduar & lunch

15.30 Technical Session 1: Chairman: Mr. N. C. Bahuguna, IFS, CWW West Bengal

15.35 SAVE priorities and meeting outline, from TAC and FACC chairs of key topics, notably the proposed Blueprint for Asian Vulture Conservation : Chris Bowden and Rhys Green

16.15 Presentations of Vulture Safe Zone work:

1) Overview – Ananya Mukherjee
2) Assam VSZ – Sachin Ranade
3) Jharkhand VSZ – Satya Prakash
4) Nepal – Khadananda Paudel

1725 Concluding Remarks by the Chairman

19.30 Dinner and Drinks with the invited guests

Chairman Prof Ian Newton lights the lamp assisted by (left to right) Mr Bahuguna, Dr R P Saini, Dr Amarindar Kaur and Dr Pradeep Vyas.

8th Nov: (Day 2) At Dooars Hotel, Alipurduar

Chairman: Professor Ian Newton Rapporteur: Nikita Prakash

09.00 Country headline updates and flagging up of key topics to cover from:

India - Vibhu Prakash
Pakistan – Campbell Murn
Nepal – Chiranjibi Pokheral
Bangladesh – Monirul Khan
Cambodia – Daniel Willcox
Myanmar – Lay Win
Regional Steering Committee Activities – PR Sinha

10.45 Chairman: Jemima Parry-Jones
Drug Regulation, Safety testing & the prospect of meloxicam subsidies

13.30: Chairman: Ian Barber Rapporteur: Rinkita Gurav
VSZ monitoring – pharmacy surveys, cow carcass sampling & vulture tagging options,

15.15 Chairman: Ashok Bhagwat
Ecosystem services

15.45 Funding requirements

16.30 FACC & TAC Meeting: Chairman: Prof Rhys Green

[18.00 Nepal delegates internal meeting]

Participants and press attending the opening session on Day 1

9th Nov: (Day 3) At Dooars Hotel, Alipurduar

09.00 Chairman: Jemima Parry-Jones Rapporteur: Nikita Prakash
Regulating multidose human diclofenac vials
Including presentation of petition/signatures on multidose vials ban to BNHS by Percy Avari
Local vultures initiative in Maharashtra (Ramashish Joshi)

10.45 Chairman: Professor Ian Newton Rapporteur: Sachin Ranade
Concluding Remarks

12.15 Formal closure and welcome address by Honourable Minister in Charge, W Bengal

14.00 Field Visit (vulture satellite tag retrieval exercise - optional) – led by Toby Galligan

14.00 Closed SAVE Board meeting

Mr Hiten Barmen, Hon. Minister-in Charge Environment and Forests (W Bengal) formally closes 3rd SAVE meeting, accompanied by Mr Anil Adhikari, MLA Falakata, West Bengal

3. Meeting Participants

Prof Ian Newton FRS Chair	Sushila Nepali (Dir BCN) FACC & Board
Jemima Parry-Jones, TAC & Board	Chris Bowden (RSPB) Prog Manager FACC
Dr Tim Stowe (Dir International, RSPB) Board	Dr Asad Rahmani (Dir BNHS) FACC & Board
Campbell Murn (HCT-UK) TAC	Chiran Pokheral (NTNC) Board (rep) & FACC (rep)
Khadananda Paudel (BCN) TAC	Dr Anil Sharma (IVRI) FACC
Dr Toby Galligan (RSPB) TAC	Dr Devendra Swarup FACC
Prof Rhys Green (TAC Chair)	Dr AM Bhagwat (BNHS) FACC (rep)
Dr Monirul Khan TAC	BC Choudhury FACC
Dr Vibhu Prakash (BNHS) TAC	Dr. Sudesh Waghmare (Dep Park Dir -MP MOEF)
Daniel Willcox (BirdLife Cambodia)	Mr. Ramashish Joshi (SMN, Maharashtra)
Bed Khadka (DNPWC)	Dr. Tapan K. Dey (CF Wildlife & NC Bangladesh)
Dr Hem Sagar (ZSL)	Ashit Ranjan Paul (Dep CF Bangladesh)
Nikita Prakash (BNHS)	Arvind Mishra
Sachin Ranade (BNHS)	Dr Amarinder Kaur (APCCF Wildlife Haryana)
Ishana Thapa (BCN)	Meera Subramanian (Observer)
Percy Avari	Lay Win (BANCA – Myanmar)
Soumya Chakraborty (BNHS)	V.K.Sood, IFS, CCF WL
Rinkita Gurav (BNHS)	Soumita Ghatak, IFS, DFO WL-II
Satya Prakash	Mr Jakher, IFS, DFO WL-I
PR Sinha (IUCN)	Dr. Pradeep Vyas, IFS, APCCF (Wlife) W Bengal
Kaavya Varma (GIST)	Mr. Bahuguna, IFS, PCCF(Wlife) & CWW W Bengal
Dr Ananya Mukherjee (RSPB)	Dr. R. P. Saini, IFS, Field Director, Buxa Tiger Resk WB
Ian Barber (RSPB)	Bhaskar J V Divisional Forest Officer, East, Buxa Tiger Reserve, West Bengal
Anup Saha, IFS, Addl. PCCF NB	Apurba Sen, Divisional Forest Officer, West, Buxa Tiger Reserve, West Bengal
Mr. Hiten Barman- Minister-in-Charge, Environment & Forests, West Bengal	Mr Anil Adhikari, MLA Falakata, West Bengal

Apologies/unable to attend:

Juddha Gurung (NTNC), Ishtiaq Uddin Ahmed (IUCN Country Rep Bangladesh), Mr Bonal (CZA), Maheshwor Dhakal (DNPWC), Yam Malla (IUCN Nepal), Naresh Subedi (NTNC), Sarita Jnawali (NTNC), Ganga Jung Thapa (NTNC), Mohini Saini (IVRI), Jitendra Chaudhury (Minister Tripura), Bhau Katdare (SMN, Maharashtra), Mandar Kulkarni (BNHS), Rohan Shringarpure (BNHS), Yadvendradev Jhala (WII), BPS Parihar (Park Dir - Madhya Pradesh MOEF), Simon Mahood (WCS Cambodia), Nick Lindsay (ZSL), Nic Masters (ZSL), Michael Krause (RSPB), Chris Parish (TPF), Scott Perkin (IUCN Asia), Anand Chaudhary (USA/Nepal), Mark Taggart (UK).

4. Overview of 2013 reported updates

Progress:

- Diclofenac levels in cattle carcasses and pharmacies across India and Nepal continue the trend of decline
- Three companies have now voluntarily withdrawn multidose vials of human diclofenac in India and Nepal
- A major new partnership and funding for vulture actions has been initiated in Bangladesh
- Indian Veterinary Research Institute (IVRI) formally became a Member of SAVE, and WWF Pakistan formally became a Core Member.
- Reach of SAVE grows – six range countries including first attendance from Myanmar, and the best attended meeting so far with 50 delegates
- VSZ work is expanding through SAVE partnership and now being taken up outside the immediate SAVE partnership
- Conservation breeding programme continues to increase productivity at Indian centres with over 90 fledged vultures in total (3 species combined).
- Although no new evidence in 2013, wild populations are apparently stabilising albeit at dramatically reduced levels
- National Vulture Recovery Committees appointed in all four South Asian member countries through development of the Regional Steering Committee chaired by IUCN

But:

- No apparent progress on a regulatory ban of multidose human diclofenac vials,
- nor with preventing unsafe drugs ketoprofen and aceclofenac from entering the veterinary market
- Safety-testing system for new and existing veterinary drugs has not yet begun
- Other unsafe or untested drugs are increasingly being used in veterinary practice
- A major funding gap has already appeared which seriously jeopardises the ability to implement the required priority actions

5. SAVE Updated Membership & Website

Chairman – Prof Ian Newton

Board – **Core members** of BNHS, BCN, NTNC, ICBP, RSPB, WWF Pakistan have nominated: Asad Rahmani, Sushila Nepali, Juddha Gurung, Jemima Parry-Jones, Tim Stowe and Uzma Khan respectively.

Project Members – Zoological Society of London, Hawk Conservancy Trust, Wildlife Conservation Society, The Peregrine Fund.

Research Member – Indian Veterinary Research Institute

Programme Manager – Chris Bowden

Technical Advisory Committee (TAC) – Rhys Green (Chair)

Jemima Parry-Jones (Co-chair), Vibhu Prakash, Campbell Murn, Chris Parish, Mohini Saini, Naresh Subedi, Mark Taggart, Monirul Khan, Khadananda Paudel, Nic Masters

Fundraising, Advocacy and Communications Committee (FACC) - Ram Jakati (Chair)

Homi Khusrokhan, Asad Rahmani, Devendra Swarup, BC Choudhury, Uzma Khan, Nick Lindsay, Michael Krause, Anil Sharma, Chris Bowden.

Supporting Members – none yet formalised

Government Members – none yet formalised, one in process

Associate Members – new category yet to be formalised

www.save-vultures.org

The site has been developed substantially since the launch in November 2011 with assistance of a volunteer at RSPB and we are very grateful to Mr Nigel Bush for his ongoing help! RSPB is hoping to develop the site further in the coming year and to include the facility for online live maps of individual tracked vultures.

Updates and who looks at SAVE website? There have been updates and additions made to the site (averaging 1-2 per month) and the pages most frequently visited include (in descending order) latest news, solutions to the problem, people, how my donation helps, resources (publications) and identification of the species.

The numbers of visitors have stabilised during the year, from an initial 120/month to around 600-650/month (a marked increase since April 2012, but a continued smaller increase thereafter). Initially, most visitors were from UK, India and USA, but this quickly changed to being led by India, followed by UK, USA, Nepal and Pakistan. Then a substantial number from Bangladesh, and a range of European countries, Canada, Australia, Japan, South Africa and many more.

Note that the Vulture Rescue website will shortly be discontinued, directing visitors to SAVE

Donate button. The number of online donations has risen substantially during the year compared to 2012. the total of £3,500 this year has come from a large number of often quite modest donations, unlike last year's total of £2,650, which was mainly from one large donation of £2000.

Funds raised from the SAVE donate button 1 Nov 2012 – 1 Nov 2013 = £3,517 (GBPounds)

2012/13	GBP £	2013	GBP £	
Nov	33	May #	377	
Dec *	945	Jun	70	
Jan	636	July	20	
Feb	235	Aug	251	
Mar ^	725	Sept	130	
Apr	80	Oct	15	
Annual Total for SAVE year in GBPounds				3,517

SAVE website online donations November 2012 - October 2013

*includes £850 from UK Butterfly Park fundraiser
^includes £350 from Skene Parish Church, Scotland
includes £357 from RSPB regional curry night (Bempton, Yorkshire)

We will welcome suggestions, especially from the SAVE Partners, for material/updates to post on the website, and please send ideas and material to the SAVE Programme Manager, Chris Bowden.

Contact: SAVE Board email account: board@save-vultures.org
SAVE Contact email account: contact@save-vultures.org

6. Action points agreed by the meeting

1. **The draft Blueprint of Recovery of Asia's Gyps vultures identifying the priority actions with timelines had been circulated to SAVE Board, TAC and FACC in October 2013 and was presented at the meeting by Rhys Green for discussion and comments.**

   The meeting welcomed this initiative and acknowledged the need for this and the explicit timelines and level of detail to allow at least approximate estimates of future requirements for staff and funding.
   This document will help steer priority work and inform others of what we are doing and why. It will also aid provision of material for funding proposals.

   Some details are still needed and, in particular, new action timelines need to be added for countries not covered in sufficient detail in the existing draft.

   Agreed that **comments and additions should be sent to Chris Bowden and Rhys Green by 30 Nov 2013**. It is intended to produce a final version by the end of 2013.

   - **Reviewing and updating the blueprint**

   There will be a simple assessment each year of each action timeline which can be linked to the annual SAVE meetings framework.
   This can be on a traffic light system of red, amber and green, where red means that a part of the programme is experiencing significant difficulties or delays. The red and amber coded actions would indicate priorities for discussion at the SAVE meeting.

2. **Challenges of VSZ monitoring and the stages before declaring them Vulture Safe**

   - Do we proceed with Phase I Pharmacy surveys?

   Agreed that we **should use under-cover surveys of pharmacies** (these are less costly and time consuming than the carcass sampling and testing alternative) within VSZ programme **as the main initial assessment method.** These should follow a robust experimental design and reveal no toxic NSAIDs for sale in two successive years before considering the more intensive (Phase II) safety checks.

   - **Which Phase II option is best and most cost-effective safety check for VSZs?**

   If Phase I is completed with positive outcomes, follow-up action should then include either (a) cow carcass analyses (ideally 800 independent samples in two years) to check for presence of toxic NSAIDs, or (b) release of 25 vultures from the captive stock (in two to three batches) with satellite transmitters (i.e. telemetry) to follow their survival over at least two years, and timely retrieval of any individuals that die to ascertain their cause of death.
   The meeting considered these two options and **recommended option (b), the telemetry programme as the best option**. Dependent upon the findings of Phase II, confirmation of full VSZ status and further reintroductions could proceed.

3. Progressing the three SAVE priority actions: Drug Regulation (eg Ketoprofen), Safety Testing and banning of Multi-dose Vials of human diclofenac:

Should SAVE write directly to the Prime Minister, Chairman of Indian National Board of Wildlife and other agencies about these issues?
Support was given for bringing these issues to the attention of the National Board of Wildlife, also to State Wildlife Boards and environment-related ministries in all of the partner countries.

The letters can/will be accompanied by a strong resolution from SAVE on these issues.

The Prime Minister and MoEF should probably be informed in India and it was agreed that this should be preceded there by a letter to the Health Ministry.

In Bangladesh, the Prime Minister should be informed.

In Nepal the Drug Department should be contacted.

In Pakistan the Ministry of Health should be contacted.

This expert group should also decide the best timing for this approach, but it is likely to be in the near future in India prior to elections. The expert group should also decide on the relative prominence and inclusion of multi-dose vials of human diclofenac is appropriate or not. Alternative actions on multi-dose vials may be required.

The Board nominated a group to decide exactly how/when/to whom as well as the wording, to include: A Rahmani, R Jakati, V Prakash, PR Sinha. S Nepali, K. Paudel, M Dhakal, C. Pokheral, U Khan, A Hassan, M Khan, I Uddin.

Draft letter prepared initially for India by end of November and used as potential template for the other countries

4. Should SAVE be more proactively supporting the improvement of meloxicam formulations?

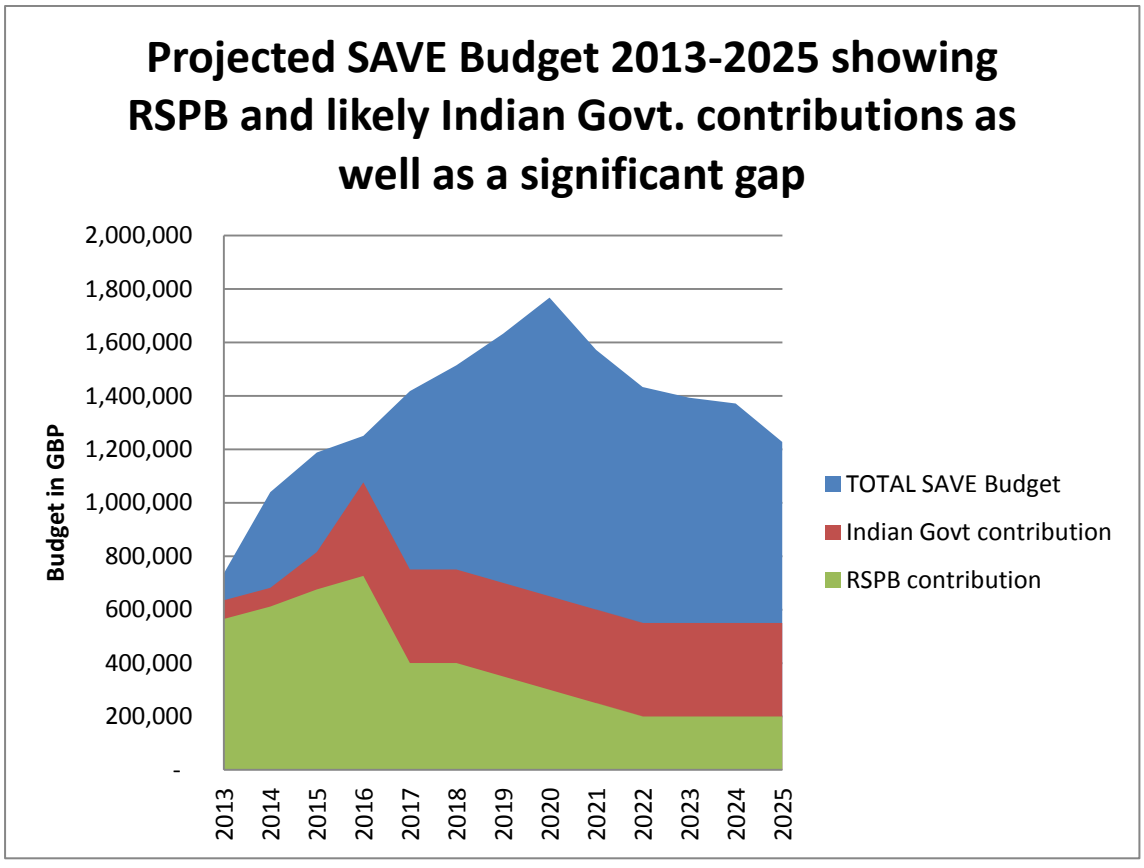
The meeting concluded that this is a high priority. Previous efforts have been made to influence drug companies to produce neutral pH formulations through direct contact meetings with the companies. These were only partially successful and additional efforts should be made and perhaps different approaches should be tried with a priority to approach the Drug Controller General of India. This suggestion will be taken up by BNHS and SAVE initially through sending a delegation to meet him.

Currently, Boehringer-Ingelheim have released the pH neutral formulation for all the SAVE partner countries, except Pakistan. SAVE should assist with efforts to encourage B-I to remove this restriction.

5. Addressing the immediate and increasing gap in funding for vulture conservation

Background

- Current annual costs of the identified priority actions exceed GBP£750,000 (USD$1.2m) for 2013
- Projected costs for the SAVE Blueprint to 2025 rise to over GBP £2m (USD $3.2) per year
- These costs are likely to be underestimates
- Historically, the RSPB has met the substantial proportion of the annual costs, using the UK Darwin Initiative (which is no longer likely to fund vulture work)



Note this projection focuses on India and needs more detail to include full contributions from other countries, but the alarming gap is clear. It also shows that with releases back to the wild, there will be a significant reduction and a finite end point.

Agreement

The 3rd SAVE meeting agreed to take the necessary steps to provide a financing plan to fund vulture work from 2014 onwards

The next steps

For India, to revise the National Recovery Plan (which is out of date). The revised plan needs to be high quality, well argued and presented, and to include a comprehensive proposed budget to fund the work necessary, at least to 2025. Beyond 2020 we expect annual costs to start to reduce.

BNHS will lead this work in India, with the help of IUCN India.

Group to include: BC Choudhury, Asad Rahmani, Suresh Singh, PC Tiagi, WII, Vibhu Prakash, PR Sinha, Bonal.

The revision needs to be complete by 31 March 2014

The Indian National Vulture Recovery Committee will submit the plan to Government to agree funding

The Indian National Vulture Recovery Plan will be used as a template for producing similar plans in each remaining country.

For Nepal, the current vulture conservation action plan is out of date and needs to be updated as soon as possible. To have a draft completed by June 2014.

For Pakistan the approach may need to be driven by the National Vulture Recovery Committee.

For Bangladesh, the National Vulture Recovery Committee will need to advise how to approach this work. To have a draft completed by April 2014.

Also to note that the South Asia GEF application that is being coordinated through the Regional Steering Committee is one key opportunity to provide significant support for the agreed actions. Full support will be given from SAVE.

Vulture conservation agenda generally needs to become embedded in key ministries (Health and Environment and Forests) for each South Asian country's national agendas and active steps taken by SAVE to promote and ensure that the SAVE priorities are represented within each.

7. List of Acronyms and Abbreviations

BCN	Bird Conservation Nepal
BNHS	Bombay Natural History Society
CWW	Chief Wildlife Warden
DFO	District Forest Officer
DNPWC	Department of National Parks and Wildlife Conservation (Nepal)
FACC	Fundraising, Advocacy and Communications Committee (of SAVE)
HCT	Hawk Conservancy Trust (UK)
ICBP	International Centre for Birds of Prey (UK)
IFS	Indian ForestService
IUCN Bng	International Union for the Conservation of Nature Bangladesh
IUCN India	International Union for the Conservation of Nature India
IUCN Nep	International Union for the Conservation of Nature Nepal
IVRI	Indian Veterinary Research Institute
LBV	Long-billed Vulture
MLA	Member of the Legislative Assembly
NTNC	National Trust for Nature Conservation (Nepal)
OWBC	Oriental white-backed vulture (=white-rumped vulture)
PCCF	Principal Chief Conservator of Forests
RHV	Red-headed vulture
RSPB	Royal Society for the Protection of Birds (UK)
SBV	Slender-billed vulture
SMN	Sahyadri Nisarga Mitra (Maharashtra NGO)
TAC	Technical Advisory Committee (of SAVE)
TPF	The Peregrine Fund (USA)
VCBC	Vulture Conservation Breeding Centre
WCS	Wildlife Conservation Society
WWFPak	WWF Pakistan
ZSL	Zoological Society of London

8. List of 2013 Progress and Updates Reports in Appendix

.

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APPENDIX

2013 PROGRESS AND UPDATES REPORTS TO SAVE

SECTION A - IN-SITU WORK

1. Gyps Vulture population surveys by country

1.11: Vulture population surveys in India carried out by BNHS/RSPB team

Reporters: Vibhu Prakash & Toby Galligan

Vulture population surveys in India provide our best estimates for population trends in response to conservation actions for five Critically Endangered or Endangered species of vulture in South Asia (*Gyps bengalensis, Gyps indicus, Gyps tenuirostris, Sarcogyps calvus* and *Neophron percnopterus*).

Rapid population declines were seen in all species in years before 2011, but in that year declines had slowed in all species and possibly reversed in some species. The latest analysis of trends for the three *Gyps* species was published last year (Prakash et al. 2012; Figure 1.1 and 1.2); and the latest trend for *S. calvus* and *N. percnopterus* are currently "in press" (Galligan et al. in press; Figure 1.3 and 1.4). The upcoming survey will tell us whether these encouraging trends have continued.

BNHS undertakes a nationwide road transect survey of vultures in India. They cover over 15,000 km of road in the northern part of the country. Recent surveys were undertaken every four years (2003, 2007 and 2011). The next survey will be undertaken between March and June in 2014 (closing the gap between surveys by one year now that trends have changed). We are currently planning for this survey. Funding will be granted by RSPB. Data will be analysed and submitted for publication as one or two articles before the next SAVE meeting.

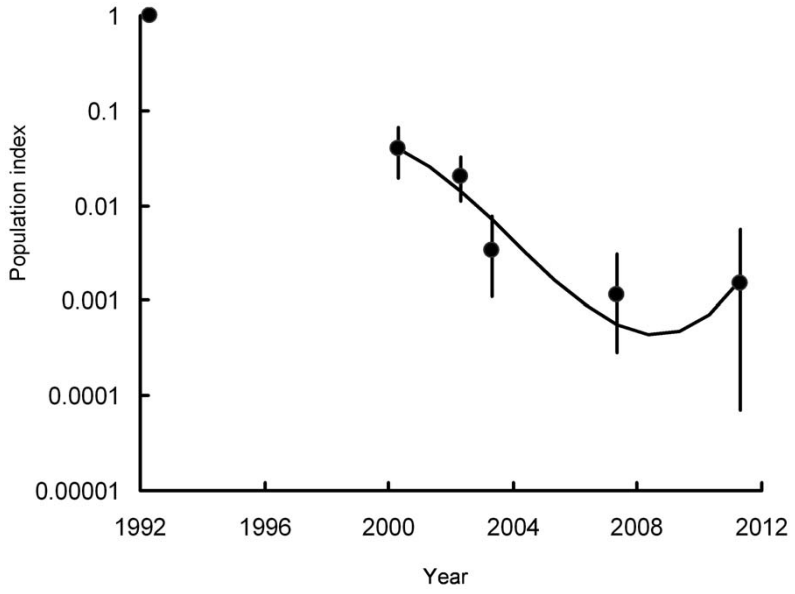


Figure 1.1: Population trend of *G. bengalensis* in India. Points are indices of population density relative to that of 1992. Vertical lines are 95% bootstrapped confidence limits. From Prakash *et al.* 2012.

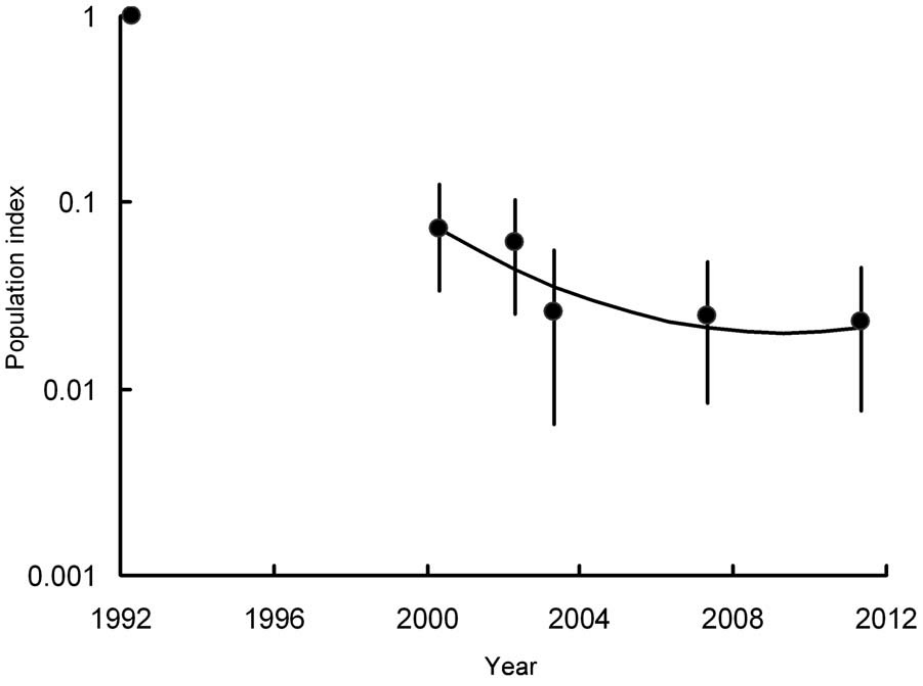


Figure 1.2: Population trend of *G. indicus* and *tenuirostris* combined in India. Points are indices of population density relative to that of 1992. Vertical lines are 95% bootstrapped confidence limits. From Prakash *et al.* 2012.

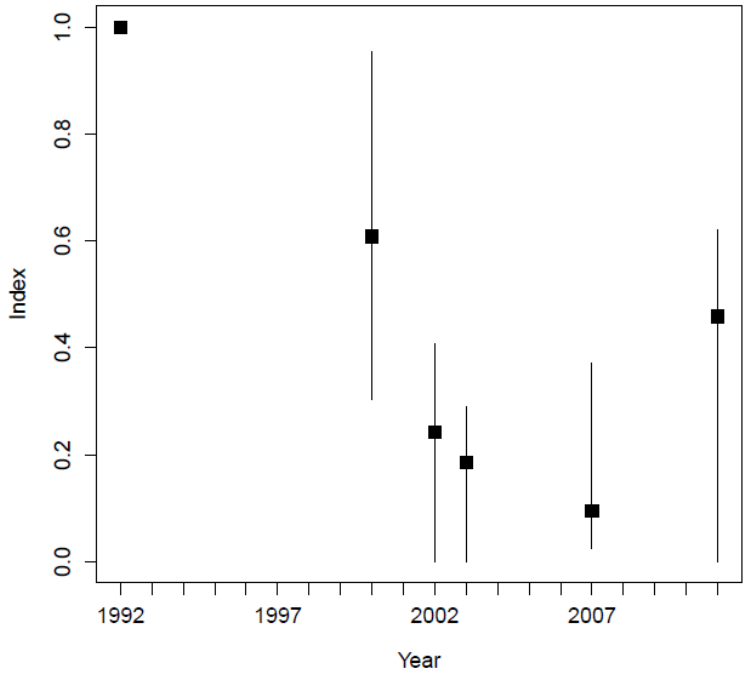


Figure 1.3: Population trend of *N. percnopterus* in India. Points are indices of population density relative to that of 1992. Vertical lines are 95% bootstrapped confidence limits. From Galligan *et al.* in press.

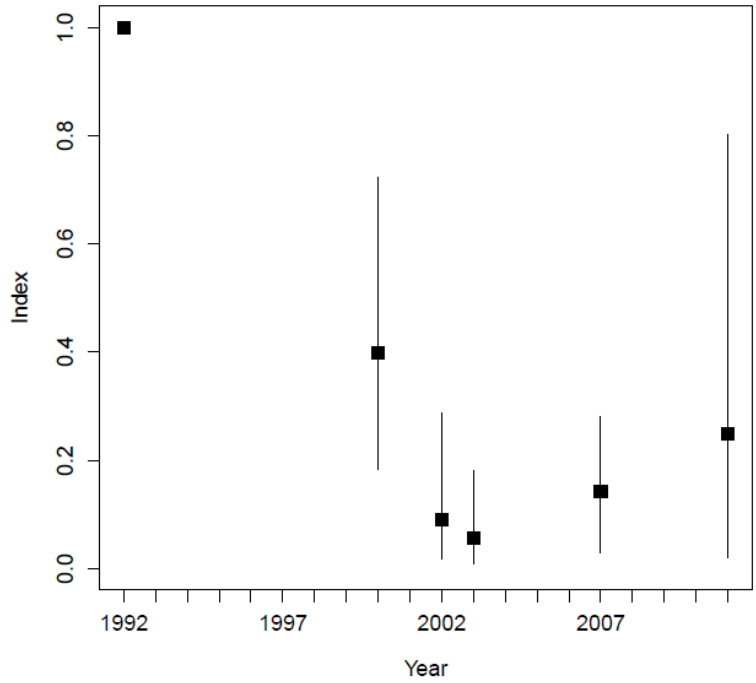


Figure 1.4: Population trend of *S. calvus* in India. Points are indices of population density relative to that of 1992. Vertical lines are 95% bootstrapped confidence limits. From Galligan *et al.* in press.

Galligan et al. in press front page:

Have population declines in Egyptian vulture and red-headed vulture in India slowed since the 2006 ban on veterinary diclofenac?

Toby H. Galligan, Tatsuya Amano, Vibhu M. Prakash, Mandar Kulkarni, Rohan Shringarpure, Nikita Prakash, Sachin Ranade, Rhys E. Green, Richard J. Cuthbert

ABSTRACT: Populations of three vulture species of the genus *Gyps*, the Egyptian vulture *Neophron percnopterus* and red-headed vulture *Sarcogyps calvus* have declined markedly on the Indian subcontinent since the mid 1990s and all are now Critically Endangered or Endangered. *Gyps* vultures have been killed by the widely used non-steroidal anti-inflammatory drug diclofenac ingested when they feed on carcasses of cattle treated with the drug shortly before death. However, it is not known whether Egyptian vulture and red-headed vulture are also sensitive to diclofenac. Veterinary use of diclofenac was banned in India in 2006. Since then, the prevalence and concentration of diclofenac in cattle carcasses has decreased and population declines of *Gyps* vultures have slowed or reversed. Here, we examine recent counts of Egyptian and red-headed vultures obtained on road transects in and near protected areas between 1992 and 2011. We found indications that the declines in both species appear to have slowed and possibly increased after the ban was introduced, though the small numbers of bird counted make this conclusion less robust than that for the *Gyps* species. These results suggest that both species may have been adversely impacted by diclofenac, and that government bans on this drug, which are beginning to take effect, may benefit a wider range of vulture species in the Indian subcontinent than was previously thought.

1.12: Vulture population surveys in India carried out by The Peregrine Fund and its Partners

Reporters: Munir Virani & Richard T. Watson

In November/December 2012, Munir Virani travelled to India to continue surveying numbers of occupied nests of critically endangered Long-billed Vultures (LBV) in the states of Madhya Pradesh and Rajasthan. Our study sites are divided into three categories – Protected Areas (including the tiger reserves of Ranthambhore and Bandhavgarh National Park, and the Chambal Bird Sanctuary), non-Protected Areas, and Historic Monuments (Gwalior Fort and the temples and cenotaphs of Orchha). During the 2012-13 breeding season, we recorded 484 occupied nests of LBV compared to 427 recorded five breeding seasons ago when the veterinary drug diclofenac was banned. Numbers of occupied nests of LBV in Protected Areas at our study sites have remained stable at between 201 and 241 (mean = 219). In the non-Protected Areas, numbers of occupied nests of LBV ranged between 154 and 209 (mean = 177) whilst at the historic monuments at Gwalior and Orchha, numbers of occupied LBV nests ranged between 24 and 38 (mean = 33).

Overall, the TPF survey results in south Asia (see also 1.22 & 1.32. below) suggest that vulture numbers, particularly those of the cliff-nesting LBV appear to have stabilized after the ban on

veterinary diclofenac in 2006 and maybe showing signs of a slight recovery in certain areas. Despite our encouraging results, we remain cautious about interpreting them. We emphasize the need for continued work to restore vulture populations, consistent vulture population monitoring throughout the region to determine population trends, capacity building and public awareness, especially on the emergence of new non-steroidal anti-inflammatory drugs (NSAIDs) in the veterinary market that could potentially jeopardize vulture conservation efforts in the region. We published one scientific paper on LBV population trends in Bird Conservation International. Our paper entitled "First evidence that populations of the critically endangered Long-billed Vulture *Gyps indicus* in Pakistan have increased following the ban of the toxic veterinary drug diclofenac in south Asia" was published in the scientific journal *Bird Conservation International*.

1.21: Vulture population surveys in Nepal carried out by BCN, RSPB and Partners

Reporters: Khadananda Paudel & Toby Galligan

Vulture population surveys in Nepal supplement those in India, by providing estimates for population trends in response to conservation actions for mainly *G. bengalensis*, *Gyps himalayensis* and *Gypaetus barbatus*.

Mirroring data from India, rapid population declines were seen the three species above (Acharya *et al.* 2009a, b; Prakash *et al.* 2012), followed by a slowing of declines in recent years in *G. bengalensis* (Prakash *et al.* 2012; unpublished data). The latest trends for *G. himalayensis* and *G. barbatus* show a partial recovery in the former, and a slowing in the latter (Paudel *et al.* in review).

BCN undertakes road transect surveys for *G. bengalensis* in the western lowland covering ~650 km; and for *G. himalayensis* and *G. barbatus* the in the Mustang region highlands covering ~100 km. Recent surveys in the lowlands and highlands were undertaken annually and biannually, respectively. BCN has also begun surveying transects in the mid-hills to provide data on a wider variety of species (i.e., *G. tenuirostris*, *S. calvus* and *N. percnopterus*). The next lowland and mid-hills survey will be undertaken in May 2014; and the next highland survey will be undertaken in August 2014. We are currently planning for these upcoming surveys. Funding will be granted by RSPB. Data from the lowlands and mid-hills will be analysed and submitted for publication with the data from Indian (see Report 1.11) or as a separate article before the next SAVE meeting. Data from the highlands will not be prepared for publication until after the next SAVE meeting.

1.22: Vulture population surveys in Nepal carried out by The Peregrine Fund and its Partners

Reporters: Munir Virani & Richard T. Watson

At Koshi Tappu National Reserve in Nepal, our collaborator Hem Sagar Baral recorded 42, 40 and 38 occupied Oriental White-backed Vulture nests over the last three breeding seasons respectively. This is a substantial increase since 2003 when only two nests were recorded. In May 2013, Munir, Dikpal Karmaccharya and Seejan Geeyawali conducted a survey on Himalayan Vultures (HV) in the Annapurna Conservation Area of Nepal where we recorded 22.9 HV per day (183 HV) over an eight-day period. This was almost twice as many recorded during surveys that we conducted between 2002 and 2006 where the mean number of HV was 12.4 per day. A follow-up survey has been planned for May 2014. Our results suggest a healthy population of HVs in the Annapurna Conservation Area of Nepal.

1.31: Vulture population surveys in Pakistan carried out by WWF Pakistan

Reporters: Uzma Khan, Campbell Murn & Uzma Saeed

The first population assessment survey under the Vulture Safe Zone Project was carried out in 2010 – 11 for the White-backed Vulture *Gyps bengalensis* and Long-billed Vulture *Gyps indicus* and later in 2011-12 at Nagar Parkar. The last population assessment survey was carried out during the breeding season 2012-13 at Nagar Parker, Sindh. There is an increase in the population of the Long billed Vulture from 172 active nests in 2010 -11 to 203 active nest in 2012-13 breeding season.

The population estimates of the White-backed Vulture *Gyps bengalensis* and Long-billed Vulture *Gyps indicus* show an increase in the number of individuals and active nest counts which indicates a positive change in population of these two critically endangered *Gyps* vultures.

	Number of Active Nests	
	2011- 12	**2012-13**
White-backed Vulture	19	27
Long-billed Vulture	42[1]	203
Eurasian-griffon Vulture	4	2

Table 1.31: *Gyps* vultures total number of active nests counted at Nagar Parkar during 2011-12 and 2012-13 surveys

[1] *This survey did not cover the entire area and is not representative of the population however the survey done in 2010-12 breeding season showed 172 active nests.*

Nesting of the Eurasian Griffon vulture *Gyps fulvus* was also recorded first time at Nagar Parker, Sindh in Pakistan. A total of four active nests were identified during 2011-12 survey whereas two nests during 2012-13 survey in the Vulture Safe Zone. Moreover a total 11 adult Eurasian-griffon vultures were observed during 2011-12 survey whereas 09 during the 2012-13 survey.

1.32: Vulture population surveys in Pakistan carried out by The Peregrine Fund and its Partners

Reporters: Munir Virani & Richard T. Watson

Our collaborator in Pakistan, Jamshed Chaudhry continued to survey and monitor populations of critically endangered LBV in Nagar Parkar district of south-east Pakistan. During the 2012-13 breeding season Jamshed conducted breeding surveys of LBV on cliffs within the Karunjhar hills adjacent to Nagar Parkar town. In November 2012, he recorded 127 occupied nests compared to 116 during the same period in 2011. We will continue to provide guidance to Jamshed's work in south-east Pakistan as well as support a survey to document the numbers of breeding pairs of Oriental White-backed Vultures at three historic breeding sites in the Punjab Province of Pakistan – Dholewalla, Toawalla and Changa Manga. These sites collectively had nearly 2500 breeding pairs in 2000 that were extirpated by 2005-2006.

Papers Published: M. JAMSHED I. CHAUDHRY, DARCY L. OGADA, RIFFAT N. MALIK, MUNIR Z. VIRANI and MATTHEW D. GIOVANNI (2012). First evidence that populations of the critically endangered Long-billed Vulture *Gyps indicus* in Pakistan have increased following the ban of the toxic veterinary drug diclofenac in south Asia. Bird Conservation International, 22, pp 389-397. doi:10.1017/S0959270912000445.

1.4: Vulture population surveys in Bangladesh

Reporters: M. Monirul H. Khan & Enam Ul Haque

No survey of wild vulture population has conducted since the last SAVE meeting in 2012, but the results of one survey that was conducted from mid-2008 to mid-2012 has published in a journal this year (Khan 2013). In the coming year the wild vulture populations will be surveyed all over the country under a project of IUCN-Bangladesh. This project will be funded by Strengthening Regional Co-operation for Wildlife Protection Project (SRCWPP),

which is funded by the World Bank and is being implemented by the Forest Department (FD). Moreover, in the first meeting of Bangladesh National Vulture Recovery Committee (BNVRC), held on 05 August 2013, it was decided that the Forest Department will conduct the surveys on population and nesting sites of the White-rumped Vulture at the national level, and other agencies/individuals shall assist the FD. Moreover, FD will regularly monitor vulture population trend throughout the country, but more frequently in the protected areas, and will report the population trend data to the BNVRC.

Publication: Khan, M.M.H. 2013. Population, breeding and threats to the White-rumped Vulture *Gyps bengalensis* in Bangladesh. *Forktail* 29(2013): 66-70.

1.5: Vulture population surveys in Cambodia

Reporter: Simon Mahood (WCS)

Introduction

Cambodia's vulture population is surveyed using an annual census. The annual vulture census is conducted in June. The census methodology differs from the normal restaurant methodology only in that the restaurants are conducted on the same dates at all the sites, and that the restaurants are conducted twice during the month, on the 10^{th} and 20^{th}.

Population trends

The minimum population estimate for the vulture population in Cambodia generated from the 2013 census data (192) is the lowest since records began in 2004 (Figure 1.51). The minimum population estimate in 2012 was also low (199). On their own these data should not be considered evidence of a decline in the population of vultures in Cambodia. There is as much variation between the numbers of vultures recorded at the two census restaurants in June in any given year than between the number of vultures recorded in 2012 and other years (Figure 1.52). Moreover, in the context of this fuller dataset (i.e. considering the number of vultures recorded at both census restaurants conducted each year rather than just the one with the higher total), the number of vultures recorded in the 2012 and 2013 censuses is within the range of variation shown by the data, albeit at the low end. Since it is inconceivable that the fluctuation in the number of vultures recorded on the censuses shown on Figure 6 is due to variation in the vulture population these data indicate that not all vultures attend every restaurant. It is currently impossible to determine what percentage of the vulture population is recorded during a census. During 2012 and 2013 it is possible that a relatively low percentage of vultures visited the census restaurants, thus generating a low data point for that year. Some mitigating circumstances were reported which at least partially account for the low counts. At

LWS on the 10th June 2012 no vultures attended the census restaurant, however, local people reported that there had been a disease incident affecting a large numbers of domestic buffalos during the week preceding the restaurant and vultures were seen gorging themselves on the abundant carcasses, they were probably simply not hungry at the time of the first census.

Data indicate that since 2008 the earlier June restaurant has recorded less vultures than the second restaurant. This is presumably because vultures learn to forage over the area where the carcass is placed, and check the area regularly after feeding their earlier in the month. Worryingly, taking either the 10th June or the 20th June data set individually there has been a year on year decline in the number of vultures attending the census restaurants since 2010 (Figure 1.52). This indicates that the decline might be genuine., but more data are needed.

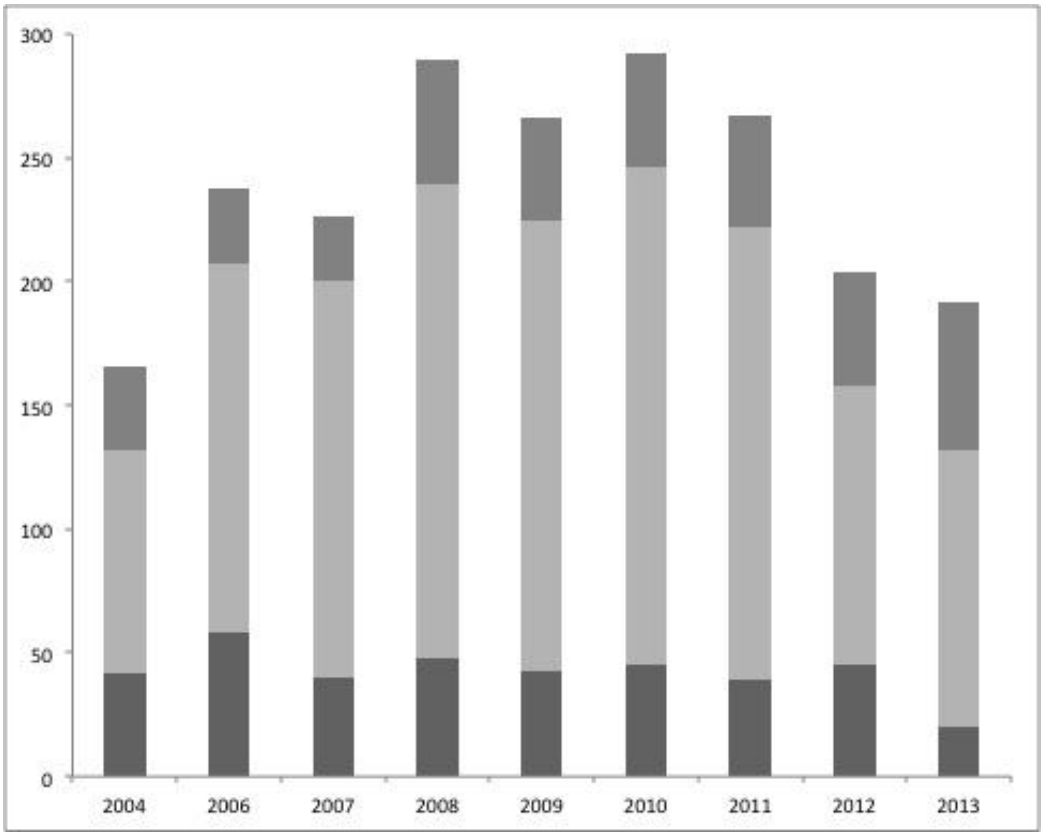


Figure 1.51. Vulture census data 2004-2013

Note: bars depict (from top to bottom) numbers of Slender-billed, White-rumped and Red-headed Vultures.

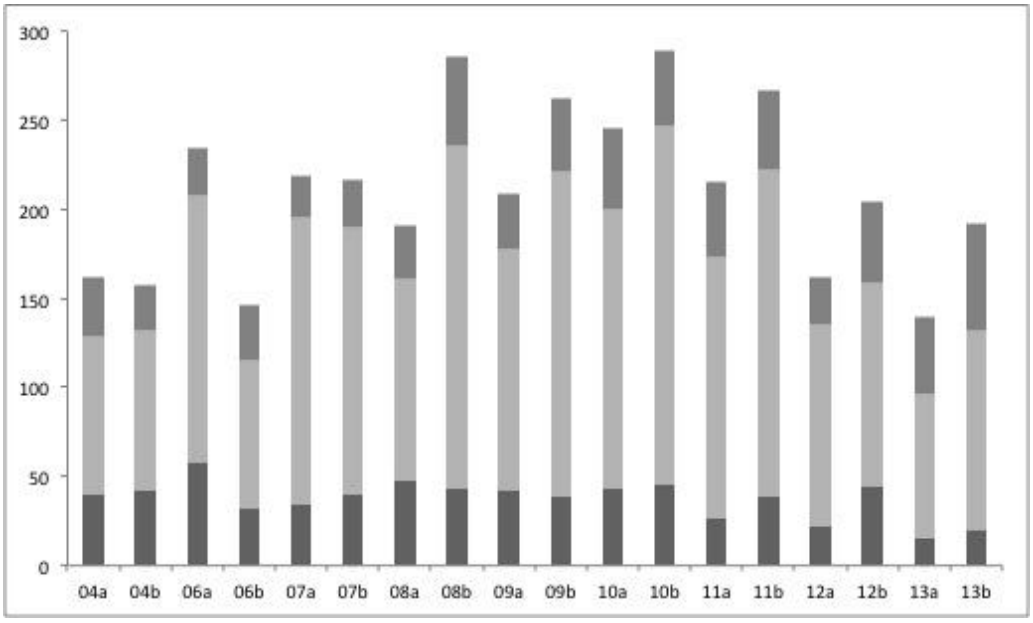


Figure 1.52 The number of vultures recorded at the two annual June censuses

Note: Legend is same as Figure 1.51; numbers on the horizontal axis refer to years, abbreviated for reasons of space.

Trends across species

The caveats mentioned above also apply when discussing apparent trends in the populations of different species. Using just the annual minimum population size data, the number of Red-headed Vulture recorded at the census in 2012 (45) is more than the mean for the nine census years (42). However the number of Red-headed Vultures recorded in 2013 (20) was exceptionally low, half of the nine-year average. The reason for this is unknown. The number of White-rumped Vulture recorded at the census in 2012 (113) is similar to that in 2013 (112). Both counts are low, although they are similar to that generated by one of the censuses in 2008 (113), and considerably higher than three of the early censuses. Nonetheless they represent a large drop from the 2008-2011 data, when at least 180 individuals were consistently recorded in the second census of each year. The number of Slender-billed Vulture recorded at the census in 2012 (46) is above the nine-year mean (42), but considerably less than the 60 recorded in 2013. The recorded population of this species has been above the mean since 2008, indicating that perhaps the population is at least stable. Alternatively, it might suggest that a greater number of Slender-billed Vultures are attending vulture restaurants owing to a reduction in the number of White-rumped Vultures attending the restaurants. It is known that the two species compete at carcasses, with Slender-billed Vulture the subordinate cavity specialist.

Trends in species populations are difficult to determine, in part owing to the paucity of data. To overcome this, from 2012 we tried to increase the frequency of restaurants to four times per year, with the restaurants in March, September and December all conducted on the 15th each month, across all the sites. However this did not prove possible to organize, although it is hoped that we will be more successful in this endeavor in 2013-14.

1.6 : Vulture population and general overview for Myanmar

Reporter: Lay Win

Six vulture species have been recorded in Myanmar: Egyptian Vulture *Neophron percnopterus*, White-rumped Vulture *Gyps bengalensis*, Slender-billed Vulture *Gyps tenuirostris*, Himalayan Griffon *Gyps himalayensis*, Cinereous Vulture *Aegypius monachus* and Red-headed Vulture *Aegypius calvus*. There is little information available and only poor understanding of the population status and distribution of these species, as well as of the veterinary use of diclofenac in the country. Sightings of vultures on surveys, expeditions and bird-watching tours from the recent years indicated that Myanmar may still hold significant numbers of vultures in certain regions such as the Chin State, upper Sagaing Region, Kachin State and Shan State.

In Jun 2003 a group of Myanmar surveyors undertook a preliminary survey of White-rumped Vultures in Southern Shan State. A total of 87 vultures was recorded in one group, of which 9 were Slender-billed *Gyps tenuirostris*, and 78 White-rumped *Gyps bangalensis*. (Htin Hla *et al* 2003)

BANCA Biodiversity And Nature Conservation Association and Nature and Wildlife Conservation Division, Forest Department of Myanmar conducted a survey starting from December 2006 to end of first week of May 2007. Twenty vulture restaurants were carried out in 4 states and divisions of Myanmar. A total of 356 of four species of vultures was recorded in the survey, of which 141 were *Gyps bengalensis* (White-rumped Vulture), 49 *Gyps tenuerostris* (Slender-billed Vulture), 163 Gyps himalayensis (Himalayan Griffon) and 3 *Sarcogyps calvus* (Red-headed Vulture). The team found out that diclofenac is not and never was available as a veterinary drug and therefore not currently affecting the vulture populations in Myanmar. (Hitn Hla *et al* 2007)

Vultures were formerly fairly common in many parts of Myanmar. They do now appear to be disappearing and highly dispersed. There have been some recent vulture records from the surveys, expeditions and bird-watching tours; 5 White-rumped Vultures on April 2010 in Shauk Kaing village in northern Shan State, east Myanmar, 20 White-rumped Vultures on February 2012 in Indawgyi Lake, Kachin State, north Myanmar and active nests were recorded in Tanaing, Kachin State, north Myanmar on 2012 by WCS Myanmar, and 9 Slender-billed Vultures in Feb. 2012 in Indawgyi Lake, Kachin State, north Myanmar and one Slender-billed Vulture at Natmataung (Mt. Victoria) in Chin State, west Myanmar. Also at least 5 Himalayan Griffon (mostly juveniles) fallen down from the sky every year around Yangon Region, Bago Region and Mon State in southern Myanmar.

In spite of all these recent records and the records from 2003, 2006-2007, there are serious gaps between survey areas and very few survey undertaken specifically. status of vulture population and its distribution in Myanmar is still poorly understood. Therefore, the further surveys not only the status of population and distribution but also for the veterinary drug diclofenac urgently need to be carried out in Myanmar to fill this knowledge and geographical gap, although there are no immediate plans in place to do this.

2. Red-headed Vulture Work

2.1: Investigating the potential harmful NSAIDs to other species of scavenging bird of prey including Red-headed Vulture in India and Nepal

Reporter: Toby Galligan

One main branch of research is to determine what other species are threatened by diclofenac and other harmful NSAIDs. Currently, we do this by carrying-out post mortems and residue analysis on dead birds found in carcass dumps and those that we have been tracking.

Last year, IVRI investigated a report of dead or dying birds in a carcass dump in India from which we have discovered that steppe eagle *Aquila nipalensis* is highly sensitive to diclofenac toxicity (Sharma et al. in review). This discovery suggests that a wider diversity of scavenging birds of prey is threatened by harmful NSAIDs. BNHS will increase its effort surveying carcass dumps for dead birds.

We are currently remotely monitoring four Critically Endangered red-headed vultures *Sarcogyps calvus* in the Pinjore area using GPS/Argos satellite telemetry. In addition, BNHS is currently trapping for three red-headed vultures in Rajasthan. BCN is present learning how to trap, tag and track with BNHS. Later this year, BCN will trap three more red-headed vultures in the western lowlands of Nepal. By the next SAVE meeting we will be tracking a total of 10 red-headed vultures, collecting data on nesting, foraging and movement. If and when these individuals die, we will use the GPS transmitters to rapidly recover their carcasses for post mortem examination. So far, the BNHS team has been practicing recovering downed birds; they will pass this knowledge on to BCN.

2.2: Summary of Red-headed Vulture work in Cambodia

Reporter: Simon Mahood

Introduction

In Cambodia, Red-headed Vulture conservation activities are fully integrated into conservation activities for other species. Supplementary food is provided on a monthly basis at up to seven restaurants nationwide and nests are protected by community rangers.

Activity in 2012-13

Total number of Red-headed Vultures attending restaurants in Cambodia is typically low (Table 2.21). There are no clear trends in the number of Red-headed Vultures attending vulture restaurants in Cambodia (Figure 1) over the last five years, although there is an indication of a gradual decline at most sites.

	PVPF	WSP	S ACCB	LWS	MPF	PPWS	MFF
Jul 12	7	4	3	12	-	2	-
Aug 12	6	3	5	8	10	-	-
Sep 12	8	2	3	11	9	1	-
Oct 12	7	3	4	7	-	-	-
Nov 12	8	0	4	6	-	-	-
Dec 12	6	1	5	-	-	-	-
Dec 12	-	1	-	-	-	-	-
Jan 13	6	1	3	7	-	-	-
Jan 13	7	-	-	-	-	-	-
Jan 13	3	-	-	-	-	-	-
Feb 13	1	2	4	7	-	-	-
Feb 13	4	-	-	-	-	-	-
Feb 13	4	-	-	-	-	-	-
Mar 13	2	2	3	6	-	-	-
Apr 13	7	3	4	2	-	-	-
May 13	4	2	5	5	-	-	-
Jun 13	3	4	5	4	-	-	-
Jun 13	7	4	4	5	-	-	-

Table 2.21. Total numbers of Red-headed Vulture recorded at each restaurant from July 2012 to June 2013

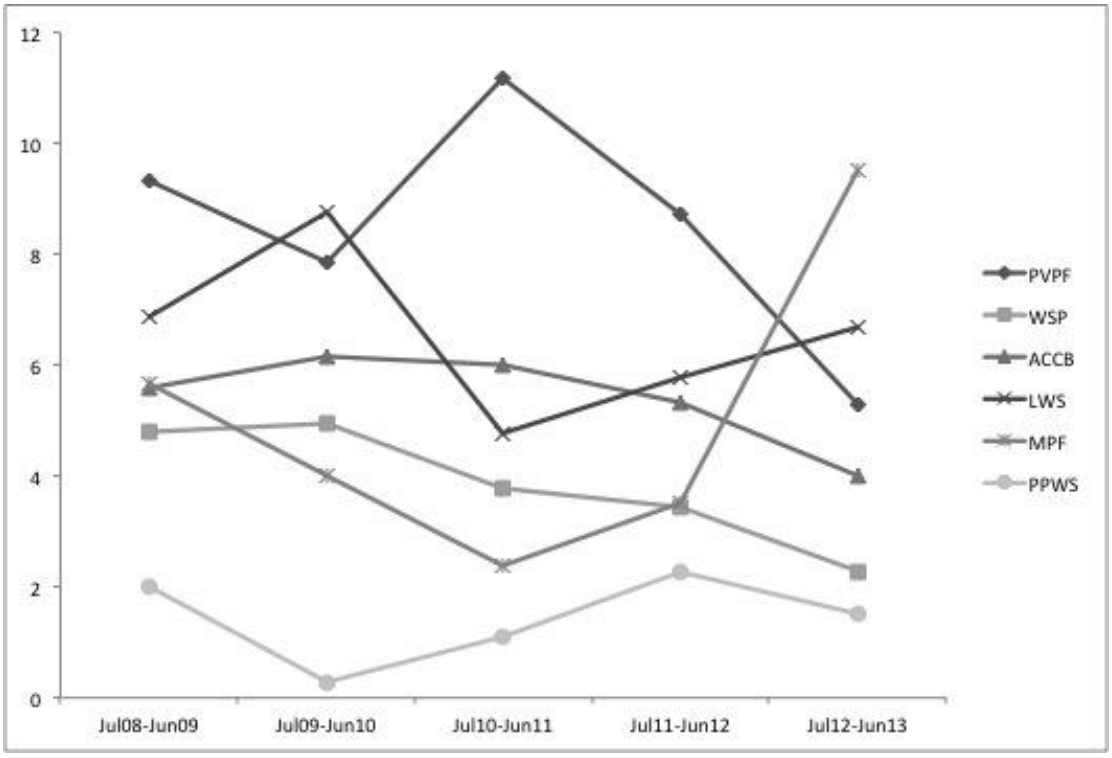


Figure 2.21. Mean number of Red-headed Vulture attending vulture restaurants in Cambodia over the last five years.

Note: PVPF, Preah Vihear Protected Forest; WSP, Western Siem Pang IBA; ACCB, Seasan restaurant; LWS, Lomphat Wildlife Sanctuary; MPF, Mondulkiri Protected Forest; PPWS, Phnom Prich Wildlife Sanctuary.

3. Surveys of prevalence and concentration of toxic NSAIDs in the food supply of wild vultures

3.11: Surveys of prevalence and concentration of toxic NSAIDs in the food supply of wild vultures in India

Reporter: Toby Galligan

Surveys of livestock carcasses for NSAIDs in India provides our best estimate for the prevalence and concentration of these drugs in the food available to wild vultures in South Asia.

Since the Indian government banned veterinary use of diclofenac in 2006, we have seen a gradual decrease in its prevalence in livestock carcasses. Similarly, since our promotion of meloxicam as a vulture-safe alternative, we have seen a gradual increase in its prevalence. The latest analysis, with data from up to 2010 (the fourth survey), shows these trends continuing (Cuthbert *et al.* in review; Galligan *et al.* in review). No other vulture-dangerous or untested NSAID has increased markedly (Galligan *et al.* in review). However, the combined prevalence of seven untested NSAIDs is comparable to that of meloxicam.

BNHS undertakes livestock carcass surveys in nine states throughout in India, obtaining ~1800 samples each survey. Tissue extracts are analysed using Liquid Chromatography Mass Spectrometry (LCMS) by Mark Taggart at the Environmental Research Institute of the University of the Highlands, UK. Funding for all work is provided by RSPB. We are currently detecting 10 NSAIDs: diclofenac, meloxicam, ibuprofen, ketoprofen, oxyphen, nimesulide, piroxicam, mefenamic acid, phenylbutazone and paracetamol.

BNHS is currently completing its fifth survey. They have surveyed five out of nine states and collected 717 samples, so far. In the upcoming months, the survey will be complete; and by the next SAVE meeting, this data will be analysed and an article on the current trends will be prepared for publication. The next survey is planned for either 2014 or 2015.

Permissions are now required to export extracts from India. We need to establish a mechanism by which we can rapidly receive these permissions.

3.12: Mortality of wild vultures in India

Reporters: Toby Galligan & Vibhu Prakash

Vulture post mortems of 72 birds from 2000 to 2012 combined with analysis of tissue samples of these birds for 9 possible veterinary NSAIDs indicates that a large proportion of birds are still being found dead with diclofenac residues and gout, even for the period after the 2006 ban (56% before and after the ban). Many of the more recent birds were collected by BNHS staff and volunteers working in and around VSZ areas in Gujarat, Jharkhand and

Uttarakhand where despite local efforts to eliminate diclofenac birds are still being found with diclofenac. Worryingly a new drug (nimesulide) turned up in 6 dead birds and in four instances this drug was associated with visceral gout. This suggests the same toxic effects as diclofenac and the same route of exposure (veterinary use in livestock). Nimesulide may be growing in popularity (found in 48% of pharmacies in India; but see Report 1). Safety testing trials of vet drugs on vultures planned by IVRI and BNHS have already prioritised testing nimesulide

3.2: Surveys of prevalence and concentration of toxic NSAIDs in the food supply of wild vultures in Nepal

Reporter: Toby Galligan

Livestock carcass surveys provide a real measure of the prevalence of NSAIDs in available to wild vultures. Therefore, it is a priority to carry-out this work in Nepal.

BCN manages carcass sampling throughout the year in the western lowlands of Nepal. Samples collected by skinners are stored in saturated NaCl solution, prior to exportation to the UK for LCMS analysis. We are conducting an experiment to examine the effect of NaCl on diclofenac residue in tissue. We have collected tissue with diclofenac early this year, but have had to postpone analysis because Nepali authorities have not granted us permission to export. BCN has established a mechanism to facilitate this process, but issues such as bird flu outbreaks have proven to easily scuttle our plans.

Beside this experiment, we have exported ~400 livestock carcass samples collected between 2010 and 2013. Mark plans to analyse the experiment samples first and then the carcass samples second. We hope to export the experiment samples immediately after the SAVE meeting. RSPB is funding all of this work. By the next SAVE meeting, this data will be analysed and one or two articles will be prepared for publication.

Carcass sampling will continue in 2014.

4. Surveys of the availability and provenance of toxic NSAIDs to livestock owners

4.1: Surveys of the availability and provenance of toxic NSAIDs to livestock owners in India

Reporter: Toby Galligan

Surveying pharmacies for NSAIDs provides a proxy for the prevalence of NSAIDs available to wild vultures and thereby a measure of the effect of our conservation activities. Pharmacy surveys also reveal new NSAIDs.

In India, we designed a before-after control-intervention experiment to measure the effect of conservation activities in the Provisional Vulture Safe Zones (PVSZ). The experiment involved three stages: 1) all pharmacies surveyed undercover (before); 2) half of these pharmacies surveyed openly with awareness-raising (intervention), the other half not surveyed (control); and 3) all pharmacies surveyed undercover (after). The experiment was conducted by our seven PVSZ teams, it produce data from ~400 pharmacies and is now finally complete.

This experiment proved too complicated for a number of teams and they made numerous errors in conducting the experiment; as a result the amount of useable data has been reduced. Teams also worked slower than we had hoped. We have learnt that PVSZ teams are only capable of basic field work, like single stage open surveys, in the future. We will salvage what data we can, analyse it and prepare it for publication before next SAVE meeting.

Presently, BNHS is conducting undercover surveys of pharmacies while undertaking the nationwide livestock carcass survey. They have data from 30 pharmacies across 5 states so far. This type of survey will be pursued in the future. Data will be reported annually.

4.2: Surveys of the availability and provenance of toxic NSAIDs to livestock owners in Nepal

Reporters: Toby Galligan & Khadananda Paudel

BCN has collected data on NSAIDs from pharmacies whist conducting awareness-raising in the lowlands and mid-hills. Although this data has been collected over a number of years, surveys were not repeated in most locations; therefore, we will be restricted in the types of analysis we can perform. Interestingly, diclofenac was not found in any of the 300 pharmacies surveyed in 2012 and 2013. We are currently working on this analysis and hope to prepare an article for publication before the next SAVE meeting.

In 2012 and 2013, BCN piloted an undercover survey in lowlands and mid-hills. The survey involved 84 pharmacies in 84 settlements and 25 districts. A local man was employed to ask for a painkiller for his sick cow. Whilst meloxicam was by far the most numerous NSAID offered, diclofenac was offered in 2 pharmacies.

This year, BCN has begun a full open and undercover survey of pharmacies in both the lowlands and mid-hills, which will be repeated in the future. Open surveyors will visit 80 veterinary pharmacies to collect data on types and quantities of NSAIDs available. Undercover surveyors will visit 80 veterinary and 80 human pharmacies asking for a painkiller for their sick cow to collect data pharmacist behaviour and the miss-sale of diclofenac. This work is funded by RSPB. We will analyse this data and report on our findings at the next SAVE meeting.

4.3: Surveys of the availability and provenance of toxic NSAIDs to livestock owners in Pakistan

Reporters: Uzma Khan, Campbell Murn and Uzma Saeed

Diclofenac sodium availability assessment survey

A pharmacies survey was carried out throughout District Tharparker in March 2012 to assess the availability of diclofenac sodium (a total of 54 pharmacies surveyed), revealed five pharmacies with availability of diclofenac sodium.

The second pharmacies survey was carried out at selected villages (total 10 villages) around *Gyps* vulture colonies in July 2013 (a total of 10 pharmacies surveyed). There were no veterinary stores/pharmacies present in eight villages. The survey revealed availability of human use diclofenac sodium at six pharmacies in Nagarparker village and two pharmacies at Kasbo village. Aceclofenac is also available at two pharmacies of village Nagarparker and Kasbo respectively.

The project intends to ban the other harmful NSAIDs i.e. Aceclofenac and Ketoprofen (Figure 4.31) by lobbying with the relevant government departments in a similar manner as the ban on the veterinary diclofenac sodium.

Figure 4.31: Aceclofenac and ketoprofen (on left) and human use diclofenac sodium (on right) are available at the local medical stores in Nagar Parker

Presence of human diclofenac sodium at medical stores

Three human use formulations of diclofenac sodium (one local and 2 imported from China) are available at medical stores at village Nagar parker and Kasbo (Figure 3) but it still needs to be confirmed whether these are also used by the local communities for veterinary purposes. The vial size available was only 3ml per vial.

Carcass Availability Survey

One carcass availability survey was conducted in June 2012. The areas covered included Nagar Parkar, Mitthi, Adhigam, Sukhpur, Dano Dhandhal and Bhodisar. The survey revealed a total of 36 cattle and small animal carcasses available in these areas. The project aims to maintain the records of carcass data available in the Vulture Safe Zone. Another carcass availability survey is planned this month.

Livestock Assessment Survey

Two livestock assessment surveys have been carried out at Vulture Safe Zone in 2012 and 2013 in order to determine the abundance of the livestock and their prevalent diseases. The 'Foot and Mouth' disease was found to be a rampant disease along with the digestive problems and Entereotoximea in cows, camels, sheep and goats.

4.4. Surveys of the availability and provenance of toxic NSAIDs to livestock owners in Bangladesh

Reporters: M. Monirul H. Khan and Enam Ul Haque

Except some sporadic surveys in the last few years surveys of the availability and provenance of toxic NSAIDs to livestock owners have never been conducted in Bangladesh, but based on our informal interactions with the livestock owners in different parts of the country it is certain that the availability and use of diclofenac have reduced significantly, but at the same time the use of ketoprofen has increased rapidly. The newly formed Wildlife Crime Control Unit (WCCU) of the FD has conducted several drives to seize diclofenac from different cattle markets. Under IUCN-Bangladesh's project the Vulture Safe Zones (VSZs) will be established and the availability and use of toxic NSAIDs will be surveyed in the VSZs. Awareness programmes will be conducted to eliminate the toxic NSAIDs.

5. Establishment and maintenance of Vulture Safe Zones (VSZ)

5.1: Establishment and maintenance of Vulture Safe Zones in India

Reporters: Vibhu Prakash Ananya Mukherjee Toby Galligan

The process of initiating VSZ started three years ago when the areas and local partners were identified. The work actually started in 2012 in seven different locations (Figure 5.11): Two of the areas identified were around Dudhwa National Park and Katerniaghat National Park in Uttar Pradesh (U.P) and were adjoining the provisional VSZ in Nepal. One was identified around Corbett National Park in Uttarakhand in the terai region. Two areas were identified in Gujarat, around Ahmedabad and other in Saurastra around Mahuwa. Since the establishment of provisional VSZs in India in 2012, BNHS and RSPB have worked in partnership with local NGOs in the provisional VSZ states.

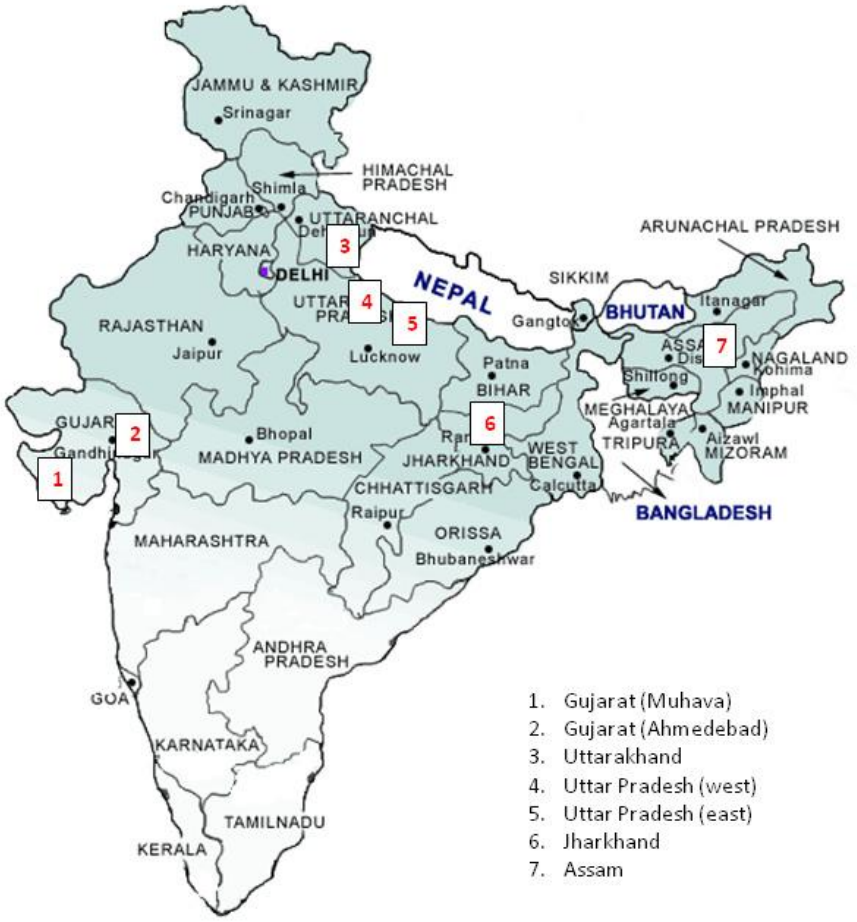


Figure 5.11 The location of Vulture Safe Zone Initiatives in India

All the partners met in November 2011 at Parvanoo in Himachal Pradesh to discuss the methods and strategies to be followed in establishing the VSZ. This also gave an opportunity

to share the experiences and develop a best practice protocol for maximizing the impact of advocacy and awareness programmes. A second meeting was held in March 2013 to take stock of the progress made in each of the VSZs.

While Jharkhand, Gujarat and Assam continues to progress towards establishing the VSZs, other teams have had problems in expanding their work. In some cases pharmacy surveys progressed, but it was a common problem that some teams were not expanding their target area for awareness and advocacy work beyond a single district, and thereby falling very short of reaching the 100km radius area. Specifically building capacity of one partner NGO have also been a problem as this was an important reason why there has been no progress in vulture monitoring, pharmacy surveys, advocacy and awareness work in the area.

All the partner NGOs working with us on VSZ programme only work part-time (except the Assam team) as their members are generally engaged in their jobs and businesses for a living. Most of the work was done on weekends or on public holidays. After the first year, it was clear that some PVSZs were much more successful than others in advocacy and awareness work.

- In some areas advocacy work is significantly lagging in terms of addressing the key decision-maker and key user groups especially the paravets, untrained vets and the cattle owners, druggists and chemists association including the drug store users. For instance, many drug stores were found selling diclofenac for cattle use even in the third stage of the pharmacy survey.
- More importantly, targeting state and district machinery such as DMs to put pressure on druggists, stockists, pharmacists, DLOs, state & district animal husbandry department will give positive outcomes rather than generic meeting with public.
- Recognising that the area to be covered in a Vulture Safe Zone is enormous and work is challenging and demanding, it was decided that BNHS full time staff will work in the provisional vulture safe zones but would enlist the support of the local NGOs accomplishing the work in addition to the RSPB staff member dedicated to this.
- All PVSZ teams were assessed for their performance and progress in the PVSZ workshop held in March 18th & 19th 2013. Based on their presentations, reports & visits made by BNHS/RSPB for the last one year, some of the conclusions have been reached on the capacity and capability of the local Indian NGOs working in the PVSZs.
- Both BNHS & RSPB agree that the original strategy for work in VSZ – i.e. having one or two local NGOs conducting awareness raising and monitoring throughout a 30,000km^2 PVSZ – is not working except where there was an exceptionally suitable NGO already on track (ie Jharkhand example)
- We propose BNHS's presence in all PVSZs undertaking awareness raising and vulture monitoring work. In PVSZs where progress has been slow, BNHS teams will play a leading role attracting and building numerous local NGOs/communities to support priorities. In PVSZs where progress has been good, BNHS will help existing PVSZs to expand their work.
- It was agreed that clearer guidance was required in setting advocacy targets for the VSZ teams and a list was prepared early in 2013 and circulated to all.
    - Note that the Advocacy Targets document has been produced and is being posted on the SAVE website for general availability and to engender a better understanding of key activities involved.

Key advocacy milestones in each PVSZ

- Letters from the Drug Controllers of the states of Assam, Gujarat, Uttarakhand, and Jharkhand were issued to all the pharmacists, veterinary representatives, animal husbandry and livestock departments warning them not to use multi-dose vials of human formulation of banned drug diclofenac in treating animals and livestock
- Advocacy and lobbying with the local partner in Uttar Pradesh East led to the issuance of a letter/ ordinance by the District Magistrate of Moradabad district and subsequent issuance of letters in the Bahraich and Kheri districts of Uttar Pradesh to the Drug Controller of the respective districts, livestock officers, medical representatives and police authorities within the concerned district warning them not to use multi-dose vials of human formulation of banned drug diclofenac in treating animals and livestock
- Subsequently, letters were issued by the District Livestock Officers in the three districts of Uttar Pradesh where the District Magistrate notices were issued consecutively to all the Chief Medical Officers, Chief Police Officers, Chief Veterinary Officers and Chief Drug Officer in the three districts respectively saying the same message as mentioned above.
- Letters were also issued by the Animal Husbandry Director of Uttarakhand and Gujarat to all the Chief Veterinary Officers, Animal Welfare Board, Livestock Training Centre and the CEO of Livestock Development Board in Uttarakhand.

Setback of the dipstick testing methodology.

A major issue emerged at the beginning of the year when it was confirmed by the research team that the means to test cattle carcasses for diclofenac using "dipsticks" (simple ELISA testing kits) was not reliable.

Collection of 800 carcass samples widely throughout a provisional VSZ would be challenging if livestock carcasses are not taken to communal dumps, but left where they die; therefore, field biologists are required to repeatedly search 30,000km2 for randomly located carcasses. In addition, samples are only good if collected shortly after the animal dies. Further, "dipsticks" proved to be neither reliable nor easy-to-use in the field. This matter is now being taken up by TAC.

Progress on Funding

Vulture Safe Zone work continues to be funded by IUCN's SOS (Save our Species) fund, and core RSPB funding during the financial year 2013. It is hoped that additional sources will also support this work more widely in future.

5.2: Establishment and maintenance of Vulture Safe Zones in Nepal

Reporters: Khadananda Paudel, Toby Galligan & Richard Cuthbert

At the time of the 2012 SAVE meeting, the provisional Vulture Safe Zone (pVSZ) in Nepal covered 21 districts and an area of 39,122 km^2. Presently, the pVSZ has been extended to cover another 12 districts, making a total of 33 districts and a total area of 62,316 km^2. BCN expands the pVSZ through advocating and awareness raising from district decision makers to village communities, which includes signing a declaration to make each district diclofenac-free."Diclofenac-free"represents an objective rather than a reality, but these combined districts make up the Nepali pVSZ. The 33 "diclofenac-free"districts are: Dang, Chitawan, Kanchanpur, Banke, Nawalparasi, Palpa, Kailali, Kapilvastu, Bardia, Rupandehi, Kaski, Ilaam, Lamjung, Arghakhanchi, Ramechhap, Dhanusha, Gulmi, Syangja, Tanahun, Gorkha, Pyuthan, Salyan, Baitadi, Dadeldhura, Myagdi, Baglung, Dhading, Surkhet, Parbat, Rolpa, **Manang, Mustang and Doti (Figure 5.21) below.**

Figure 5.21: Map of Nepal with districts delineated. Districts highlighted in bright green are "diclofenac-free" districts and combine to make the provisional Vulture Safe Zone. Names for each "diclofenac-free" district are shown.

Awareness and distribution of awareness materials

Meetings and discussions with Jatayu Restaurant Management Committees (JRMCs) and community people have been regularly conducted (at least once in a month). Within September 2012, about 1350 people were participated in the awareness activities where message on vulture conservation was disseminated. From October to September 2013, altogether about 5419 people (including participants of IVAD 2013) were participated in our workshops, trainings, meetings and other awareness campaigns for vulture conservation in

western lowland and mid-hills of Nepal. The participants were representatives from district level as well as village level government and non-government institutions such as Village Development Committee (VDC), CBOs, NGOs, District Development Committees (DDCs).

International Vulture Awareness Day 2013 was celebrated in 11 districts (Banke, Bardiya, Kailali, Kanchanpur, Dang, Kapilbastu, Rupandehi, Palpa, Nawalparasi, Chitawan, Kaski and Arghakhanchi). About 2976 people were participated in the events. The target groups were community people, farmers and veterinary practitioners.

Provision of ungulate carcass free from toxic NSAIDs

A total of six vulture safe feeding sites operated by BCN are providing diclofenac free food to vultures. Since October 2012 to November 2013, a total of 426 diclofenac free cattle carcasses were fed to vultures.

Awareness materials:

Posters on "Vultures of Nepal"

1000 copies of poster entitled "Vultures of Nepal" aims to disseminate the information on species of vultures that are found in Nepal and make local people recognize, care and love each vulture species of Nepal. Additionally, through these posters an important message to stop diclofenac and contribute vulture conservation is highlighted.

Leaflets

5000 copies of leaflets having the key message on vulture conservation were produced and distributed to local communities.

Stickers

2000 copies of stickers having the message "A campaign for diclofenac free Nepal" have been printed in March 2013. The objective of printing these stickers is to raise awareness among public on the ban of diclofenac and stop illegal use of diclofenac in Nepal.

T-shirts

100 T-shirts have been printed containing the key message "A campaign for diclofenac free Nepal" in March. These are believed to disseminate the message on not using human diclofenac in veterinary use. T-shirts have been distributed to different stakeholders.

Fundraising : See report 12.2 for fundraising in Nepal

ANNEX-1: Diclofenac Free Zones in Nepal

S.N.	Districts	Date declared	Area in Sq Km
1	Dang	26-Nov-10	2,955
2	Chitwan	25-Dec-10	2,218
3	Kanchanpur	28-Dec-10	1,610
4	Banke	1-Jan-11	2,337
5	Nawalparasi	16-Jan-11	2,162
6	Palpa	21-Jan-11	1,373
7	Kailali	25-Jan-11	3,235
8	Kapilvastu	26-Jan-11	1,738
9	Bardia	28-Jan-11	2,025
10	Rupandehi	17-Feb-11	1,360
11	Kaski	28-Feb-11	2,017
12	ILam	12-Mar-11	1,703
13	Lamjung	12-May-11	1,692
14	Arghakanchi	1-Jun-11	1,193
15	Ramechhap	May-11	1,546
16	Dhanusha	May-11	1,180
17	Gulmi	8-Apr-12	1,149
18	Syanja	23-Apr-12	1,164
19	Tanahun	17-Jun-12	1,546
20	Gorkha	2-Jul-12	3,610
21	Pyuthan	2-Jul-12	1,309
22	Salyan	12-Dec-12	1,462
23	Baitadi	20-Dec-12	1,519
24	Dadeldhura	22-Dec-12	1,538
25	Myagdi	25-Jan-13	2,297
26	Baglung	30-Jan-13	1,784
27	Dhading	1-Feb-13	1,926
28	Surkhet	12-Feb-13	2,451
29	Parbat	15-Feb-13	494
30	Rolpa	20-Feb-13	1,879
31	Manang	17-May-13	2,246
32	Mustang	21-May-13	3,573
33	Doti	18-Jun-13	2,025
Total			**62,316**

5.3: Establishment and maintenance of Vulture Safe Zones in Pakistan

Reporters: Uzma Khan, Campbell Murn, Uzma Saeed

Boundary demarcation of the proposed Vulture Safe Zone area

The Vulture Safe Zone area has been demarcated in 100km diameter around the Nagar Parkar Tehsil in the district Tharparkar,Sindh (Figure 5.31). The long term objective of this project is to eradicate the use of Diclofenac Sodium and other harmful NSAIDs from this area.

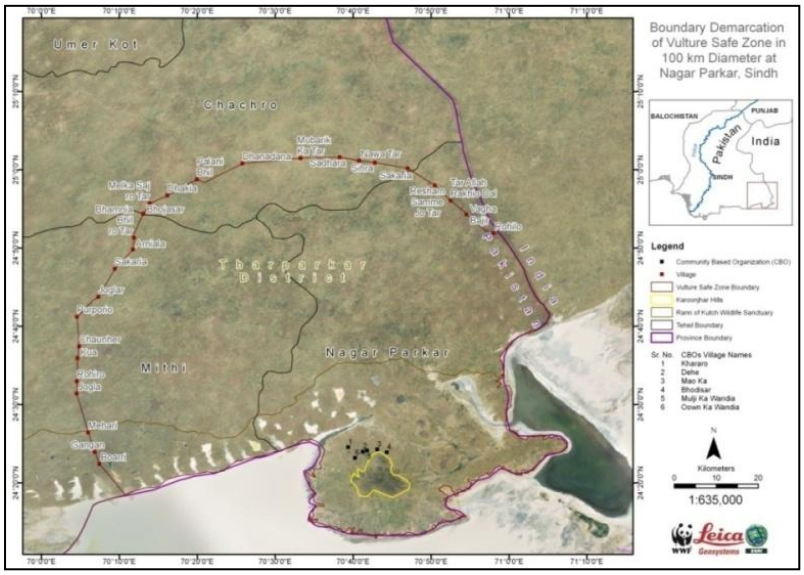


Figure 5.31 Demarcation of the Vulture Safe Zone in 100km diameter at Nagar Parkar

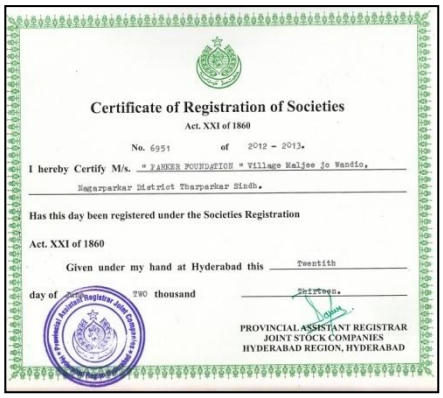
Free livestock de-worming camps for local communities

Two days deworming camps of the cattle and other livestock to support the local communities at Nagar Parkar were organized at villages i.e. Malji Jo Wandio, Maoo and Kasbo (located around the *Gyps* vultures breeding colonies) on 17th and 18th September 2013 in collaboration with ICI-Pakistan (Figure 5.32). ICI-Pakistan provided free medicines and provided information on better livestock husbandry practices to the local communities. The animal diseases observed were endo & ectoparacitic problems, fever & pain, weakness, PPR, diarrhoea, chronic wounds on face & skin and metabolic disorders.

Figure 5.32: De-worming camp activity organized at village Malji Jo Wandio, Maoo and Kasbo at Nagar Parker

Establishment Of Community Based Organization (CBO)

"Parker Foundation" has been registered and established as a CBO in the priority villages located around the *Gyps* vulture colonies namely, Malji Jo Wandio, Maoo, Kasbo, Bhodesar, Khararo, Dehe and Oown ka Wandia (villages marked in Figure 1, registration certificate and CBO inauguration shown in Figure 5.33).



Certificate of Registration of Societies

Act. XXI of 1860

No. 6951 of 2012 - 2013.

I hereby Certify M/s. " PARKER FOUNDATION " Village Maljee jo Wandio, Nagarparkar District Tharparkar Sindh.

Has this day been registered under the Societies Registration

Act. XXI of 1860

Given under my hand at Hyderabad this Twentith

day of TWO thousand Thirteen.

PROVINCIAL ASSISTANT REGISTRAR
JOINT STOCK COMPANIES
HYDERABAD REGION, HYDERABAD

Figure 5.33: Inauguration (left) and registration certificate of Parker Foundation (right)

Consultative Awareness Raising Sessions

Three awareness raising sessions were organized engaging more than 300 people including veterinary doctors in the villages of Mitthi, Sukhpur and Adhigam during 2012 (Figure 5.34). The participants were given awareness about introducing better managed husbandry practices for their livestock, to use meloxicam instead of diclofenac sodium and educating them about dangers of diclofenac sodium to the *Gyps* vultures in addition to the discussions whether the diclofenac sodium is still used, if yes then in what form and where is it available.

In 2013, community sessions were conducted in villages Kasbo, Khipora, Malji Jo Wandio, Maoo and Bhodisar in order to form a CBO named "Parker Foundation". Three sessions were conducted in each village targeting about 30 participants.

Figure 5.34: Consultative Awareness Raising sessions organized at different villages in Vulture Safe Zone

Veterinary Stores and Doctors in District Tharparkar

There are a total of 291 veterinary dispensaries and stores in the District Tharparkar,of which many are not functional. Thirty five veterinary clinics and dispensaries are present in Nagar Parkar alone. There are twelve veterinary doctors available in the District Tharparkar (Source: Thardeep Rural Development Programme). A network is to be established focusing on this baseline data with local veterinarian and para veterinarian staff to educate them about the link between diclofenac and *Gyps* vultures mortality.

5.4: Establishment and maintenance of Vulture Safe Zones (VSZs) in Bangladesh

Reporters: M. Monirul H. Khan and Enam Ul Haque

VSZs have not yet been established in Bangladesh, but in the first meeting of the BNVRC a five-member sub-committee, headed by Mr. Enam Ul Haque, has formed to propose areas for declaration as VSZs. Based on the existing information on vulture relative abundance and nesting colonies the sub-committee will identify the areas that deserve the status of VSZs and will present their comments in the next meeting of BNVRC. If all members of BNVRC agree on the proposed areas, the areas will be declared as VSZs by the FD. Notably, two most probable areas for VSZs in Bangladesh are in the northeast (Greater Sylhet) and in the southwest (Greater Khulna). If a 100 km radius is considered, both sites will cross the international boundary, which will highlight the need for regional approach to manage the VSZs. The project of IUCN-Bangladesh will also work on establishment and maintenance of VSZs in Bangladesh through active participation of the FD and the local communities.

5.5: Monitoring Vulture Safe Zones in India

Reporters: Vibhu Prakash & Toby Galligan

RSPB and BNHS support monitoring by six Vulture Safe Zone teams (local NGOs) in four Provisional Vulture Safe Zones (PVSZ). In addition, a seventh BNHS team conducts monitoring in a fifth VSZ.

Initially, we planned for teams to conduct livestock carcass, pharmacy and vulture colony surveys, but this has only been met partially. Because "dipsticks" turned out to be inappropriate for carcass sampling, no samples have been specifically collected from the PVSZ; however the nationwide carcass survey does include some sites within PVSZs (also see alternative method below). For the current status of pharmacy surveying in PVSZs see Report 8. Most teams have provided data on vulture numbers at colonies.

Monitoring in PVSZ is at an important junction. First, current funding for PVSZs has either finished or will have finished in March 2014. Second, future activities within PVSZs will be largely run by BNHS, particularly monitoring. We are currently seeking field biologists to work for BNHS, alongside existing teams, in two PVSZs: Uttar Pradesh; and Gujarat. Future PVSZ activities will be focussed in these two zones and the already BNHS-run Assam zone. This will improve the quality and coverage of monitoring (and advocacy work). RSPB is funding their initial contracts. Despite this apparent "downsizing" of PVSZs, we will still provide technical and financial support (where we can) to the PVSZ teams that are producing good data, such as the Jharkhand (soon to be Jharkhand and Bihar) team.

5.6: Monitoring Vulture Safe Zones in Nepal

Reporters: Khadananda Paudel & Toby Galligan

BCN conducts livestock carcass, pharmacy and vulture colony monitoring in Nepal's Vulture Safe Zone in the western lowlands.

For the current status on carcass and pharmacy surveys see Reports 7 and 9, respectively. Vulture colony monitoring is conducted by BCN and three local NGOs at five sites with the VSZ.

See above idea for tracking vultures as an alternative method of monitoring PVSZs.

Site	Year			
	2009-10	2010-11	2011-12	2012-13
Nawalparasi	73	53	44	26
Rupandehi	25	22	80	68
Kapilbastu	15	24	22	14
Dang	69	57	33	58
Kailali	50	55	68	76
Arghakhanchi	13	21	15	17
Rampur	14	21	36	53
Palpa	4	2	2	1
Kanchanpur	1	3	9	12
Syangja and Tanahun	13	12	10	14
Kaski	11	0	0	1
Total	288	270	319	340

Figure 5.61: Nesting colony counts for the Oriental white-backed vulture at 11 sites in Nepal between 2009-2013.

6. Safety testing of veterinary NSAIDs

6.1 Safety testing of veterinary NSAIDs in India

Reporters: Vibhu Prakash, Anil Sharma & Mohini Saini.

The project submitted to MoEF (India) in 2012 has not been granted so far. It is under review for active consideration. As such, unfortunately there is not much to report.

*

[note that some Gyps vulture safety-testing work has been carried out in South Africa which we had hoped to include or summarise in this report]

7. Vulture Advocacy at National Level

7.1: Vulture Advocacy at national level in India

Reporters: Vibhu Prakash, Ananya Mukherjee, Ram Jakati, Chris Bowden

Summary: Pressure to get the multidose vial diclofenac ban has not so far produced any discernible result although there has been some headway in contact with senior officials of the Health and also Environment and Forests Ministries. Following the meeting with the Union Health Secretary, Mr. Pradhan, IAS, in October 2012, Dr. Jakati and Vibhu Prakash met him again in early January 2013 to request him to ban the multi-dose vials of diclofenac for human use. Dr. Jakati followed it up further with phone calls and messages. Mr. Pradhan maintained that the matter is with the technical committee of their Ministry and unfortunately he retired at the end of January 2013. The Regional Steering Committee met in April and national coordinating group have been nominated for India. The development of an overall SAVE advocacy strategy has progressed slowly partly because BNHS's national advocacy officer position remained vacant for much of the period but is expected to be filled by early November.

Multidose human diclofenac ban

Mr. Garbyal, IFS, the Additional Director General (Wildlife), during his visit to the Vulture Conservation Breeding Centre, Pinjore in April 2013, was given a letter along with all the relevant scientific papers requesting him to impress upon the Ministry of Health to ban the manufacture and use of multi-dose vials for human use as they were being misused in treating cattle and livestock.

In April 2013, the Regional Steering Committee met for the third time. This meeting was a significant milestone as it marked the formation of the National Vulture Recovery Committee in India alongside Nepal and Pakistan. The urgency of banning the multi-dose vials for human use was strongly put forward in presence of the Secretary, Ministry of Environment and Forests, Government of India and Mr. Garbyal, Additional Director General of Forests, MoEF, Government of India. Mr. Garbyal had promised to look into the matter.

The BNHS and RSPB continue to strive to progress the multi-dose vial ban by encouraging various non-governmental organisations to join the campaign and to raise the profile of the Vulture Conservation work in India.

SAVE (strong) letters were sent to 40+ pharma companies producing multidose human diclofenac vials (cc'd to BNHS, IUCN, VSZ coordinators) alerting them that this contravenes the Wildlife Act and requesting withdrawal (2 companies complied so far). No responses received from the companies (as expected), but:

- Bihar state IBCN coordinator reacted by follow-up meeting with drug controller and prompts to follow-up with other state level officials (drug controller & forest dept)

- In Maharashtra an independent group also took similar initiative prompting Govt letters to be issued and generating excellent press coverage (we also set up link on SAVE website)
- An independent signature campaign has been started whereby various local organisations and volunteers involved in vulture conservation are signing up to a written petition to the central government/Prime Minister for the multi-dose vial ban.

State level initiatives

Meetings in Gujarat revealed that a company is supplying (well formulated) meloxicam at a subsidised price with further subsidy from within the state to popularise the product and bring it to parallel cost to diclofenac (note that a subsidy for all meloxicam products would not be desirable as many formulations are less effective because of their high pH).

Subsidised meloxicam (Super Melonex) is also distributed in Gujarat, by the Central Gujarat team as an independent initiative in partnership with Intas pharmaceuticals, who sells it to the team at Rs 35 per bottle. This is sold, at the subsidised market price of Rs 40, to all the paravets and vets within the vicinity where PVSZ is ongoing. The other initiative of free meloxicam distribution is currently ongoing in Jharkhand as well.

Advocacy work at the State government level which included lobbying with the State Drug controllers of PVSZ states, which was initiated last year by visiting State Drug Controllers to raise their awareness on vulture conservation work and the misuse of the human diclofenac in the veterinary sector, gradually gathered momentum. It led to the issuance of letters endorsing/reinforcing implementation of diclofenac ban issued by Drug Controllers of Assam, Gujarat, Haryana, Jharkhand, Uttarakhand, and Maharashtra and it is hoped that the rest of the important PVSZ states would soon follow suit. As part of the Advocacy strategy plan, these letters need to be compiled together along with any other state government level circulars and presented to the Drug Controller General of India and the Health Secretary to build a case of the rampant misuse of the human diclofenac in the veterinary sector leading to the issuance of these notices.

The Drug Controlling Authority and Director Animal Husbandry are invited to the Governing Council meetings of all the three Conservation Breeding Centres run by BNHS in association with the State Governments.

Various

In April 2013, the Regional Steering Committee met for the third time. This meeting was a significant milestone as it marked the formation of the National Vulture Recovery Committee in India alongside Nepal and Pakistan.

Later on in the year, a second letter was independently written by Green Indian States Trust (GIST) to the Health Secretary requesting the government to subsidise meloxicam but we understand there has been no apparent reaction to this so far.

The BNHS Advocacy officer, Janki Teli left the project during February 2013. The project is actively looking for a person to take up the position which has taken some time. The vacant position of National Advocacy person hampered the follow up meetings with senior government officials A person has now being short listed who is set to join in early November 2013.

7.2: Vulture advocacy at national level in Nepal

Reporters: Khadananda Paudel and Chris Bowden

National Workshop on "Effects of Diclofenac on Vultures and its Currents Issues in Nepal"

Bird Conservation Nepal in collaboration with Department of National Parks and Wildlife Conservation, Nepal held this meeting on 13/3/13 in Kathmandu.

The 17 participants included the following key people:

- Shyam Kumar Adhikari Drug Inspector Department of Drug Administration office,
- Dr. Narayan Prasad Ghimire, Senior Veterinary Officer Registrar Nepal Veterinary Council,
- Dr. Bimal K. Nirmal President Nepal Veterinary Association,
- Dr. Salina Manandhar Chief of Veterinary Standard and Drug Administration Office,
- Dr. Tulsi Ram Gompo Veterinary Officer Animal Quarantine Office Kathmandu,
- Prativa Kaspal Conservation Officer Himalayan Nature
- Ambika Prasad Khatiwada Conservation Officer NTNC
- Krishna Tamrakar Vice president, Executive Council of Bird Conservation Nepal

Focus of the meeting was on the use of 30 ml Human Diclofenac on the Veterinary practices and proper legislative measures to control it. Sushila C Nepali, CEO presented on "Bird Conservation Nepal and its Programme", Khadananda Paudel, Vulture Conservation Officer presented on "Vulture Conservation Efforts in Nepal" and Dr Amir Sadaula, Veterinary Officer presented on "Practices of NSAIDs use in Nepal".

Dr. Narayan Prasad Ghimire, Senior Veterinary Officer Registrar of Nepal Veterinary Council, Shyam Kumar Adhikari, Drug Inspector at Depatment of Drug Administration and Dr. Bimal Kumar Nirmal, President at Nepal Veterinary Association focused more on the coordination required between the stakeholders regarding Diclofenac monitoring and the need for more advocacy work within vulture safe zones. Discussion was focused on the proper control on the use of 30 ml vial of human Diclofenac produced in Nepal. Participants also discussed the recent trend of pesticide poisoning in vultures and way to control them through participatory and coordination role between different stakeholders working in the field of vulture conservation. Although no clear outcomes were recorded, this was an important meeting for generating support at high levels for what is needed.

Other Meetings

Seven coordination meetings took place during the year at Department of National Parks and Wildlife Conservation. These were between the three partners, Department of National Parks and Wildlife Conservation, National Trust for Nature Conservation and Bird Conservation Nepal. These meetings have significantly improved coordination and communications primarily for the breeding centre.
The meetings were also useful to initiate and draft the new five year plan for the Kasara Vulture Conservation Breeding Centre at Chitwan. This in turn will feed in to the National Action Plan which is about to be updated.

Two meetings took place with Department of Livestock Services and Directorate of Animal Health to discuss on exportation of collected liver samples of cattle from different parts of Nepal. These meetings were successful in obtaining permission for transporting one batch of liver samples (extracts) of cattle to United Kingdom for full testing the presence of diclofenac.

BCN supported 'Nepal Vulture Conservation and Movement Network', a network of all local implementing organizations working for vulture conservation in Nepal, to develop and submit a proposal to Ministry of Forests and Soil Conservation. The proposal was submitted on July 2013and the Department of National Forest, Nepal has responded by sending letters dated 26 September, 2013 to all concerned District Forest Offices to support all vulture safe feeding sites. So the Government of Nepal has now formally recognized the establishment and operation of vulture safe feeding sites for vulture conservation in Nepal.

Please also see report 8.2 and 9.3 for related topics of engagement with the pharma industry in Nepal and media coverage and publicity.

7.3: Vulture advocacy at national level in Pakistan

Reporters: Uzma Khan, Campbell Murn and Uzma Saeed

A poster has been printed in the local Sindhi language for awareness raising and lobbying with the local communities in order to sensitize them about the ecological importance of vultures (shown in Figure 7.31).

Figure 7.31: Poster developed in local Sindhi language to educate local communities at Nagar Parker, Sindh

A paper on the population assessment of the White-backed vulture *Gyps bengalensis* and Long-billed vulture *Gyps indicus* is currently being drafted.

International Vulture Awareness Days (IVAD) 2012 and 2013

WWF-Pakistan celebrated International Vulture Awareness Days during 2012 and 2013 in the first weeks of September each year. WWF-Pakistan celebrated the day in 2012 at Lahore Zoo (Figure 7.32).

Figure 7.32: Vulture Awareness Day at Lahore Zoo in September 2012

A seminar was organized at the University of Veterinary and Animal Sciences, Lahore to celebrate this day in 2013 (Figure 7.33).

Figure 7.33: Vulture Awareness Day at University of

Veterinary and Animal Sciences in September 2013

The pre event articles were published in leading national English and Urdu newspapers in order to raise awareness among masses whereas the events themselves during 2012 and 2013 received considerable print and electronic media attention (Figure 9).

WWF project preserving endangered vulture species

Project advocates for implementation of ban on anti-inflammatory drug

Different vulture species decline by more than 90pc: WWFP

Vulture Awareness Day observed

By Our Staff Reporter

LAHORE, Sept 6: Around 100 faculty members, students, activists and volunteers celebrated International Vulture Awareness Day 2013 at the University of Veterinary and Animal Sciences. The event was organised by the World Wildlife Fund for Nature-Pakistan (WWF-Pakistan).

WWF cites the white-backed vulture (Gyps bengalensis) as one of its priority species for conservation, according to a press release it issued on Friday.

Speaking on the occasion, Prof Dr Akram, dean of the Faculty of Wildlife and Fisheries, talked on the importance of biodiversity in Pakistan and International Vulture Awareness Day. He also appreciated the conservation efforts being undertaken by WWF-Pakistan to save the endangered white-backed and long-billed vultures.

A documentary, 'Missing Vultures', was also screened at the event, drawing attention to the Gyps vulture crisis. Hassan Ali, conservation assistant manager at WWF-Pakistan, highlighted the decline of Gyps vultures in the subcontinent and particularly in Pakistan.

He also shared field experiences while exploring the causes of vulture mortality and decline in Pakistan.

Uzma Saeed, conservation coordinator WWF-Pakistan, shared details of the ongoing in-situ and ex-situ Gyps vulture conservation projects by the organisation.

She mentioned the major achievement of these projects was the successful lobbying with the Pakistan government to ban the sale and manufacture of Diclofenac Sodium, a drug administered to livestock that caused their death.

The event was part of activities undertaken by vulture conservationists around the world in the first week of September each year.

International Vulture Awareness Day was initiated by the Birds of Prey Programme, South Africa and the Hawk Conservancy Trust, England.

CONSERVATION

International Vulture Day seminar

LAHORE: Vultures are on the brink of extinction and there is a need to conserve them to preserve biodiversity in the ecology. These views were expressed by speakers at a seminar organised as part of the International Vulture Awareness Day at UVAS in collaboration with WWF-Pakistan. The speakers highlighted the importance of the specie, further calling for 'vulture restoration' to end the 'vulture crisis.' APP

Figure 7.34: Vulture Awareness Day Press Clippings and Pre-event Newspaper Articles

7.4: Vulture advocacy at national level in Bangladesh

Reporters: M. Monirul H. Khan and Enam Ul Haque

Most notable advocacy for vulture conservation was the celebration of International Vulture Awareness Day on 08 September 2013 (since 07 September was holiday in Bangladesh), which was organized by the FD. Many people of different levels had attend the programme and the media highlighted it. A colourful poster was published by the FD to aware people about vulture conservation. This was distributed among the participants and was sent to different offices. Under the project of IUCN-Bangladesh many awareness programmes will be conducted in the next year targeting the villagers and school children.

7.5: Vulture advocacy at national level in Cambodia

Reporter: Simon Mahood

Introduction

To the best of our knowledge, diclofenac and other NSAIDs toxic to vultures are not used for veterinary purposes in Cambodia. Nonetheless, poisoning is a significant threat to Cambodia's vultures. Agricultural chemicals are widely used to poison problem dogs, and to kill birds, mammals and fish for human consumption. Domestic cattle are also sometimes poisoned by neighbors to settle disputes. Owing to their feeding preferences, vultures are the unintended victims of these questionable practices.

Activity in 2012-13

Regrettably, a combination of circumstances, largely financial, has meant that there have been no targeted advocacy to prevent poisoning of vultures during the reporting period. We recognize that this is a major constraint to our conservation program, and have developed a proposal to CEPF (which we are confident will receive some funding) which has a strong emphasis on advocacy to prevent poisoning. There have been a number of incidents of vulture poisoning in 2013 at Western Siem Pang IBA, all of which can be traced to the use of agricultural chemicals to poison domestic cattle as a result of social disputes. The meat of the cattle concerned is typically sold and consumed by people, if the vultures have not got to it first. Planned advocacy will therefore focus on the potential human health risks of poisoning domestic cattle.

8. Engagement with the pharmaceutical industry

8.1: Engagement with the pharmaceutical industry in India

Reporters: Chris Bowden & Vibhu Prakash

Communication with pharmaceutical industry in India

- The leading manufacturer of meloxicam, Intas, now markets a refined formulation of meloxicam which appears to closely match the Boehringer Ingelheim formulation released from patent for India. Many more companies are producing meloxicam, but often poorly formulated with extremely high pH.
- There has been ongoing contact with Intas, the major supplier of meloxicam in India
- A list of 45 Indian companies producing the large 'multidose' human diclofenac was compiled and all were written to directly by SAVE requesting their immediate withdrawal and making reference to the Wildlife Protection Act (sample below – Annex 8.1). Although both Novartis and Intas had already withdrawn their large vials, NONE of the Indian companies approached (in March 2013) has so far responded (unlike in Nepal – see report 8.2).
    - Note that there was some positive uptake and reaction by groups and individuals from the BNHS Indian Bird Conservation Network to this initiative came notably from Pramod Patil in Maharashtra, and from Anil Mishra in Bihar (see also Indian Advocacy Report 7.1)
- Note: Plans to meet with OPPI in Mumbai (a federation of Indian pharma companies) are still in place, but this has not yet happened.

Annex 8.1 Sample SAVE letter written to companies:

SAVING ASIA'S VULTURES FROM EXTINCTION

Chairman *Professor Ian Newton, FRS, FRES, OBE*

27 March 2013

The Director

[Address of Company]

Subject: **Request to discontinue the manufacture and sale of 30 ml multi-dose vials of human formulations of diclofenac as its illegal use is killing Critically Endangered vultures (listed on Schedule I of Indian Government Wildlife Protection Act 1972)**

Dear Mr xxxxx ,

This letter requests the immediate discontinuation of production and sale of multi-dose vials (30ml) of the drug diclofenac currently produced by your company. There is a growing body of evidence that human formulations of diclofenac are being illegally used by vets, paravets and non-trained people to treat livestock. Typically the human dose required is up to 3 ml and larger multi-dose vials are not essential for treating humans. An important and very unfortunate consequence of such sale and use of multi-dose vials is its extensive illegal use in treating ailing cattle within the State of [State eg Maharashtra] and beyond. This is subsequently killing vultures and sending them to extinction as diclofenac is extremely toxic to vultures.

The vultures are exposed to diclofenac when they feed on the carcass of an animals which died within 72 hours of administration. They are classified as Critically Endangered by IUCN and are covered by Schedule I of Wildlife Protection Act 1972 which means that they have the highest level of protection and there is severe punishment for doing harm to these species. Diclofenac is the main cause of the dramatic 99% declines that have already taken place, causing serious environmental and cultural consequences. For instance, this has led to an increase in the number of feral dogs that benefit from the food the vultures once consumed. Consequently, this means there are increased risks of rabies cases for humans alongside spread of other infectious diseases. There are several other ways that this has also increased pollution and even had major cultural impacts.

As you will be aware, the sale and use of diclofenac for veterinary purpose has been banned in the Indian market since 2006 (F.No. 18-03/2006-DC), and we would like to inform you that your company has a potential liability of being held responsible for indirectly killing a Schedule I species.

I take this opportunity to request you to stop the production, packaging and sale of vials of human formulation diclofenac greater than 3ml. Two leading pharmaceutical companies in India have already ceased production of large vials and we very much hope you will promptly follow this enlightened example. I would be most grateful if you would inform me if such a step is already underway.

I hereby attach the Ministry of Health and Family Welfare notification (please see below) which explains GSR 499(E) and provides further clarification for your records. We sincerely hope that you would discontinue the sale of 30 ml diclofenac as it is a Vulture killing drug.

Thanking you in anticipation,

Yours sincerely,

Mr Chris Bowden
SAVE Programme Manager
c/o Royal Society for the Protection of Birds,
International Operations, The Lodge, Sandy, Beds SG19 2DL, UK.

CC: Director, Bombay Natural History Society, Mumbai, Maharashtra
Country Representative, IUCN India, Delhi,

President, Mahseer Conservancy, Uttarakhand
Vice-President, Katerniaghat Foundation, UP (Terai East)
President, Neo-Human Foundation, Jharkhand
President, Tarai Nature Conservation, UP (Terai West)
Mr Kartik Shastri, Ahmedabad, Gujarat
Ms Ruchi Dave, Mahuva, Gujarat

References (available for download from www.save-vultures.org if required or on request):

- Cuthbert et al, 2011. Assessing the ongoing threat from veterinary non-steroidal anti-inflammatory drugs to Critically Endangered Gyps vultures in India. *PlosOne.*
- Green et al, 2004. Diclofenac poisoning as a cause of vulture population declines across the Indian subcontinent. *Journal of Applied Ecology.*
- Green et al, 2007. Rate of Decline of the Oriental White-Backed Vulture Population in India Estimated from a Survey of Diclofenac Residues in Carcasses of Ungulates. *PlosOne.*
- Oaks et al, 2004. Diclofenac residues as the cause of vulture population decline in Pakistan. *Science.*
- Prakash et al, 2003. Catastrophic collapse of Indian white-backed Gyps bengalensis and long-billed Gyps indicus vulture populations. *Biological Conservation.*
- Prakash et al, 2007. Recent changes in populations of resident Gyps vultures in India. *Journal of Bombay natural History Society.*
- Taggart et al, 2007. Diclofenac residues in carcasses of domestic ungulates available to vultures in India. *ScienceDirect.*

MINISTRY OF HEALTH AND FAMILY WELFARE

(Department of Health)

NOTIFICATION

New Delhi, the 4th /5th July, 2008

*__G.S.R. 499(E).—__ Whereas the Central Government is satisfied that the use of drug formulations containing Diclofenac are likely to involve risk to animals;

And, whereas, safer alternative to the said drug is available;

And, whereas, the Central Government is satisfied that it is necessary and expedient in the public interest to prohibit the manufacture, sale and distribution of Diclofenac and its formulations for animal use;

Now, therefore, in exercise of powers conferred by Section 26A of the Drugs and Cosmetics, Act, 1940 (23 of 1940), the Central Government hereby prohibits the manufacture, sale and distribution of the following drug, with immediate effect, namely :—

"Diclofenac and its formulations for animal use".

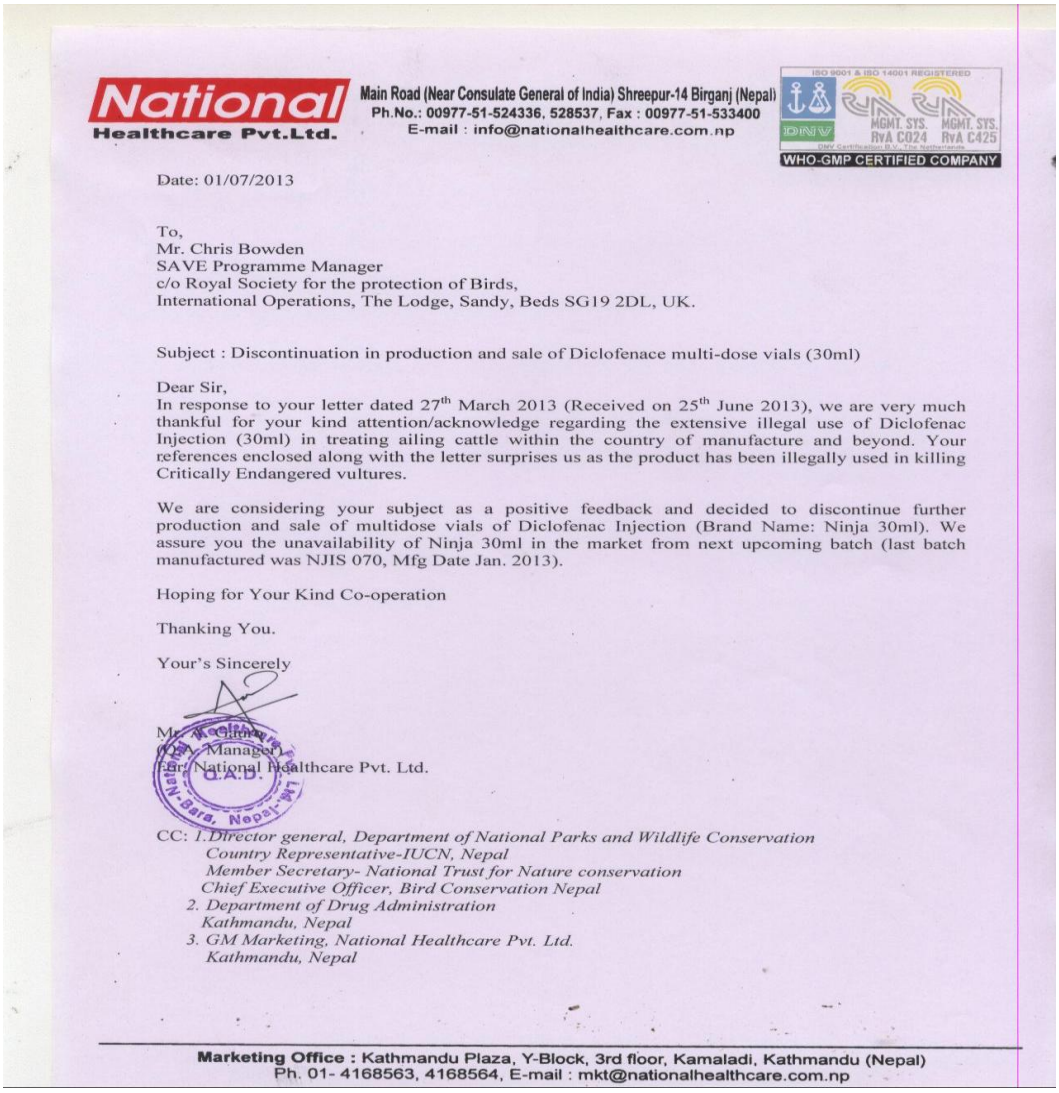
8.2: Engagement with the pharmaceutical industry in Nepal

Reporters: Chris Bowden and Khadananda Paudel

Communication with pharmaceutical industry in Nepal

Following up on recent information collected by the BCN team indicating that National Healthcare Pvt Ltd. was producing the large ('multidose') human diclofenac vials under the brandname 'Ninja', a letter was sent to National Healthcare Pvt. Ltd. at Birgunj, Nepal by SAVE in June 2013 requesting them to stop production of these larger vials. In response to the letter, and following a follow-up approach by the Nepalese Department of Drug Administration who had been copied to the letter, National Healthcare Pvt. Ltd. replied to SAVE (see below) saying that the company has discontinued the production of 30 ml. vials of human diclofenac through a letter dated 1 July, 2013.No other Nepalese companies are thought to produce these larger vials. No other direct contact with Nepalese pharma companies during the year.

ANNEX-1: Letter received from National Healthcare Pvt. Ltd.



National
Healthcare Pvt.Ltd.

Main Road (Near Consulate General of India) Shreepur-14 Birganj (Nepal)
Ph.No.: 00977-51-524336, 528537, Fax : 00977-51-533400
E-mail : info@nationalhealthcare.com.np

ISO 9001 & ISO 14001 REGISTERED
MGMT. SYS. RvA C024 MGMT. SYS. RvA C425
WHO-GMP CERTIFIED COMPANY

Date: 01/07/2013

To,
Mr. Chris Bowden
SAVE Programme Manager
c/o Royal Society for the protection of Birds,
International Operations, The Lodge, Sandy, Beds SG19 2DL, UK.

Subject : Discontinuation in production and sale of Diclofenace multi-dose vials (30ml)

Dear Sir,
In response to your letter dated 27th March 2013 (Received on 25th June 2013), we are very much thankful for your kind attention/acknowledge regarding the extensive illegal use of Diclofenac Injection (30ml) in treating ailing cattle within the country of manufacture and beyond. Your references enclosed along with the letter surprises us as the product has been illegally used in killing Critically Endangered vultures.

We are considering your subject as a positive feedback and decided to discontinue further production and sale of multidose vials of Diclofenac Injection (Brand Name: Ninja 30ml). We assure you the unavailability of Ninja 30ml in the market from next upcoming batch (last batch manufactured was NJIS 070, Mfg Date Jan. 2013).

Hoping for Your Kind Co-operation

Thanking You.

Your's Sincerely

Mr. [illegible]
(G.M. Manager)
For: National Healthcare Pvt. Ltd.

CC: *1. Director general, Department of National Parks and Wildlife Conservation*
Country Representative-IUCN, Nepal
Member Secretary- National Trust for Nature conservation
Chief Executive Officer, Bird Conservation Nepal
2. Department of Drug Administration
Kathmandu, Nepal
3. GM Marketing, National Healthcare Pvt. Ltd.
Kathmandu, Nepal

Marketing Office : Kathmandu Plaza, Y-Block, 3rd floor, Kamaladi, Kathmandu (Nepal)
Ph. 01- 4168563, 4168564, E-mail : mkt@nationalhealthcare.com.np

8.3: Engagement with the pharmaceutical industry in Pakistan

Reporters: Uzma Khan, Campbell Murn and Uzma Saeed

The meloxicam formulation in Pakistan needs to be improved for which ICI-Pakistan was contacted on 15th May 2013 in order to draw their attention to improve the veterinary formulation of meloxicam as per the copyright waiver from the pharmaceutical company Boehringer Ingelheim in Europe.

ICI-Pakistan's representative from the Animal Health Division has agreed to take appropriate measures in order to improve the meloxicam formulation manufactured by ICI-Pakistan. After ICI-Pakistan improves the quality of the meloxicam formulation, WWF-Pakistan aims to contact and collaborate with other pharmaceutical companies such as Leads Pharma, SJ & G Fazul Ellahie, Selmore Pharma, Star Labs and Breeze Pharma from whom meloxicam samples were sent to the UK for potency testing as well. Furthermore, ICI-Pakistan is also interested to collaborate with WWF-Pakistan in order to organize a national level pharmaceutical industries workshop in Pakistan.

The six samples of meloxicam formulations were sent to RSPB in UK for potency testing and were analyzed by the Environmental Research Institute (ERI), University of the Highlands and Islands, UK (the report was prepared by Dr. Richard Cuthbert, Principal Conservation Scientist at RSPB and the samples were analysed by Dr. Mark Taggart from ERI).

8.4: Engagement with the pharmaceutical industry in Europe

Reporters: Chris Bowden, Rob Sheldon, Conor Jameson

Contact with the industry in 2013 has focused on Boehringer Ingelheim (BI) in Germany following up on an RSPB visit to their HQ last year. They gave good profile to SAVE in their latest Annual Report, launched in April, and read by their workforce of 40,000-plus staff. We have now had contact with their UK office and another vulture article was published in their in-house magazine 'AHEAD', highlighting SAVE. This is the second article as one appeared in 2009 and retired head of their research team, Dr Juergen Daemmgen continues to liaise with BI as well as providing invaluable advice and technical help to the programme.

Within India, there was an indication that the main Indian meloxicam producer has 'copied' the BI formulation more closely which is good news as it is likely to be preferred by vets and thereby enhance meloxicam sales and use. This follows BI's generous release of patent in India.

There has been less contact this year with the wider industry in Europe as we have explored specific options for support on a large scale from BI, although one further presentation has been given by Juergen to Roche Pharmaceuticals, to highlight the issue and SAVE and to generate further interest there.

When we have a clearer idea of the likely parameters of BI's support over time, we can formulate an approach that could seek smaller donations from a wider range of companies,

who may wish to support a SAVE Fund, especially if we can enlist the backing of industry bodies such as the ABPI and its equivalents in other geographical areas. It may be that with one or two companies on board this peer influence will help us to widen the net. We may seek to replicate this approach in other countries, with SAVE partners taking the lead so that we have due regard to local sensitivities.

The future

Engagement with the pharmaceutical industry is an area of work that needs much more momentum and resources behind it. The industry is financially well off and there must be a strong possibility of finding significant funding. The problem seems to be we lack the knowledge and contacts to make meaningful progress on this subject area. The 'cold-calling' approach we have tried to date has not been successful and we need to rethink our strategy. SAVE partners are asked to consider how we can make significant progress over the next 12 months, and to task someone to develop this further.

Annex 8.4: Appeal prepared for pharma industry for potential support.

Saving Asia's Vultures from Extinction

For as long as anyone can remember, vultures have been an ever-present and spectacular sight in the South Asian landscape. However, in recent years, they have virtually disappeared. Scientists warn that unless we take immediate action to help them, vultures are doomed to **extinction**.

As recently as 1990, the total number of Oriental White-backed, Long-billed and Slender-billed Vultures in India and Nepal was about 40 million. Indeed, Oriental White-backed Vultures were probably the most numerous large bird of prey in the world – now they are on the verge of **extinction**. The total vulture population is probably below 10,000 birds – that's an astonishing drop of 99.9% in just 20 years. It is probably the fastest declining group of birds in history – not an enviable accolade. The birds are now listed as Critically Endangered by the IUCN.

Intensive research has identified that **diclofenac**, an anti-inflammatory drug used to treat livestock, is the cause of the vulture's dramatic demise. It is highly poisonous to vultures. If a vulture feeds on an animal that has died within a few days of being treated with **diclofenac**, there is a very high chance it will die. Vultures tend to feed in flocks, and a single contaminated carcass can kill many birds.

The disappearance of vultures from Asia's skies is not just a conservation concern, it is also impacting negatively on humans. Populations of feral dogs and other scavengers have increased, as they feed on the large numbers of animal carcasses left lying around. This can lead to an increase in the incidence of dangerous and potentially fatal diseases, like rabies. Vultures used to be nature's very own carcass disposal service.

As an emergency measure a conservation breeding programme was established as an insurance policy against extinction. We now urgently need to establish areas where vultures can be returned to the wild. These areas are known as Vulture Safe Zones, where we work with local communities to remove **diclofenac** from the environment, and to ensure that safe alternatives such as meloxicam are used.

We are proposing that Boehringer Ingelheim join forces with RSPB and the SAVE consortium to support the next stage of the amazing fight to save these magnificent birds of prey from becoming Asia's equivalent of the extinct Dodo and Passenger Pigeon.

Outline budget (note figures in £1,000 units)

ITEM	**Yr 1 (£)**	**Year 2 (£)**	**Year 3 (£)**
Establishing 6 Vulture Safe Zones in India/Nepal with intensive advocacy at national levels.	200	220	240
High profile satellite tagging and publicity of vultures within potential release areas plus ongoing research and NSAID monitoring (including web-site development and maintenance)	150	160	170
Ongoing maintenance of the vulture conservation breeding programme in India & Nepal	250	270	290
Testing of alternative veterinary drugs and outlawing all unsafe products*	-	-	-
TOTAL	600	650	700

9. Public relations and media

9.1: SAVE Website

Reporter: Chris Bowden

The SAVE website was established in November 2011 and continues to be managed from UK, with help from an RSPB volunteer, Nigel Bush, and regular meetings and input mainly from the RSPB team. There have been updates and additions made to the site (averaging 1-2 per month) and the number of online donations has risen substantially during the year compared to 2012 (Table 9.11). the total of £3,500 this year has come from a huge number of often quite modest donations, unlike last year's total of £2,650, which was mainly from one large donation of £2000.

The numbers of Visitors to the site has remained fairly constant at between 500-650 per month, but some signs of an increase during the year to more months well over the 600 mark. The countries of origin is dominated by India (almost 50%!), followed by UK, USA, Nepal and Pakistan. Then a substantial number from Bangladesh, and a range of European countries, Canada, Australia, Japan, South Africa and more.

The pages most frequently visited include (in descending order) latest news, solutions to the problem, people, how my donation helps, resources (publications) and identification of the species.

Note that the Vulture Rescue website will shortly be discontinued, directing visitors to SAVE, once the funders pages fully acknowledge the appropriate funders sufficiently prominently (this should be imminent).

Links to SAVE website are now in place from most (but not all!) SAVE Partner websites and a further plea to ensure there are such links are all in place will be made shortly.

Plans for a major upgrade to the site are dependent on additional funds becoming available, as it is recognised that this could substantially improve the appeal of the site. It is also hoped that live Google-map tracking of satellite-tagged vultures will become possible, both for Red-headed vultures (currently being tracked) and eventually wild Gyps vultures and released vultures in future!

2012	£	2013	£		
Nov	33	Jan	636		
Dec *	945	Feb	235		
		Mar ^	725		
		Apr	80		
		May #	377		
		Jun	70		
		July	20		
		Aug	251		
		Sept	130		
Totals	978		2524	SAVE Year Total	3,502

Table 9.11. SAVE website online donations November 2012-September 2013. Note they are increasing compared to 2012 (£) with many more smaller donations

*includes £850 from UK Butterfly Park fundraiser
^includes £350 from Skene Parish Church, Scotland
includes £357 from RSPB regional curry night (Bempton, Yorkshire)

9.2: Public relations & media in India

Reporters: Atul Sathe & Ananya Mukherjee

The past one year has seen a growing interest in the vulture conservation programme in India. Different organisations across the region and states have increasingly been involved leading to the increased frequency of vultures being profiled in the print media.

- Coverage has appeared **a total of 237 times** in the last 18 months, which comes to over 13 stories per month. Compared to last year's news coverage of 93 times, this year's coverage has been an extra 144 times i.e. an increase in 35 percent news coverage indicating a growing interest of the media in the vulture conservation work in India
- Coverage has appeared based on BNHS initiated press releases, as well as feature stories triggered by some earlier BNHS /RSPB reports
- Coverage has appeared in newspapers and websites (including foreign), news agencies, radio and TV channels
- Includes vulture related coverage that appeared during CBD COP 11, Hyderabad
- Includes English language and Indian language coverage including Hindi, Marathi and Telugu

Due to the huge number of links, we have not added all here. Full links are available from Atul Sathe or Ananya Mukherjee or via SAVE. Selected links on the SAVE website.

9.3 Public relations & media in Nepal

Reporter: Khadananda Paudel

Media coverage seems to be increasing than the previous years. This year the coverage was focused on stopping the illegal use of diclofenac and need of supports from concerned stakeholders to conserve vultures in Nepal.

See Report 12 for awareness and distribution of awareness materials on vulture conservation in Nepal.

Media releases and coverage since September 2012 to September 2013

1. SOS, 1 Sep 2012 http://www.sospecies.org/sos_projects/birds/vultures_india/?10896/Raising-the-Voice-for-Vulture-Conservation

2. The Kathmandu Post 1 Sep 2012 http://www.ekantipur.com/the-kathmandu-post/2012/09/01/nation/call-for-efforts-to-save-endangered-vultures/239108.html

3. The Mountain News 11 Oct 2012 http://www.nepalmountainnews.com/cms/2012/10/09/vulture-awareness-programme-in-far-western-region/

4. The Himalayan Times 11 Oct 2012 http://www.thehimalayantimes.com/fullNews.php?headline=Vultures+in+South+Asia+on+verge+of+extinction&NewsID=350623

5. Birdlife Community, 18 Oct 2012 http://www.birdlife.org/community/2012/10/conserving-south-asias-vultures/

6. MYREPUBLICA, 7 Nov 2012 http://myrepublica.com/portal/index.php?action=news_details&news_id=44607

7. WCN, 8 Nov 2012 http://www.wcn.org.np/2012/11/08/News/Vulture-population-stable-for-last-few-years-Study-157.html

8. Z news, 21 Nov 2012 http://zeenews.india.com/news/eco-news/vulture-population-stabilises-in-india-nepal_811973.html

9. SOS, 26 Nov 2012 http://www.sospecies.org/sos_news/success_stories/?7658/Breakthrough-in-vulture-conservation-in-Nepal

10. Birding Asia, 11 Nov 2012 http://orientalbirdclub.org/wp-content/uploads/2012/11/Jatayu1.pdf

11. Wildlife Extra.com, 13 Nov 2012 http://www.wildlifeextra.com/go/news/asia-vulture.html#cr

12. MYREPUBLICA.com, 4 Dec 12 http://www.myrepublica.com/portal/index.php?action=news_details&news_id=45897

13. The Himalayan Times, 23 Dec 2012 http://www.thehimalayantimes.com/fullNews.php?headline=Dadeldhura+declared+diclofenac-free+district&NewsID=358875

14. Republica, 21 Jan 2013 http://www.myrepublica.com/portal/index.php?action=news_details&news_id=48616
15.Nepal mountain.com, 16 Jan 2013 http://www.nepalmountainnews.com/cms/2013/01/16/population-of-rare-vultures-rise-in-kosi-tappu/

16. Republica, 27 Jan 2013 http://www.myrepublica.com/portal/index.php?action=news_details&news_id=48976

17. NBC News, 7 Feb 2013 http://www.nbcnews.com/science/new-hope-saving-indian-vultures-deaths-door-1B8294595

18. Republica, 24 Feb 2013 http://www.myrepublica.com/portal/index.php?action=news_details&news_id=50504

19. Threatened Texa, 26 Feb 2013, http://threatenedtaxa.org/ZooPrintJournal/2013/February/o281626ii133603-3619.pdf

20. Himalayan Times, 5 Feb 2013, http://www.thehimalayantimes.com/fullNews.php?headline=Banke+declared+diclofenac-free+district&NewsID=364794

21. Hart News, March 2013 ,http://www.hartnepal.org/resources/newsletter_2013-03.html

22. MYREPUBLICA, 16 Mar 2013, http://www.myrepublica.com/portal/index.php?action=news_details&news_id=51581#.UUY2arEc6Tg.facebook

23. MYREPUBLICA, 23 Apr 2013, http://www.myrepublica.com/portal/index.php?action=news_details&news_id=53547

24. Arghakhanchi Times, May 23 http://www.arghakhanchi.com/index.php?action=news&id=PWNUTXhZak0%3D

25. Rajdhani, May 27, 2013 http://www.rajdhani.com.np/en/component/content/article/39-recent-rews/9003-----

26. Pashhimnepal,May28 13 http://paschimnepal.com/index.php?option=com_content&view=article&id=2119%3A2013-05-28-03-53-35&catid=146%3Apaschim-khabar&Itemid=634

27. ENVIS, 30 Apr 2013 http://cpreecenvis.nic.in/KidsCentre/Vultures_1599.aspx

28. Earth in Transition, 15 May 2013 http://www.earthintransition.org/2013/05/unintended-sky-burial-with-vultures/

29.Ekantipur.com, 2 Jun 2013 http://www.ekantipur.com/2013/06/02/top-story/endangered-vulture-population-stable-study/372594.html

30. ABC News, 11 Jun 2013 http://abcnews.go.com/blogs/lifestyle/2013/06/parahawking-the-adventure-of-paragliding-with-vultures-in-nepal/

31. The Nation, 5 Sep 2013 http://www.nation.com.pk/pakistan-news-newspaper-daily-english-online/lahore/05-Sep-2013/white-backed-vultures-seriously-endangered

32. REPUBLICA, 9 Sep 2013 http://myrepublica.com/portal/index.php?action=news_details&news_id=61182

9.4: Public relations in Europe

Reporters: Chris Bowden & Gemma Hogg

Press and media coverage in Europe has been at a similar or slightly lower level than during the previous year, and it has been noticeable that the relative coverage within South Asia has again been correspondingly higher - with the slowing of declines road transects paper (November 2012 for India and Nepal) receiving most coverage as well as the Pakistan survey paper which was also well covered just prior to this. There have still been more than 55 items tracked in European press over the period but no major TV documentaries or coverage.

There was filming by 'Passion Pictures' for a National Geographic documentary yet to be broadcast. Another French team also initiated filming.

There was a feature article facilitated by RSPB in 'New Internationalist' magazine (May 2013). There was good media coverage (including UK National Radio) and print publicity surrounded the prominent vulture headlines within Tony Juniper's book 'What did wildlife ever do for us?' as well as the issue featuring in Andrew Balmford's book and Science 'Comment' complimenting the speed of reaction to the diclofenac issue by the Indian Government in particular.

Media releases from RSPB now focus much more on the use of blogs than previously, and 8 blogs have appeared during the year on RSPB sites and these have worked well on Twitter, Facebook and other social media. RSPB's own magazine which has a huge circulation also featured Simon Barnes vulture article in the Spring edition as well as follow-up correspondence.

International Vulture Awareness events across Europe and the world were run by over 120 organisations and many of these focused on the Asian vulture crisis. Fundraising nights out at Indian restaurants are a growing attraction both for publicity and the funds raised, with fours such events run by RSPB directly. Almost all the SAVE Partners held events around the world and this is set to become more prominent in future years.

Selected Media coverage links: November 2012 to October 2013

1. SOS, 1 Sep 2012 http://www.sospecies.org/sos_projects/birds/vultures_india/?10896/Raising-the-Voice-for-Vulture-Conservation

5. Birdlife Community, 18 Oct 2012 http://www.birdlife.org/community/2012/10/conserving-south-asias-vultures/

9. SOS, 26 Nov 2012 http://www.sospecies.org/sos_news/success_stories/?7658/Breakthrough-in-vulture-conservation-in-Nepal

10. Birding Asia, 11 Nov 2012 http://orientalbirdclub.org/wp-content/uploads/2012/11/Jatayu1.pdf

11. Wildlife Extra.com, 13 Nov 2012 http://www.wildlifeextra.com/go/news/asia-vulture.html#cr

19. Threatened Taxa, 26 Feb 2013, http://threatenedtaxa.org/ZooPrintJournal/2013/February/o281626ii133603-3619.pdf

In addition: from Munir Virani & Richard Watson:

Munir Virani's talk on TED.com about "Why I love Vultures" highlighted the plight of critically endangered south Asian Vulture Crisis and received nearly 400,000 views and 54 comments. It can be viewed on
http://www.ted.com/talks/munir_virani_why_i_love_vultures.html

BBC World Service – The Forum – Tracking by Munir Virani
http://www.bbc.co.uk/programmes/p01h3jnh

10, Independent initiatives for vulture awareness and VSZ work

10.1 Reaching vets and wider audience in Maharashtra.

Reporters: Percy Avari, Kazveen Umrigar and Dhun Karkaria

Two projects are being developed to reach key audiences for vulture conservation.

a) Vets for vultures initiative

This project aims to reach out to the veterinary community in Maharashtra especially in those areas where there are significantvultures populations remaining. Six districts were identified with the help of the BNHS viz., Sindhudurg, Pune, Nashik, Kolhapur, Nagpur and Raigad. Of these, only Nashik was not covered and in the case of Kolhapur, we took an opportunity to speak to the veterinarians in Sangli which is just 50 km away from Kolhapur district.

The veterinarians were asked to fill up a pre and post talk questionnaire. A presentation was created for the veterinarians highlighting the importance of vultures in the environment and also the reasons for the declines. Diclofenac and other drugs causing the harm to the vultures along with related information on other veterinary drugs including meloxicam was presented in considerable technical detail.

Before the talks were made, we had already approached the State Animal Husbandry office in Pune and met the Director. Under his guidance, we were able to get a slot in the ASCAD (Assistance to State for Control of Animal Diseases) trainings and thus we could efficiently reach out to large number of veterinarians at one time (around 100-150 vets at a session). Due to the large number of veterinarians in a district, the training was scheduled for two consecutive days (in Pune and Raigad Districts) and we were able to address the veterinarians on both days.

The response from most veterinarians was good and beneficial and apparently before the talk, many were not aware of the exact process by which the diclofenac causes mortality in the vultures. The most resistance encountered came from Nagpur from one veterinarian, Dr. Poharkar who persisted in claiming the mortalities happen due to avian malaria.

The use of local language has been found to be very important while addressing the vets in these gatherings.

There are plans to develop this approach further in future inconsultation with SAVE, BNHS and RSPB. Note we warmly acknowledge support from WCS as well as from Bombay Veterinary College, Parel, Bombay to allow us to progress this work..

b) Vulture awareness for Zoroastrians and general public – vulture panels

A project was planned to reach out to the common man, especially targeting the Zoroastrian community regarding the role of vultures in the environment, stressing on the importance of these birds as scavengers. A total of nine high quality and detailed panels designed by Dhun

Karkaria along with technical inputs from Percy Avari and Kazveen Umrigar have been produced to explain the decline of the vulture population, the causes for the decline and the work that is being carried out for the revival of the species.

The initial idea to reach out to the Zoroastrian community was prompted by the discussions about starting an aviary at the towers of silence in Mumbai. There were many people who wanted to know about the future of the system of disposal of the dead and also about the vulture population.

The panels have been found to be useful tools in reaching out to general public, school children and also to forest officials. Until now, we have had the exhibition on display in a variety of locations: at a fire temple in Bandra (a Mumbai suburb); at one Parsi colony; at a Parsi school during the orientation for students completing their tenth standard exams; at a gathering of forest officials in Pune, and at a school in Thane district. Apart from this, these panels were also used to celebrate IVAD 2013 in collaboration with the BNHS at Hornbill House in Mumbai..

These panels are in the process of being translated into Marathi and Tamil for the local people and there are plans to get them translated into Bengali, Assamese and Hindi and if possible also into Guajarati as recently expressed by Dr. Rahmani.

c) Petition regarding the need for a ban of multidose vials of human diclofenac: Developed from an idea mentioned by Dr. Rahmani, we have started collecting signatures for an appeal to the Hon. Prime Minister of India to stop the manufacture and sale of large vials of diclofenac for human use (a SAVE priority), as these could be the main source of diclofenac in the environment. These petitions will be collected from now on, iat future exhibitions as well appealing to other teams such as the one in Gujarat to collect these signed petitions on our behalf. These petitions collected so far have been sent to BNHS through Dr. Bhagwat during the SAVE meeting 2013 and in future, these will be sent to the Director of BNHS.We hope to reach out to as many people as possible through these initiatives.

Dr Avari (right) presenting the petition signatures to Dr Bhagwat receiving them on behalf of BNHS

10.2: Independent VSZ work in India – Konkan Vulture Project, Maharashtra

Reporter: Ramashish Joshi

Background: Sahyadri Nisarga Mitra (SNM) has been working on vulture conservation in Konkan region of State of Maharashtra, India. Broadly there are three geographical zones of Konkan – rocky escarpments and western fringe ranges of Western Ghats on the east, mangrove belt on the west and in between these two is a narrow strip of coastal plains. The region is divided in 3 districts Raigad, Ratnagiri and Sindhudurga from North to South. The CEPF grant for the period of Jun 2013 – May 2015 helped Sahyadri to expand the vulture conservation work to cover the entire Konkan region. Sahyadri shall be working on the following action areas as a part of this project:

In-Situ Conservation: The Oriental white-backed vulture (*Gyps bengalensis*) and Long billed vulture (*Gyps indicus*) can be seen in this region. The Oriental white-backed vultures are found nesting on coconut and mango trees whereas Long billed vultures are seen nesting on rocky areas of Western Ghats. As a part of this project, Sahyadri shall monitor 5 vulture colonies with the help of locals. Sahyadri has undertaken road transect survey of all three districts. Meeting people, distributing pamphlets, holding door-to-door survey, village level meetings have been undertaken to seek information about vulture sightings. It has been sighted that acidic nature of vulture droppings reduces the coconut produce, which prompts the farmers to whisk away the birds. With Sahyadri's efforts compensation of Rs. 400/- per nesting tree has been announced by the State Government. Sahyadri has initiated discussions with corporate and also National Coconut Producers Board to increase compensation to cover the entire region and plans to protect 100 nests through such private – public partnership program. To make the program self-sustainable, Sahyadri shall host *Jatayu* Festival in the month December – January. Metro tourists, nature lovers shall get an opportunity to see vultures, village life and the locals shall earn by hosting these tourists. *Dashavatar*, a local form of theatre on *Jatayu Vadh* (mythological connect of vultures) shall also be used to spread awareness.

Develop Conducive Environment: Sahyadri believes in using both Top-Down and Bottom-Up approaches for the awareness drives. Using Top-Down approach Sahyadri hopes to get support from policy makers and other Government officials. The Bottom-Up approach shall ensure the voluntary involvement of locals in protecting vulture colonies. Sahyadri shall conduct pre and post project vulture awareness survey to assess the effectiveness of the awareness campaigns. State Biodiversity Board, Forest Department, Animal Husbandry Department, Para-Vets, Pharmacies and locals are the identified target groups. Depending on the target group Sahyadri has prepared the awareness material. Sahyadri also plans to submit a "Biodiversity Heritage Site" proposal for one of the vulture colonies to the State Biodiversity Board. Sahyadri has conducted awareness drives for veterinarians in district Ratnagiri and Sindhudurga. These meetings received good response from veterinarians and were also attended by the Jt. Commissioner of State Animal Husbandry Department.

Sahyadri shall conduct such meetings every quarter. Sahyadri shall also use a mobile exhibition in the entire region.

Anti-Diclofenac Drive: To ensure that the region is free of veterinarian usage of human diclofenac, Sahyadri shall focus on campaigning for pharmacies. This shall include survey of pharmacies as per SAVE guidelines. Sahyadri has developed cattle health record cards which shall be distributed to farmers to involve them in the Anti-Diclofenac drive. Additionally, Sahyadri shall also conduct training for Para-Vets.

For these activities Sahyadri has been involving local groups, college students, nature lovers, members of local governing body. Sahyadri hopes that innovative ways to involve community shall create sufficient awareness about vulture conservation and voluntary participation of locals.

Short summary of the project activities as of 30th Oct 2013:

Vulture population survey by road transect	
Raigad	80 villages
Ratnagiri	120 villages
Sindhudurga	122 villages
Identified Vulture Colonies	
Raigad	Shrivardhan
	Chirgaon
	Nanemachi
Number of pharmacies in undercover survey	30
Pre Assessment Survey of Veterinarians	
Ratnagiri	15 veterinarians
Sindhudurga	20 veterinarians
Veterinarian meetings	3 meetings covering 50 veterinarians.
Awareness Material in local (Marathi) language	Pamphlets, Boards for mobile exhibition, Posters, Banners

10.3: Independent VSZ initiatives in India - Arulagam working towards Establishing VSZ in Western Ghats

Reporter: S. Bharathi

Arulagam is an NGO, founded in memory of Arul in 2002, is engaged in the conservation of flora and fauna in Tamilnadu, India. In Western Ghats Region of India, with the support of CEPF, Arulagam (and with input from Saving Asia's Vulture from Extinction (SAVE)) has devised a plan for creating a vulture safe zone in an area around Moyar Valley in Tamil

Nadu, India with a radius of up to 100 kilometers so that vultures can safely find diclofenac-free food.

As a first-step, we identified the key stakeholders who need to be involved to completely remove diclofenac from the 100 k.m radius. These include Veterinary doctors, retired Vets who are active in profession, quacks, para vets, pharmacy owners & workers, pharmacy association members, veterinary drug marketing professionals, cattle owners, Milk co-operative societies, Goshalas, Animal welfare organizations, Forest Department, Youth, Elected representatives, Medias and local NGOs. We have conducted attitude and awareness survey in the working area and based on that we have devised a future course of action.

We identified diclofenac leakage through undercover purchase in our working area. We also recorded nesting, roosting and frequent foraging areas of Vulture species. We demarcated the area into three categories:as grey area, black spot and red spot. Based on this, we have devised awareness activities and vigilance programmes, with immediate attention starting with the 30 km radius closest to the known nesting colony.

A variety of Information and Education materials produced range from pocket calendars, table top calendars, brochures, stickers, pamphlets, posters, danglers and etc ., and these were prepared in Tamil language and distributed to reach the different stake holders.

Subsequently, we have had a meeting with Nilgiri Drug and Chemist Association to inform them about our findings and appealed to them not to sell diclofenac without proper prescription. So, as to bolster our campaign, we invited Drug and Chemist Association members along with Forest Department officials for a human chain rally in Nilgiri. The rally was attended by the Town Panchayath Chairman, District Police Commissioner, District Collector, Project Director (HADP), District Forest Officer, ;Vulture Brigades;, Students and other animal lovers in Nilgiri. During the rally, slogans were shouted on selling and buying diclofenac is illegal. On that occasion, a warning message poster was released by the District police commissioner and it was received by the president of the Drug Association. During the meeting, Drug Association has promised us their co-operation for our efforts.

Since the drug is purchased mainly by youth, and noting their very strong interest in playing volleyball, we supported a District level Volleyball tournament, which was titled as 'Vulture Trophy Volleyball Tournament'. 32 teams all over from Nilgiri and around 600 people participated in the event. Vulture conservation banners were displayed in the arena and the messages were announced towards Vulture and forest conservation through repeated audio announcement. On and off we repeatedly the appeal to the spectators, both to help conservation initiatives and stop purchasing and administering diclofenac to cattle. We encouraged them to administer meloxicam and keep a strict vigilance on the usage of banned drug in their respective villages. After the event we named the groups as a Vulture brigade and now we are regularly in contact and motivating them to monitor the presence of diclofenac sold in their region.

To attract the family and children of veterinarians and cattle owners in our working area, we employed puppetry show to demonstrate the importance of Vultures in the region and

necessary steps to conserve them. We also conducted street theatres and street corner meetings across Sathyamangalam region. We invited the local representatives in each case as the chief guest to all our programs.

Wherever there are congregations, we are utilizing that opportunity to spread the message. We display banners, posters in the prime locality and distribute pamphlets on vulture conservation and diclofenac issue during village festivals, cattle sandy etc.

Arulagam staff voluntarily attend functions related with wildlife and cattle and spread the message about diclofenac. We have close contact with milk cooperative societies and our team has participated in their monthly meeting and addressed diclofenac issue through a detailed presentation and screening of the 'Vanishing vultures' film.

For approaching veterinarians, our team members voluntarily help with Animal Health Camp, vaccination camp and free cattle distribution programs. We are using these occasions to convey the message to both the cattle farmers and the vets.

We utilize the opportunity of social gatherings of vets and interact with them on diclofenac issues. We gather their mail ids and mobile numbers and keep communicating scientific reports and other messages including through Arulagam events organized at frequent intervals.

Positive changes have started to occur. We have observed pharmacy shops that refuse to sell diclofenac without doctor's prescription, and meloxicam has started finding a place in their shelves. Sadly, we also found 9 pharmacy shops still selling diclofenac. We brought this to the attention of Association for the first time. We also approached and submitted status of vulture and diclofenac availability report to the Drug inspector and District collector seeking immediate action. Once in six months we have planned to repeat this exercise with the help of the Vulture brigades.

Due to these interventions, a veterinary doctor from Gudalur was motivated to personally send an appeal to his fellow vets to shun diclofenac, ketoprofen and Aceclofenac. We have also initiated communications with Secretary, Animal Husbandry Department and Environment and Forest Department, Director, Drug controller and Drug inspector about the situation on the ground.

Whenever we conduct program, we invite elected representatives to our programs as chief guest to gain people's support. We are also contacting Pharmacy Colleges in the surrounding area where we conduct presentations, lectures and screening of vulture films. To attract students and make them fiends of vultures, we conduct conservation art events and provide hands on training on Vulture mask making.

With the help of Tamil Nadu Forest department, 6 Vulture watchers were appointed. We train them in identifying vulture species and the key observations to be done in the field. We also made an appeal to Forest Department to appoint another 12 watchers for taking care of nesting and other issues such as diclofen. Arulagam is strenuously working towards a Diclofenac-free Moyar Valley. Albeit, a long way to go before we can sleep!

Supplementary information

In Moyar valley, four vulture species occur – White backed, Long-billed, King and Eqyptian. During Dr.Salm Ali Memorial Bird Survey in 2011/12, we recorded the above four species in Moyar valley comprising of Sathyamamgalam and Mudumalai forest ranges. During 'Western Ghats Vulture Survey Project' with BNHS, we surveyed the western and southern Tamilnadu areas for the presence and usage of diclofenac. Very unfortunately, we found that the concerned people were not aware of the ban and hence, there is wide spread usage of the drug. Fortunately, CEPF(Critical Eco-system Partnership Fund) came forward to support our Vulture conservation project in Moyar region which has allowed us to continue and step up activities.

As part of an ecology study, we identified the vulture nesting areas in the region and we have been monitoring the nests for the past two years and searching for other nesting regions. Our awareness activities have had significant impacts, and one example was that a youth during their venture into the forest, came across a vulture chick which had fallen from its nest and informed us. The chick was subsequently reared and released into the forest successfully.

The Forest Department Vulture Watchers are continuously monitoring the movements of vultures and inform us if they come across any vulture feeding on a carcass. Moreover, forest department has taken steps to leave elephant carcasses out (which would not have been the case) providing more food for vultures and. Nilgiri North Forest Division, Tamil Nadu Forest Department have also come forward to include Vulture conservation in their Management plan.

SECTION B - EX SITU WORK

11. Collection of vultures from the wild

11.1: Collection of vultures from the wild in India

Reporter: Vibhu Prakash

In the year 2013, a total of 14 vultures were collected/rescued from the wild in April and May from Assam. Six nestlings each of Slender-billed vulture and White-backed vultures were collected from nests from the wild. Two adult White-backed vultures were rescued in two separate cases of suspected poisoning. This has increased the collection of the Assam centre from 49 to 63 vultures.

We will continue to make efforts to collect/rescue birds for the Conservation Breeding Programme till we get the required numbers.

11.2: Collection of vultures from the wild in Nepal

Reporters: Naresh Subedi, Chiranjivi Pd. Pokheral, Khadananda Paudel

Altogether 64 White-rumped Vultures were collected in different years (details below) to keep them at captivity at Vulture Conservation Breeding Centre, Kasara, Nepal.

March-April 2008- 14 WRV collected from Kaski
March-April 2009- 30 WRV collected from Kapilbastu, Nawalparasi, Rupandehi, Kaski, Syangja, Palpa, Kanchanpur, Kailali and Dang
March 2011 – 20 WRV collected from Arghakhanchi, Rupandehi, Dang and Kapilbastu

Since November 2012, no vultures have been collected and currently we have no plan to collect more birds.

11.3: Collection of vultures from the wild in Pakistan

No birds were collected over the past year in Pakistan

12. Conservation breeding and veterinary care of vultures

12.1: Conservation Breeding and Veterinary Care of vultures at the Vulture Conservation Breeding Centres in India (3 BNHS Breeding Centres Combined)

Reporters: Vibhu Prakash, Nic Masters & Jemima Parry-Jones

Vulture Numbers and breeding successes at the three Centres

The vulture breeding programme at the three Centres continues to be successful and productive. All three species continue to breed at the Centres, both with natural breeding and with artificial incubation. We continue to use our PCR machine at the lab at Pinjore and 60 birds have been DNA sexed so far (Table 12.11).

Table 12.11 Molecular Sexing of Vultures

Species	No. of vultures sexed	No. of Males	No. of Females
Gyps indicus	19	6	13
Gyps bengalensis	17	11	6
Gyps tenuirostris	8	2	6
Total	44	19	25

Mortality of vultures at the three centres during 2013

During the 2013 season we have to report that we have only had one death and that was a bird from Pinjore.

An adult male OWBV (HW) that had arrived sick from Jabalpur in 2003. It had stage I bumblefoot that slowly resolved on treatment and it was moved to a colony aviary in July 2004. In October 2012 it was moved with another bird to a breeding aviary and then a year later, on 8 September 2013 and after a severe storm was found dead. The post mortem examination revealed some white mineral-like deposits on several viscera and general congestion of the cardiovascular system. Overall it was suggestive of visceral gout (probably long-standing and unlikely to be the cause of death) and possible heart failure, potentially brought on by stress associated with the storm. The bird had limited fat reserves but remained in reasonable body condition. Further virology, toxicology and histology results are pending.

Health checks, parasitology screening and clinical cases during 2013

Health checks

At VCBC Pinjore, with assistance from Jemima Parry-Jones and Nic Masters between 11 – 14 September 2013, all birds from Colony Aviaries 1 – 3 were caught up and examined (104 birds of all three species in total). We performed full physical examinations, micro-chipped all birds in the left pectoral that were not already identified in this way and took blood from the metatarsal vein of all birds that required DNA sexing or had any clinical signs of disease (63). Any split or missing rings were replaced with new rings. Nic Masters had an excellent opportunity for training of the new vets, Sameer and Hrishilesh in the health checks and taking blood. All the blood was processed on the day of taking apart from the DNA sexing. At the same time Nic Masters had brought specially treated cards for the 'Frozen Ark'. Two drops of blood from each bird were placed on cards to save the DNA of species. These cards will be kept at Pinjore for posterity. In addition seven birds from breeding/holding aviaries were caught and examined and had harnesses placed on them. Apart from the cases referred to below, all other birds appeared in good clinical condition, although several have old healed wounds from kite-strings.

At VCBC Rani, with assistance from Nic Masters, health checks were performed in July 2013. A total of 14 birds were caught up and examined (6 juvenile OWBVs from this year's captures from the wild, 2 adult wild-caught OWBVs brought in due to injury/rescue (one with an amputated wing site that is now healed and 6 juvenile SBVs) over two days. Apart from the amputee all birds were in good physical health and haematology results were within normal parameters.

At VCBC Raja Bhat Khawa no physical catch up of birds occurred this year.

Clinical cases

At VCBC Pinjore one OWBV (B80) has stage II bumblefoot and was placed on treatment and moved to a holding aviary with soft perching. It was felt very likely that this case would require surgical intervention, but according to Dr Parag Deori it has responded remarkably well to treatment; the swelling has subsided and the pad is also healing well. Of course surgical intervention will not be required if the wound heals satisfactorily and completely, but recurrence is common in these cases and the bird should be monitored very closely. A single adult female bird with some perching/sitting abnormality was examined. There is a complete but healed fracture of the right tibiotarsus but no evidence of generalised metabolic bone disease – presumably an old discrete trauma that may preclude successful breeding.

At VCBC Rani the amputee OWBV's surgical wound healed fine then it got knocked and had broken down. This has improved with regular cleaning and redressing and has now healed satisfactorily. All plumage plucked for surgery is being replaced with newly developed feathers.

Parasitology

Pooled faecal samples from aviaries at all sites were collected and examined by microscopy for endoparasites three times during the year but no treatments were administered due to negligible endoparasitic infestation. Low levels of ectoparasites were found on many of the birds physically examined during the annual health checks and these were treated once with topical fipronil (Frontline). There was no evidence of haemoparasites on the haematology performed.

Aviary cleaning and feeding procedures.

- Regular cleaning occurs every fifteen days during non-breeding season and once every month during breeding season.
- Biannual thorough clean April and July
- Annual intensive clean September

Birds are fed twice a week every Friday and Monday at Pinjore and Wednesday and Saturday at West Bengal and Assam. Food is increased prior to breeding season.

At Pinjore and Assam only goats are used for feeding the vultures. At Pinjore we use 44 goats per week and this increases to 50-55 during the breeding season. In Assam we use approximately 20 goats per week again increasing prior to the breeding season.

The West Bengal VCBC at Rajabhatkhawa is still able to supplement the goat with some wild carcasses of deer and elephant, this helps significantly to reduce the cost of the feeding by one third. However we have not yet been able to resolve the problems with the power supply.

Artificial incubation

We continued to use artificial incubation and double clutching at Pinjore. The other two centres do not have the incubation facilities as yet, so all breeding is done naturally and there is no double clutching. The breeding went well, with more young being produced each year. All chicks were healthy and grew to adulthood with no problems. We used a different method of giving the chicks calcium. The young artificially reared birds were given 0.1% of the weight of the food consumed the previous day of Calcium Carbonate. They were placed in direct sunlight from day three of age for 15 minutes per day and this was increased to half an hour from one week onwards and so on. Interestingly the young vultures enjoyed the sun and slept well while exposed. They were watched at all times during this period for overheating and potential predation.

Nikita and Mandar have received training in ISIS programme SPARKS. This programme is designed to assist with breeding programme. All the birds and breeding results are now being entered into the programme

We are planning on new incubation facility at Buxa to be put in to use for the 204/2015 breeding season. Along side that will be an incubation course run at Buxa in September 2014 by ICBP.

Table 12.12 The Total production of young 2013 from all three centres was:

Species	No. at Pinjore	No. at Rajabhatkhawa	No. at Rani	Total
Oriental White-backed	**8**	**3**	**2**	**13**
Long-billed Vulture	**10**			**10**
Slender-billed Vulture	**4**	**1**	**1**	**6**
Total	**22**	**4**	**3**	**29**

Genetic management of vultures in the SAVE conservation breeding programme.

- We are now using the ISIS Sparks software programme to assist us with the genetic management of the vultures at the Centres. At this time any young bred are housed separately from the breeding adults, and once any of these reach potential breeding age they will again be separated from any siblings. Nikita and Mandar have received training in ISIS programme SPARKS. This programme is designed to assist with breeding programme. All the birds and breeding results have been entered into the programme.
- At this time we do not know the relationship of our founder stock but the birds have been brought from different parts of the country and are not likely to be closely related.

Numbers of staff including veterinary and Para-veterinary staff, appointments, transfers and departures.

The project has three veterinarians. The senior veterinarian is also doing his MVSc. from Guwahati veterinary college. Two veterinarians joined in September 2013 and have just finished their training. Two veterinarians were recruited during early 2013 but they did not join.

Facilities and equipment, including losses, defects and requirements.

Colony aviary 4 (Pinjore) is now complete and houses 27 Long-billed Vultures. Breeding has occurred in the new aviary. This colony aviary has a CCTV as does breeding aviary no. 3.

The new visitor reception facility built by the Forest Department of Haryana is complete and a large screen is fed CCTV information from Colony Aviary 4 and Breeding aviary 3. A new library room is constructed next to the visitor room.

The planning for the new incubation and brooder room is in process at Buxa. A new motorcycle has been acquired for staff at Buxa.

Assam now has replaced the stolen solar power battery for the perimeter fence. The water supply at the centre has been improved and the water is now piped to the centre.

Equipment Required

We feel that there is a requirement for a second anaesthesia machine to be held at Pinjore which is the largest of the centres. With all the DNA work required at the laboratory at Pinjore, a new centrifuge machine is urgently required as it is overheating the DNA. We do still need three ophthalmoscopes.

One Jeep type vehicle each is urgently required at Buxa and Rani centres.

At Buxa two generators are required, one for each of the incubation facility and the cold room. The incubation facility will also require air conditioners, dehumidifiers, lighting conductors and a one line UPS. The expenses for the incubation facility will be paid from the funding obtained from Riverbanks and Darwin initiative.

Progress with planning and funding conservation breeding activities.

A third colony aviary is urgently required at Buxa so we can separate the three species held there. At Assam we need the same.

In the foreseeable future as the breeding increases, we will require one further colony aviary at Pinjore. However Forest Department of Madhya Pradesh has built a new facility consisting of one colony aviary and four holding aviaries plus an administration block and this will come under the auspices of Vulture Conservation Breeding Programme. Initially we will staff it, we will find a reliable save source of food and plan on moving birds to the new centre at Bhopal during the coming winter. This will relieve some of the pressure at Pinjore.

We are pleased to give this report, the Centres are all breeding birds, the artificial incubation is coming along and has been our pleasure to share our experiences, both good and bad with both Nepal and Pakistan. The work done by the staff is first class and we are learning huge amounts almost on a daily basis. It is a privilege to be a part of this exciting and successful project.

12.2: The Vulture Conservation Breeding Centres supported by Central Zoo Authority in Indian Zoos

Reporters: B.S. Bonal and Vibhu Prakash

The Central Zoo Authority has funded 5 Vulture Conservation Breeding Centres (VCBCs) in 5 different zoos of the country. The centres are at Van Vihar Zoological Park and National Park, Bhopal, Nandankanan Zoological Park, Orissa, Nehru Zoological Park, Hyderabad and Sakkarbaug Zoo, Junagadh, were sanctioned in 2007 whereas the centre at Muta, Ranchi, Jharkhand was sanctioned in 2009. The Central Zoo Authority provided with an amount of Rs. 41 Lakhs for the initial capital cost of the centre.

1. VCBC, Sakkarbaug Zoo, Junagadh, Gujarat

The centre is located within the zoo as an off display facility. There is a breeding aviary/colony aviary of dimensions 30mx15m x 7.5m, four breeding aviaries and a quarantine aviary. In all, there are 51 vultures at the centre of which 47 are White-backed

vulture, 3 Long-billed vulture and 1 Egyptian vulture. 30 of the White-backed vultures are housed in the breeding aviary (colony aviary), inaugurated in April, 2009.

All the vultures housed at the centre have been rescued from various places in Gujarat. Majority of the vultures have however, come from Ahmedabad and were injured during the Uttran festival by kite string. Some vultures were rescued as nestlings after they had fallen from their nests or were rescued weak and dehydrated.

Breeding of vultures at the centre: Only White-backed vultures have been recorded nesting. Two of the breeding pairs laid an egg for the first time during the breeding season 2009-10, after the vultures were released in the breeding aviary. However, both the eggs were infertile and failed to hatch. During the breeding season of 2010-11, a total of 6 eggs were laid, out of which 2 hatched successfully. None of the nestlings however, survived. The first nestling died 72 days, while the second one died 36 days of hatching.

One nesting survived to fledging during 2011-12 and two during 2012-13.

2. VCBC, Nandankana Zoological Park, Nandankanan, Orissa

The centre is located close to the Zoological Park in an off display area. Infrastructure has been developed for the centre. The breeding centre has been developed as a satellite campus with all the basic facilities. There are two nursery aviaries (10 X 12 X 8 ft.) and a colony aviary (100 X 40 X 20 ft.). Water and electricity supplies have been provided.

There are no birds at the centre so far.

3. VCBC, Van Vihar National Park and Zoo, Bhopal, Madhya Pradesh

The centre is located on the Kerwa dam road, about 5 km from the Van Vihar National Park, Bhopal. The centre has developed good infrastructure on the pattern of VCBC, Pinjore. There is a colony aviary, a hospital aviary, a nursery aviary and two quarantine aviaries. Apart from the aviaries, a management house has also been constructed. Electricity and water supplies have been brought to the centre.

There are no birds so far. The day to day running of the centre will be done by the BNHS from this year.

4. VCBC, Nehru Zoological Park, Hyderabad, Andhra Pradesh

Vulture Conservation Breeding Program was started at Nehru Zoological Park, Hyderabad in the year 2010-11. There are in all 5 White-backed vultures at the centre which were shifted to breeding aviary on November 2010. The DNA sexing of birds was carried out with the help of LaConES (Centre for Cell and Molecular Biology, Hyderabad). There are two males and three females. Both the male birds are marked with leg rings with numbers. The female birds are without any identification. Aviaries have been constructed for various purposes. There is one breeding or colony, a nursery and a quarantine aviaries.

Breeding of vultures at the centre: There have been two breeding attempts during the last couple of years. During 2011-12, one egg was laid but it broke as it fell down from the nest. During 2012-13, one egg hatched but the nestling died within a week.

5. VCBC, Muta, Jharkhand

The site for the Vulture Conservation Breeding Centre is at Muta, 35 km from Ranchi. The infrastructure has been developed for the centre. A colony aviary, nursery aviaries and holding aviary have been constructed.

There are however no birds at the centre so far.

12.3: Conservation breeding and veterinary care of vultures at the Vulture Conservation Breeding Centre, Chitwan.

Reporters: Naresh Subedi, Chiranjibi Pd. Pokheral , Khadananda Paudel, Navaratna Pradhan, Jemima Parry-Jones, Nic Masters

Total number of vultures: There are 57 vultures and all of them are White-rumped. 30 birds are kept in old colony aviary B while 27 birds are kept in colony aviary A.

Post mortem cases:

Two deaths occurred this year.

- One was the death of a vulture without prior symptoms observed and the bird was found lying on a wooden cot. The probable cause of death was an acute respiratory failure that occurred due to stress and E coli infection.
- The other case was the death of a bird which had undergone treatment for sour crop. The post-mortem examination of this bird revealed that it had chronic peritonitis that caused peritoneal adhesions leading to gastrointestinal stasis and circulatory failure.

Periods of very wet weather resulting in birds getting water-logged may have a significant stress/debilitating effect, and be a precursor to these deaths.

Report on health checks, parasitological screening and clinical cases

The health checks of birds this year found one bird with early stage bumble foot while another bird was found to be have chronic pneumonic/airsacculitis signs. All laboratory examinations of this second bird were within normal parameters. The bird was returned to the colony aviary after 3 days of isolation. The bird with bumble foot is still in isolation and is undergoing treatment. All other birds were found to be normal at physical examination and the body condition of almost all birds was found to be good.

Parasitological screening was performed once every three months. A few cases of nematode parasite infestation (esp. Ascarid Spp.) were seen. Since parasitological load was not heavy, no parasiticidal medication was given.

3 clinical cases were observed during the reporting period. One had severe diarrhoea but showed complete recovery after 2 weeks, with body condition back to normal after four weeks. The second case had chronic peritonitis leading to sour crop. This bird had undergone treatment but chronic peritonitis leading to adhesions, gastrointestinal stasis and circulatory failure caused death. The final case was found wet after continuous rainfall with subclinical temperature and weakness. This bird recovered after 5 days of treatment.

In September 2013 with the assistance of Nic Masters, Head of Veterinary Services and Jemima Parry-Jones, Director of ICBP, all 57 vultures were caught up over a two day period. With three vets working plus the rest of the vulture team and Jemima, all the birds were vetted, wings, legs, feet, heart rate, breathing rate, condition and weight were checked. All the metal split rings were removed as they were starting to come apart and become potentially dangerous for the birds to continue wearing. Any Darvic rings that were too large, cracked or split were removed. A slightly smaller Darvic ring was placed on all the birds that required new rings, only the red Darvic rings were allowed to remain on the birds. All the birds were Micro-chipped, and blood was taken for analysis later on each day. The birds were boxed after they had been processed and then all were released back into their respective colony aviaries.

All birds were found to be in excellent condition, only one bird had cracks in its feet, which could lead to bumble foot if left untreated. The bird that had been sick but recovered was also isolated until its blood levels were checked. These were found to be normal and so the bird will be returned to the colony aviary within a week or so.

Aviary cleaning and feeding procedure:

Aviary cleaning procedure has two forms, regular sanitation and yearly sanitation. Regular sanitation is done prior to feeding and involves cleaning water pond, removing dropped feathers and bones. Yearly sanitation is generally done prior to breeding season and involves perch replacement, removing dirt and faecal debris plus reweaving of wooden cots, sand replaced with fresh one and algal deposition on aviary walls scrubbed out.

Feeding is provided twice a week and on the same day. The procedure involves slaughter of buffalo calf which was kept in observation period for 10-15 days. On this observation period, cattle would observe for any sign of diseases. The healthy calf would be allowed for slaughter. The calf is fasted for 12 hours before slaughter as it makes evisceration easier. The viscera like liver are checked for presence of any parasites or abnormality and are provided along with meat. Others include kidney, brain lungs and heart. The whole alimentary tract is avoided in feed.

Genetic management of vultures in the SAVE conservation breeding programme.

- At this time there has been no captive breeding and so genetic management has not been implemented, if and when there is breeding we will probably do as India is doing and use the ISIS Sparks programme which will assist in our genetic management
- As yet we are unable to even use DNA to sex the birds in Nepal, once that has been made possible we may look into the genetic diversity of the captive birds.

Outcomes of breeding attempts and possible causes of failures:

The breeding season of this year involved identification of five pair of birds and four eggs was found to be laid on wooden cots. All these eggs failed to hatch. The cause of failure can be grouped as follows:

Chances of infertile: The eggs laid were initial eggs and may have been infertile

Lack experience in nesting: No attempts at actual nest building were seen except on one wooden cot where there were few twigs. This bird was caught as juvenile as were most of the birds, and had not observed or experienced nest building in the wild.

Egg heat lost from interwoven pattern in wooden cots: The gaps at interwoven pattern were a bit larger than recommended. It was thought that twigs would be collected by vulture and nesting made on interwoven pattern. With no nests made, there were chances of eggs being lost or damaged through these gaps.

Plans for the coming breeding season:

As yet the vultures at the VCBC have not yet successfully bred, however they were almost all juvenile birds brought in as partially grown chicks, and thus had never bred in the wild. This is bound to make a huge difference to the initial success of captive breeding because these are naïve birds with no breeding experience. Therefore basically they do not know what they are doing! This is no fault of anyone or the project, it is just a matter of fact. The reason for stressing this is that this project is not failing in breeding, it just has a more difficult task than India had because in India, their first breeding involved at least one of each pair being an adult experienced breeder prior to coming into captivity.

The most important factor is not to change things in husbandry or management with the birds once they start to show signs of breeding, keep it the same throughout the year.

Nesting

We agreed on our visit in September 2013 that small amounts of sticks and twigs should start to be put into the colony aviaries (both of them) starting early (ie September). At first they should be a mixed bunch of twigs about 1 – 2 feet long and a diameter of about an inch, i.e. large enough to form the base of a nest and at the same time not so big that the vultures can't carry them up in their beaks.

Once the birds start to move these large sticks and twigs, and some of the birds have formed the base of a nest, start to put in thinner sticks and twigs and some with leaves on. If they use all of them, put in more. Don't put in huge piles as that will make them nervous, just small amounts that can be put in regularly.

Once they have what look like good nests, then start to put in suitable material for nest lining – dried grasses is the best, Nava suggested straw, just make sure that it is dry straw not damp.

Other than doing this all management apart from adding more food, should remain the same as the rest of the year.

Feeding

In the wild, female birds of prey try to put on weight prior to the breeding season so that they can produce eggs, if they don't put on enough weight they will not lay. So we need to be feeding accordingly. The vultures in Nepal are a very good weight, but the food will need to be increased a little starting from now to encourage breeding. MOST IMPORTANTLY bones must be broken up and put in the aviary with the food. Not only is calcium vital for bone growth in the chicks, it is also vital for the female birds to form a good shell on the egg. If there is not enough calcium for her to consume, the egg shell will be thin and more inclined to break.

It is suggested that the large bones from each feed are removed at the following feed. Then place them in a sack the following day and break with a large hammer, they then can be spread over the floor of the colony aviaries at the following feed. This needs to be started now, once started, after the next feed, there should be bone fragments available at every feed. This is really important.

Apart from the nesting materials, the extra feed and the constant source of bone chips, there is nothing more that can be done outside the normal husbandry for the birds, except for monitoring and that should be done as intensely as possible, so that you know which birds are attempting to breed, who is pairing up with whom, and what is happening. Other than that there should be no interference.

Numbers of veterinary and Para veterinary staff, including appointments, transfers and departures

There are 5 staff on VCBC among which there is one veterinarian and others are keepers. One of the staff whose designee was junior keeper left the job because of her household work and she was replaced by staff from Zoo.

Facilities and equipment, including losses, defects and requirements

The centre has established information centre and also solar backup supply that can run CCTV's and Led TV. The centre allowed visitors to observe the activities of vulture on LED TV. The low voltage of electricity at the centre has affected tank fill up. Although centre has managed to provide direct supply to aviaries even in low voltage, there is still problem with supply to lab. A generator that has capacity to operate water pump is required. This seems certain to end up causing problems with water supply in future unless a generator is procured.

12.4: Conservation breeding and veterinary care of vultures at the Vulture Conservation Breeding Centre, Changa Manga, Punjab Province

Reporters: Campbell Murn, Uzma Khan & Uzma Saeed

The facility continues to operate with one large communal aviary that can house approximately 35 birds, plus four smaller aviaries.

The centre has established a breeding facility for rabbits to provide supplementary food for the birds. The earlier attempt to breed guinea pigs was not successful, however rabbits are doing well. There is also a small flock of goats to supplement food supplies.

The facility supervisor attended an internship at Hawk Mountain Sanctuary Pennsylvania USA which helped in building capacity for surveying, education programme etc.

Staff capacity for artificial incubation and rearing has increased, with the primary supervisor attending an incubation training course at the Pinjore facility last year

Artificial incubation facilities are now established and tested at Changa Manga, along with solid back-up power (Changa Manga is an isolated site).

Last breeding season there were three fertile eggs, which was very encouraging.

Early signs for the 2013/14 season indicate that three breeding pairs have established nest territories in the communal aviary. There are eight nesting areas available – three are being used. See picture above for an example of a nest site (placed in a large tree inside the aviary).

SECTION C - FUNDRAISING

13.1: Fundraising in India

Reporters: Vibhu Prakash, Asad Rahmani, Homi Khusrokhan, Ram Jakati, Ian Barber

1. **The Central Zoo Authority** was approached for the long term funding for the Vulture Conservation Breeding Programme, Pinjore. The Member Secretary, CZA suggested that instead of creating more infrastructure at Pinjore, the surplus birds could be shifted to the five CZA sponsored Vulture Conservation Breeding Centres, where infrastructure has already been created but there are still no birds. The Member Secretary said that this will take care of an additional capital cost and also the running cost. The Member Secretary has assured that the CZA supported centres will be run based on the protocol of husbandry and care, and veterinary care developed by the Pinjore centre. The modalities of shifting the birds will be discussed in a meeting to be called shortly by the Member Secretary. The funding for the CZA supported vulture centres is assured. It will be easier for CZA to fund the vulture centres run by the state government rather than by NGO.

2. **The Madhya Pradesh Forest Department** handed over the day to day running of the Vulture Conservation Breeding Centre, Bhopal to the Bombay Natural History Society in September 2013. The Madhya Pradesh Forest department will provide funding for running the centre. Funding to the tune of Rs. 58 Lakhs for the first year which includes cost of the hiring of staff, vulture food, aviary maintenance and other running cost of the centre has been received by BNHS. Juvenile birds from Pinjore centre could be shifted to VCBC, Bhopal. The Forest Department organised a workshop on the 15 September at Bhopal to kick off the work at the centre. The experts from SAVE, Jemima Parry-Jones, Nic Masters and Chris Bowden were the main resource persons.

3. Received individual **donations as follows:**

- Rs. 25,000/- (Rs. Twenty Five Thousand only) from Mr. Sunil Zaveri for the Vulture Conservation Breeding Programme
- Rs. 1000/- from Mr. Bhupesh Gupta of Ahmedabad for the Vulture Conservation Breeding Programme.

Applications for Funding:

The following applications were submitted for funding for the vulture programme this year to the Government agencies. We will come to know about the acceptance by the end of this year. The funding requests were both for in-situ as well as ex-situ work on vultures.

- To MoEF, Government of India through the Secretary Forests, Assam State Government, for enhancement of facilities at VCBC, Rani from the Endangered Species Recovery Programme. Total Funding Requested is Rs. 36,23,000/- (Rs. 3.6 millions)

- To Assam Forest Department for Enhancement of Facilities at Vulture Conservation Breeding Centre, Rani. The Funding Requested is Rs 25,05,000/- (Rs. 2.5 millions)
- To MoEF, Government of India for establishing Vulture Safe Zone in Haryana and improvement of facilities at Vulture Conservation Breeding Centre, Pinjore, through the Addl. Principal Secretary, Forests, Government of Haryana. Total Funding requested: Rs. 1,33,64,994.55 (Rs. 13.3 millions)
- To State Zoo Authority, West Bengal for the enhancement of facilities at Vulture Conservation breeding Centre, Rajabhatkhawa, West Bengal through the State Forest Department. Total Funding Requested is Rs. 31 Lakhs (Rs. 3.1 millions).
- To UNDP on the Effective and Sustainable Engagement of local communities in the conservation of critically endangered vultures in Jharkhand state. The Total Funding Requested is Rs. 2.9 millions.

Anticipated proposals and/or events planned in the coming year.

Have been approached by a diamond mining company, Rio Tinto for doing conservation work in their proposed area of mining at Madhya Pradesh. We are developing a project for establishing a Vulture Safe Zone in Madhya Pradesh which could be funded by Rio Tinto from the Corporate Social Responsibility funds.

13.2: Fundraising in Nepal

Reporters: Naresh Subedi, Chiranjibi Pd. Pokheral and Khadananda Paudel

Lists of proposals submitted during the year and details of fundraising activities carried out with respect to SAVE priority activities. Details of funding received, and also of anticipated proposals and/or events planned in the coming year.

Fundraising by BCN for Vulture Conservation

- Secured $ 11700.00 funding from CLP for the project "Enhancing Community-Based Vulture Conservation in Western Lowland of Nepal"

- Secured £1478.00 funding from OBC for the project "In-situ conservation of Critically Endangered White-rumped Vulture (*Gyps bengalensis*) in newly explored nesting site of Dang, Nepal

- Proposal entitled "Strengthening Community based conservation in Rupandehi district for saving critically endangered vultures of Nepal" has been submitted to Taronga Conservation Society, Australia. Proposed funding amount is: Aus $ 9350.00

- Proposal entitled "Integrated community based conservation and management for sustaining ecological landscape for saving critically endangered vultures in Nepal." Has been submitted to UNDP-GEF-SGP. Proposed funding amount is: $ 33458.00

Fundraising by NTNC for Vulture Conservation

NTNC is working for a proposal to submit to Victoria Zoo.

13.3: Fundraising in Pakistan

Reporters: Uzma Khan, Campbell Murn and Uzma Saeed

Two proposals have been submitted this year, both for support to the Vulture Safe Zone Project in Pakistan. These were submitted to the UK Darwin Initiative for grant round 20: stage 1 on 17th July 2013, and to Sea World Busch Gardens Conservation Fund.

13.4: Fundraising in Bangladesh

Reporters: M. Monirul H. Khan and Enam Ul Haque

A proposal on vulture was submitted to Darwin Initiative by IUCN-Bangladesh, but it was unsuccessful. An updated modified version of the same proposal was submitted to SRCWPP and it was successful. Therefore, a lot of activities, viz. population census, establishment of VSZs, awareness programmes and preparation of Bangladesh Vulture Action Plan, will be supported for two years from this project. Notably, the Wildlife Research Group of Jahangirnagar University is an official partner of this project. IUCN-Bangladesh is also expecting funding from Global Environment Facility (GEF) through its regional programme. A proposal has submitted in September 2013 and the result will be known in a few months. Moreover, a team of FD had prepared and submitted a proposal to SRCWPP to establish vulture restaurants in the northeast of Bangladesh, but it was unsuccessful.

13.5: RSPB Fundraising Update

Reporters: Alex Hipkiss and Conor Jameson

1. Introduction

The 2011 SAVE meeting agreed a plan to look for ways of funding the expenditure of the current work programme and look at options for expanding our work to create safe zones. It was agreed to do this more collaboratively to attract the larger sums needed to achieve our goals. This has happened to a limited extent but efforts need to be an order of magnitude greater. The RSPB continues to work tirelessly to play its role.

The current RSPB four-year budget for the Vulture programme across India and Nepal and our secured incomes are outlined in the table below. The RSPB strongly feels that this current and projected financial burden is unsustainable. More SAVE partners need to step up and joint fundraising needs to be done by all SAVE partners in strongly collaborative ways.

	13/14	14/15	15/16	16/17
Project income	-94,558	-54,000	-54,000	-51,000
Expenditure	564,869	611,379	675,458	726,028
Net cost to RSPB	**470,311**	**557,379**	**621,458**	**675,028**

Below we outline the ongoing RSPB efforts to secure funds.

2. Current funding approaches

Please see Table 1 for an overview of RSPB fundraising for the Vulture Programme.

2.1. Grants

The Save Our Species grant, our largest current external income source, secured in April 2012, continues through this year but will end this financial year. Additional income for this financial year has come from Los Angeles Zoo (£3,282) to support the India breeding centre work, the Goldman Prize where we were 'compensated' for competing (£645) but did not secure the grant, the National Birds of Prey Trust (£11,000) for breeding centre work and the Rufford Foundation (£20,000) for general support. In all, 9 bids have been submitted to a budget of £310,000, with 3 successful giving an income of £35,000, 3 rejected and 3 pending results. Significant proposals pending are to the Darwin Initiative for VSZ work in Nepal, with a total budget of £200,000.

2.2. Corporate and donations

2.2.1. Exodus

Our commercial partnership with the travel company Exodus continues into its second year. £13,650 has been donated through 8% royalty payments on holiday bookings in the year. We expect our target of £22,000 for the year to be achieved and the 2-year target of £70,000 also to be achieved.

2.2.2. SAVE Website

The online SAVE fundraising button has received 46 donations amounting to £2,561 this financial year to date. (see SAVE Website report 9.1)

2.2.3. Boehringer Ingelheim

20,000 Euros were secured from Boehringer Ingelheim, however we were hoping for greater and sustained funding from them. We are continuing discussions with them over the potential for future and increased funding.

2.2.4. The wider Pharma Industry.

We are also working with the help of Juergen Dämmgen (ex-Boehringer Ingelheim and still closely connected to the business), to explore support from other pharma companies. Current ideas are to directly approach all pharma industry in India to encourage them to financially

support the removal of diclofenac that is ultimately polluting the natural environment, and to approach pharma PR agencies in London to understand better how and why the industry might engage with this issue for which they have a degree of responsibility to help put right.

The Global Environment Facility

The potentially exciting multi country GEF project, discussed in the last meeting has made limited progress since. A concept outline has been drafted, but limited progress beyond that has been made. The project development lead remains with the IUCN Bangkok office. The project has the potential to secure $15million for the vulture programme, however it does need significant matched funding from national Government and elsewhere for it to be approved by the GEF secretariat.

Lessons learned

Conclusion made in the last 2 reports remain pertinent. With some adjustments we can conclude that:

- The **cost to RSPB is rising**, we will not be able to sustain this increase over the long term and as above we do not think we will be able to cover these costs through statutory grant funding, so we need to turn our sights onto private sector.
- The SAVE partnership will **not be able to continually rely on grant income** from International sources to support this programme. Grant funding opportunities will still be available, but these will be for smaller components of the work.
- **Working as a partnership** will be the best way to secure funding - SAVE governments with national and International NGO partners and corporate partners.

Opportunities

- We need to put much more emphasis on **corporate and foundation support** and fundraising within the SAVE countries. RSPB has shown with the Exodus partnership that corporate engagement can work if approached strategically and confidently, with benefits to business made clear.
- We have a **recognition framework** for potential corporate supporters giving beyond the current Boehringer Ingelheim level – *Supporting Partners*.
- We should develop **short guidance** on how supporting partners can use this status in their own communications.
- The **Pharma industry** needs to do more to support the programme and a proposal to develop this is attached in Annex 1.
- More emphasis should be put on **government subventions** to support the core programme.

Table 13.51: RSPB fundraising summary 2012-2015

Date	Funder	Request Amount £			Confirmed Amount Total £			Progress/Action
		2012/13	2013/14	2014/15	2012/13	2013/14	2014/15	
Grants – 2012/13 and 13/14								
2012	Save our Species	68768	58336	0	68768	58336	0	Project started April 2012
Mar-12	LAZoo	3215	0	0	3215	0	0	Request more in March 2014
2012	Zoo Boise Conservation Fund	19000	0	0	0	0	0	Failed.
Aug-12	Darwin initiative post project	0	75000	75000	0	0	0	Unsuccessful, resubmit next round.
2012	Riverbanks Garden Conservation Support Fund	0	3281	0	0	3281	0	Successful
Mar-13	LAZoo	0	3281	0	0	3281	0	Successful
Apr-13	USFWS - Critically Endangered species	0	19050	19050	0	0	0	Rejected
Apr-13	Goldman Prize	0	49213	49213	0	645	0	Rejected. Small grant for participation
May-13	National Birds of Prey Trust	0	5500	5500	0	5500	5500	Successful
Jun-13	Conservation Food and Health Fndn	0	9843	0	0	0	0	Rejected

Aug-13	GEF-Small Grants –India	0	0	32258	0	0	0	Supported BNHS submn pending
Aug-13	Chicago Zoo	0	0	3000	0	0	0	Submitted, result pending
Sep-13	Darwin Post project (Nepal)	0	0	114236	0	0	0	Submitted, result pending
Trusts and foundations								
Ongoing	UK Trusts and Foundation	30000	30000	30000	0	20000	0	Rufford grant successful
Ongoing	Tata foundation	25000	25000	0	0	0	0	Advised not to approach.
July	Loke Wan Tho Memorial Fund	10000	0	0	0	0	0	Rejected
Corporates/major donors/other								
Ongoing	IKEA	0	0	0	0	0	0	Approach pending
Ongoing	Boehringer Ingelheim	16025	17046	0	16025	17046	0	Networking continues
Ongoing	Unilever, Ecover, Reckitt, Homepride,	0	0	0	0	0	0	Approach pending
Ongoing	Exodus	3229	22000	0	3229	13640	0	Relationship ongoing
Ongoing	Cargill	0	0	0	0	0	0	Approach pending
Ongoing	Lord Karan Bilimoria	0	0	0	1700	450	0	David following up with donor
Ongoing	SAVE button online donations	0	0	0	2550	2561	0	David following up with donor
	Totals	**175237**	**327953**	**328257**	**95487**	**124740**	**5500**	

Annex 13.51. Giving vultures a home (again) - Summary proposal to raise £500,000-£1m per year for SAVE

Our need

I have been asked by the SAVE group to pull together a one-page summary of what this might involve. We are currently spending c £500,000 pa on vultures, set to increase each year to around £800,000 pa. We cannot afford this and have to find a new source of money, or pull out in the medium-term, which may jeopardise the success of the project.

The funding source

What we know is that pharma industry has a lot of money, and has done very little to help SAVE so far. Pharma companies have not felt any public pressure, moral pressure or political pressure to support SAVE, yet arguably they have a duty to commit financial and technical support to prevent these species extinctions. We haven't yet but could position the issue as 'polluter should pay'. Also, we are on the brink of saving the birds but if we have to pull out due to lack of funding support, it may fail.

The proposal – how it might work

What we need to do is establish a **SAVE Fund** into which companies (and others) put their contributions. We create a 500k/£1m fund with 100 (or more) named companies that manufacture NSAIDs invited to contribute an average of 5 or 10k each (suggested amount could vary perhaps linked to their turnover). We would encourage all of industry to contribute – not singling anyone out for bad PR.

There are dozens of large pharma companies, and once there is momentum behind this and a few are on board, then others ought to follow because to not do so may look and feel churlish. We could make public a table of the companies we are inviting to join in, showing and praising those who have.

50 companies averaging 10k each = £500,000. 100 companies = £1m.

PR

- The campaign could be promoted and supported by industry bodies, eg the RSC and ACS and ABPI.
- We get onto the agenda for conferences attended by these companies and bodies – giving talks and promoting the SAVE Fund.
- We target the magazines and journals that the industry reads. Eg member magazines of industry bodies and professional journals and websites and social networks.
- We enlist industry and PR expertise to guide and advise us.
- We need respected industry figures to help us persuade others – eg BI, MAVA and the Hoffmans. We could involve them formally on SAVE committees.
- We apply the campaign appropriately in India and other Asian countries.
- The companies are also invited to help us with the technical stuff we can't do on our own, so it's not just a financial involvement we are seeking.

The campaign should be phased. In Phase 1 we ask gently – through the industry. In Phase 2 we involve the public, encouraging a campaign on social media and other media to invite people to encourage the industry to help. This will need significant inputs and resources from all partners to make it work.

13.6 Fundraising Summary Grid for all SAVE Partners

For remaining SAVE Partners not requested to supply a full fundraising report, the following summaries are provided:

SAVE Partner: Indian Veterinary Research Institute, (IVRI), Izatnagar

Number of funding proposals submitted	**One proposal submitted to Ministry of Environment & Forests, Government of India**
Number of successful funding proposals	**In process**
For successful applications, please briefly describe areas of work, duration, and approximate total funding received or expected	**Area of work: Assessing the Safety to Vultures (Gyps Spp.) of Non-Steroidal Anti-Inflammatory Drugs in Veterinary Use in India** **Duration: Three years** **Approximate total funding expected: `1,37,66,800**
Any additional core funding or in-kind support given by your organisation	**Institute project on "Development of cell culture based model for in vitro toxicity testing of Diclofenac"** **Duration: Three years** **Approximate total funding received: `5,00,000**
Communications – number of web links from your own website to the SAVE website	**3-4 web links from IVRI websites being established**
Please also add mention of any other ways in which your organisation has been able to highlight SAVE activities or priorities.	**IVRI being Research and Teaching institute, highlights of SAVE activities or priorities are disseminated during post graduate teaching, seminars and interaction with media and press personnel.**

SAVE Partner: Zoological Society of London (ZSL)

Number of funding proposals submitted

None – 2013 has been a year for consolidation of ZSL's contribution to the Vulture Programme. It was considered appropriate that no applications for funding were made until there was a clear objective for our contribution to the programme.

ZSL uses IVAD to promote the vulture crisis over a weekend every September at both Whipsnade and London Zoos. The weekend informs visitors of the plight of vultures and about the work being done to save species in India and Nepal and to raise small amounts of funds.

Number of successful funding proposals

Another successful IVAD weekend was held at Whipsnade and London Zoos

For successful applications, please briefly describe areas of work, duration, and approximate total funding received or expected

ZSL raised approximately £1,700 from the IVAD weekend -This will go to support work at the breeding centres – yet to be determined

Any additional core funding or in-kind support given by your organisation

ZSL provided 4 staff visits to programme sites in India and Nepal including one by Nick Lindsay (as programme manager for ZSL) and 3 by Nic Masters, Head of Veterinary Services at ZSL. It should be recognised that Durrell is to be thanked for contributing time and funds to allow Andrew Routh (formerly ZSL) to join NL and NM for the 1st visit to India and Nepal.

Nic Masters has been the point of contact for any veterinary issues in the centres. It is worth noting that the requirement for this has been low but good contacts have been made with local programme vets and managers and there have been discussions on clinical cases.

In 2013 ZSL sent £6,957 for equipment for the centre in Kasara, to set up the visitor centre and to provide material for the vulture work in Nawalparasi. Approximately half of this was raised in the memory of John Ellis, Senior Curator of Higher Vertebrates at ZSL with the rest being raised by keepers at the zoos during the IVAD weekend in 2012 (see 2012 ZSL report).

Communications – number of web links from your website to the SAVE website

Work has started on new web page information that will go onto ZSL's web-site with links to the SAVE web-site. The SAVE web-site is always given as the primary source of information on the vulture programme for any enquiries.

Please also add mention of any other ways in which your organisation has been able to highlight SAVE activities or priorities.

IVAD weekend in Whipsnade and London Zoo (see above)

SAVE Partner: International Centre for Birds of Prey (ICBP)

Number of funding proposals submitted: **One with the RSPB to the NBPT for £11,000**
Number of successful funding proposals **One**
For successful applications, please briefly describe areas of work, duration, and approximate total funding received or expected : **Technical visits, workshops, tracking equipment etc.**
Any additional core funding or in-kind support given by your organisation **Two week visit to work with the teams in India and Nepal with the vultures plus attendance of SAVE meetings**
Communications – number of web links from your own website to the SAVE website about 8 – 10 different links on our website.
Please also add mention of any other ways in which your organisation has been able to highlight SAVE activities or priorities. **We talk about the vulture project on a daily basis reaching thousands of visitors and have the SAVE leaflets in our shop**

SAVE Partner: The Peregrine Fund (TPF)

Number of funding proposals submitted	**None**
Number of successful funding proposals	**None**
For successful applications, please briefly describe areas of work, duration, and approximate total funding received or expected	**N/A**
Any additional core funding or in-kind support given by your organisation	**$20,000**
Communications – number of web links from your own website to the SAVE website	**None**
Please also add mention of any other ways in which your organisation has been able to highlight SAVE activities or priorities.	**Acknowledged in reports and presentations**

SAVE Partner: Wildlife Conservation Society (WCS)

Number of funding proposals submitted Three – to CEPF – for the CVCP, two funded and completed, one, which would constitute funding for the next three years, in review. Individual partners have submitted additional funding proposals to part finance some project activities at their sites that can be easily integrated into existing project activities.
Number of successful funding proposals Two (referring only to those specifically for the CVCP as discussed above).
For successful applications, please briefly describe areas of work, duration, and approximate total funding received or expected 1. $19,880.70; 10 months; supplementary food (30 restaurants), nest protection at three sites. 2. c. $19,000; four months; supplementary feeding, purchase of cows for a breeding herd (at Western Siem Pang IBA – BirdLife).
Any additional core funding or in-kind support given by your organization All partners have provided in kind support to the CVCP including staff time (including TA support from WCS and BirdLife), equipment and the costs of some restaurants.
Communications – number of web links from your own website to the SAVE website Shockingly, none!
Please also add mention of any other ways in which your organisation has been able to highlight SAVE activities or priorities.

Dr Vibhu Prakash (right) presents a bouquet to Prof Ian Newton on Day 1