



Darwin Initiative Annual Report

Important note:

To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be about 10 pages in length, excluding annexes



Submission Deadline: 30 April 2011

1. Darwin Project Information

Project Reference	18-008
Project Title	Trans-boundary solutions to the Asian vulture crisis
Host Country/ies	India and Nepal
UK contract holder institution	Royal Society for the Protection of Birds (RSPB)
Host country partner institutions	Bombay Natural History Society (BNHS), Bird Conservation Nepal (BCN), The National Trust for Nature Conservation (NTNC), Department of National Parks and Wildlife Conservation (DNPWC)
Other partner institutions	International Centre for Birds of Prey (ICBP), Zoological Society of London (ZSL)
Darwin Grant Value	£299,960
Start/end dates of project	01/04/2010 to 31/03/2013
Reporting period (eg Apr 2010 – Mar 2011) and number (eg Annual Report 1, 2, 3)	Annual Report 2 (April 2011 to March 2012)
Project Leader name	Dr Richard Cuthbert
Project website	www.vulturedeclines.org and www.vulturerescue.org
Report authors, main contributors and date	Richard Cuthbert, Toby Galligan, Vibhu Prakash and Khadananda Paudel 30 April 2011

2. Project Background

The collapse in South Asia's vulture populations, due to poisoning by the veterinary drug diclofenac, has received worldwide publicity and has been a recipient of ongoing support from the Darwin Initiative as well as other funders. Detailed population modelling shows that, as this poison is still widespread, a comprehensive programme of *in-situ* action and captive breeding is critical to prevent vulture extinctions. Previous work has identified the main cause of the vulture declines and initiated substantial efforts to secure the recovery throughout India and Nepal including banning the manufacture, sale and use of diclofenac as a veterinary drug. Three complimentary tasks are central to the successful recovery of vultures: consolidating vulture breeding centres and building staff capacity, increasing the effectiveness of the diclofenac ban through education, advocacy and continued monitoring of diclofenac levels, and undertaking *in-situ* conservation actions around remaining colonies. Because of increasingly strong relations between India and Nepalese partners in vulture conservation, the widespread manufacture and flow of veterinary products across borders, and the fact that vultures range over hundreds of kilometres and national borders, this Darwin project focuses on trans-boundary efforts to save these species. This will be achieved by focusing on *in-situ* conservation efforts to establish Vulture Safe Zones where small remaining vulture populations can be protected by removing diclofenac and other threats from around, and by continuing to support *ex-situ* activities of the Vulture Conservation Breeding Centres that are set up and running in both India and Nepal, and which will serve as source of birds for reintroduction in the wild once the environment is free from diclofenac and other threats.

3. Project Partnerships

The project's main partner organisations are the Bombay Natural History Society (BNHS) within India, and Bird Conservation Nepal (BCN), the National Trust for Nature Conservation (NTNC) and Department of National Parks and Wildlife Conservation (DNPWC) within Nepal, as well as continued partnerships with the International Centre for Birds of Prey (ICBP) and the Zoological Society of London (ZSL) in the UK. Close and good collaboration has continued with these organisations to take the project forward, and all six organisations above and the RSPB attended meetings in November 2011 to review project progress and future directions of the work. The principal staff leading vulture conservation at the RSPB (Richard Cuthbert and Chris Bowden) and BNHS (Dr Vibhu Prakash) has remained unchanged during the past year, ensuring continuity to this long-running programme. At BCN leadership has passed from Anand Chaudhary to Mohan Bishwakarmam and then to Khadananda Paudel during this reporting year.

Trans-boundary cooperation between India and Nepal continues to develop. MOUs are now in place between the main project partner in India (BNHS) and three local NGOs in northern India; specifically, the Mahseer Foundation in Uttarakhand state, the Katarniaghat Foundation and Tarai Nature in Uttar Pradesh state and the Neo Human Foundation in Jharkhand state. These MOU have initialised advocacy and education programmes with local livestock owners, veterinarians and park officials to establish three VSZ sites along the Indian border with Nepal, and a further VSZ in Jharkhand state. Work in Nepal has now established working relations with local NGOs in 16 districts of the country.

In November 2011, the RSPB employed two new members of staff to the vulture team; a VSZ Coordinator (Ananya Mukherjee) and Conservation Scientist (Toby Galligan) to work specifically on the vulture programme. The VSZ Coordinator will facilitate advocacy and education activities in VSZs by ensuring local NGOs follow strategies that have been shown to work. The Conservation Scientist will monitor conservation outcomes from these activities to provide feedback on strategies employed. Together, they will provide new momentum to the programme.

During the past year a series of face-to-face meetings with local NGOs were conducted in India and Nepal to help uniform advocacy and education activities across VSZs and follow best practice. Meetings were held in May 2011, November 2011 and January-February 2012. The November meetings included a PVSZ planning and strategy workshop which was held in Himachel Pradesh, India. Leaders from the four local Indian NGOs mention above, plus leaders from three local Indian NGOs where future VSZ may be established, were present. In January-February 2012, the RSPB visited BNHS and the four local NGOs in the Indian VSZs, to provide technical support for conservation advocacy, education and monitoring. In March-April 2012, the RSPB visited BCN and some of the local NGOs in the Nepali VSZs for the same purpose.

The establishment of Vulture Conservation Breeding Centres in Nepal and West Bengal continued with the construction of a second colony aviary and a laboratory and visitor centre currently under construction in Nepal; and recent recruitment of veterinarians for the West Bengal centre. Experts from ICBP and ZSL visited both India and Nepal to continue to provide technical support on vulture husbandry and veterinary care.

Additional collaborations also continue with researchers at the Indian Veterinary Research Institute (IVRI) which was established under a previous Darwin award, as well as with analytical chemist Dr Mark Taggart (University of the Highlands and Islands). These collaborations continue to analyse liver samples of dead cattle and dead vultures collected across India for residues of diclofenac and other veterinary drugs. This work is our fundamental means of monitoring progress on the complete elimination of these toxic drugs from the food supply of vultures and is being funded separately by the RSPB.

4. Project Progress

Overall good progress has been made towards the project's main purpose, outputs and activities, although as is perhaps inevitable in a complex project across two countries there have been some delays and set-backs. Importantly, monitoring data may have provided the

first evidence that this project has slowed the rate of decline in all three Critically Endangered *Gyps* vulture in South Asia.

4.1 Progress in carrying out project activities

See specific comments in section 4.2 below.

4.2 Progress towards project outputs

Output 1. Expansion of *in-situ* vulture conservation projects across Nepal and in neighbouring areas of India

Activity 1.1 Sites and local conservation NGO partners identified for expansion of Vulture Safe Zones (VSZ) in Nepal and neighbouring areas of India

Sites in Nepal have continued to expand and now cover 18 districts on area of 32,000 km². Sites in northern India have expanded rapidly to cover 19 districts and will cover more than 58,000 km². BCN and BNHS have taken the lead on working with local partners.

Activity 1.2. Agreement in place with local and national partners for in-situ work

Clear agreements are in place with local and national partners for *in-situ* work

Activity 1.3. Diclofenac stocks removed and replaced with vulture safe meloxicam in VSZ, infrastructure and agreements in place for herding cattle and feeding sites established around breeding colonies, local advocacy programme and printed materials in place, and monitoring of vulture numbers established by local teams

A PVSZ planning and strategy workshop was held in India to promote best practice for advocacy, education and monitoring to local NGOs working India. This followed-up by a joint RSPB/BNHS visit to the Indian VSZs, and a RSPB/BCN visit to the Nepali VSZs to provide technical support for conservation activities by local NGOs.

Output 2. Effectiveness of *in-situ* conservation actions tested across Nepal and India

Activity 2.1. Minimum of one suitable control site for monitoring effectiveness of in-situ work located in same eco zone in India

No formal control sites within the same eco-zone have been identified due to difficulty of identifying independent sites where no *in-situ* is being undertaken and knowledge on the wide-ranging behaviour of vultures. However, nationwide surveys of vultures and carcass surveys will provide control data on rates of decline and diclofenac contamination in other states in India to provide effective control data.

Activity 2.2. Vulture monitoring, NSAID surveys and carcass samples collected from Nepal and India from in-situ sites and from control area(s) in India

Monitoring of vultures, pharmacy surveys for NSAIDs and carcass surveys are ongoing at the nationwide scale in both India and Nepal as well as from within eight VSZs. Nationwide vulture survey data has shown that rates of declines have slowed in all species.

Output 3. Infrastructure for the Vulture Conservation Breeding Centre in Nepal and West Bengal is increased in capacity

Activity 3.1. Continued support from DNPWC and West Bengal State for expansion of project infrastructure at the site in Chitwan National Park and Buxa Tiger Reserve

Continued support is present from government partners for both the Nepal centre and the West Bengal centre.

Activity 3.2. Design and budget for aviaries and visitor facilities agreed with project partners in Nepal and West Bengal

Plans for the Nepal centre colony aviary, laboratory and visitor room have been agreed on.

Activity 3.3. Colony aviary, chick aviaries and visitor facilities constructed

Construction of a second colony aviary at the Nepal centre will be complete by October 2012.

Activity 3.4. Pump and tanks installed to improve water supply, and back-up generator bought and installed to provide reliable electricity

The pump and water tank are now in place at the Nepal centre. A generator needs to be sourced.

Output 4. Breeding Centre staff supported at Nepalese and West Bengal centres for three-year term of project

Activity 4.1.

Recruitment and renewed contracts for breeding centre staff in Nepal and West Bengal centres

Contracts were renewed with present breeding centre staff in India and Nepal. Two veterinarians were recruited for breeding centres in India.

Output 5. Training and capacity of staff in India and Nepal increased with further cooperation between the two country's programmes

Activity 5.1. Training requirements for project staff identified, air-tickets bought and dates fixed for staff visits to UK

No visits by Indian or Nepali staff to the UK for purpose of training were identified and our efforts were instead focused on providing training in the host countries.

Activity 5.2. Training workshops planned for Nepal/India and ZSL/RSPB/ICBP staff and dates fixed for visits

A VSZ planning and strategy meeting was held in November 2011. Workshops and one-on-one training in monitoring design, data collection and statistical analysis given to BNHS, BCN and local NGO staff during RSPB visit to India (January-February 2012) and Nepal (March-April 2012). Experts from ICBP (October-November 2011) and ZSL (November 2011-April 2012) worked alongside staff from the India and Nepal breeding centres, providing technical support on both vulture husbandry and veterinary care. In March 2012, a subset of keepers at the India and Nepal breeding centres were brought together for a paravet workshop given by RSPB/ZSL.

Output 6. Trials of alternative food sources for captive vultures undertaken and feasibility of large-scale production assessed

Cultural, religious and legal issues in relation to breeding certain animals for slaughter are delaying progress in this area. Presently, purchased goats and buffaloes are the food supply for the Indian and Nepal centres, both are expensive as they are bred for human consumption. Using road killed wild ungulates has been trialled in India with moderate success.

4.3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during the project
4B	Number of training weeks to be provided	2	4				2	8
4C	Number of postgraduate students to receive training	3	6				4	16
4D	Number of training weeks to be provided	2	17				2	6
6A	Number of people to receive other forms of education/training	6	24				6	18
6B	Number of training weeks to be provided	2	11				2	6
7	Number of training materials to be produced for use by host country	1	3				1	3

8	Number of weeks to be spent by UK project staff on project work in the host country	11	0				8	24
11A	Number of papers to be published in peer reviewed journals	7	4				3	9
11B	Number of papers to be submitted to peer reviewed journals	2	2				2	6
12A	Number of computer based databases to be established and handed over to host country	0	2				0	1
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	0	1				1	3
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.	0	0				1	3
15A	Number of national press releases in host country(ies)	>6	6				>3	>10
15B	Number of local press releases in host country(ies)	>8	~100				>5	>10
16A	Number of newsletters to be produced	1	2				1	3
16B	Estimated circulation of each newsletter in the host country(ies)	>500	250				>500	>1500
17B	Number of dissemination networks to be enhanced/ extended	1	1				1	2
18A	Number of national TV programmes/features in host country(ies)	1	0				1	3
18B	Number of national TV programmes/features in UK	1	1				0	0
18C	Number of local TV programmes/features in host country(ies)	0	1				1	3
19A	Number of national radio interviews/features in host county(ies)	>150	>50				>2	>10

19B	Number of national radio interviews/features in UK	0	1				1	3
19C	Number of local radio interviews/features in host country(ies)	>20	>20				>5	>10
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	£28k	£24k				£28k	£45k
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	0	0				0	1
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	5	8				3	6
23	Value of resources raised from other sources for project work	£81k					£80k	£160k

Table 2 Publications

Type	Detail	Publishers	Available from	Cost £
* Journal article	Cuthbert, R., Prakash, V., Saini, M., Upreti, S., Swarup, D., Das, A., Green, R. and Taggart, M. (2011) Are conservation actions reducing the threat to India's vulture populations? <i>Current Science</i> , 101:1480-1484	<i>Current Science</i>	Authors, RSPB and journal website	£0
* Journal article	Chaudhary, A., Subedi, T.S., Giri, J.B., Baral, H.S., Chaudhary, I., Paudel, K., and Cuthbert, R.J. (2011). Population trends of critically endangered Gyps vultures in the lowlands of Nepal. <i>Bird Conservation International</i> . doi:10.1017/S0959270911000426	<i>Bird Conservation International</i>	Authors, RSPB and journal website	£0
* Journal article	Cuthbert, R., Taggart, M.A., Prakash, V., Saini, M., Swarup, D., Mateo, R., Chakraborty, S.S., Deori, P. and Green, R. (2011). Effectiveness of Action in India to Reduce Exposure of Gyps Vultures to the Toxic Veterinary Drug Diclofenac. <i>PLoS One</i> 6(5): e19069. doi:10.1371/journal.pone.0019069	<i>PLoS One</i>	Authors, RSPB and journal website	£0
* Journal article	Saini, M., Taggart, M., Knopp, D.,	<i>Environmental</i>	Authors, RSPB	£0

	Upreti, S., Swarup, D., Das, A., Gupta, P., Niessner, R., Prakash, V., Mateo, R. and Cuthbert, R. (2012) Detecting diclofenac in livestock carcasses in India with an ELISA: A tool to prevent widespread vulture poisoning <i>Environmental Pollution</i> , 160: 11-16	<i>Pollution</i>	and journal website	
Journal article	Prakash, V., Bowden C., Cuthbert, R. and Routh, A. (2011). Saving India's Vultures from Extinction – How can Veterinarians contribute to their Conservation? <i>Intas Polivet</i> . 12: 123-125.	<i>Intas Polivet</i>	Authors, RSPB and journal website	£0
Journal article	Cuthbert, R.J., Dave, R., Chakraborty, S.S., Kumar, S., Prakash, S., Ranade, S.P. and Prakash, V. (2011). Assessing the ongoing threat from veterinary NSAIDs to critically endangered <i>Gyps</i> vultures in India. <i>Oryx</i> , 45, 420-426.	<i>Oryx</i>	Authors, RSPB and journal website	£0
Conference article	Chaudhary, A., Chaudhary D. B., Baral, H. S., Cuthbert, R., Chaudhary, I. And Nepali, Y. B. (2011) influence of safe feeding site on vultures and their nest numbers at Vulture Safe Zone, Nawalparasi	---	Authors and RSPB	£0
Unpublished manual	Prakash, V., Bowden, C., Cuthbert, R., Prakash, N., Routh, A. and Parry-Jones, J. and. (2012). Husbandry Guidelines for 'in range' conservation breeding programmes of <i>Gyps bengalensis</i> , <i>Gyps indicus</i> and <i>Gyps tenuirostris</i> . <i>Unpublished manual</i> , Bombay Natural History Society, Mumbai, India.	<i>BNHS</i>	Authors and RSPB	£0
Journal article	Clements, T., Gilbert, M., Rainey, H.J., Cuthbert, R., Eames, J.C., Bunnat, P., Teak, S., Chansocheat, S. and Seta, T. (2012). Vultures in Cambodia: population, threats and conservation. <i>Bird Conservation International</i> , doi:10.1017/S0959270912000093	<i>Bird Conservation International</i>	Authors	£0
Journal article	Prakash, V. <i>et al.</i> (in preparation) The rate of population decline of resident <i>Gyps</i> vultures in India has slowed	<i>In preparation</i>	Authors	£0

4.4 Progress towards the project purpose and outcomes

The establishment of four VSZ in India, continued expansion of the four VSZ in Nepal and the sharing of best practice strategies for vulture conservation action within and between these VSZ, represent this reporting year's most significant gains towards the project's overall purpose of improving trans-boundary collaboration and capacity in Nepal and India. *In-situ* conservation activities now cover an area of more than 88,000 km² of key and largely contiguous habitat in the range for *Gyps* vultures on both sides of the India and Nepal border. In addition, local partners and the NGOs working within VSZ have received training in accurate monitoring.

Similarly, *Ex-situ* conservation activities have benefitted by substantial husbandry and veterinary training to a broad spectrum of staff, and capacity building with the employment of additional veterinarians. Infrastructural and operational (ie alternative food sources) improvements to the breeding centres have been slow; therefore, these will become areas of focus for the next reporting year. In addition, technical support for advocacy, education and monitoring in VSZ, as well as husbandry and veterinary care at VCBCs, will continue in the next reporting year.

4.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The project has not yet impacted on the biodiversity status of vultures in terms of reducing the Critically Endangered IUCN threat status of the three affected species; however, the evidence from repeated nationwide road-transects in India and Nepal indicates that the rate of decline of all three Critically Endangered has slowed. In fact, the decline may have even reversed for the Oriental white-backed vulture. The slowing of the rate of decline is matched by evidence for a decrease in the prevalence and concentration of diclofenac in ungulate carcass across India, linking the conservation activities undertaken by this, and successive Darwin projects, to actual changes in behaviour of the pharmaceutical and veterinary professions. While these results are encouraging, the rarity of *Gyps* vultures means that our estimates are necessarily imprecise. Continual conservation action and monitoring is therefore needed to improve these estimates.

5. Monitoring, evaluation and lessons

Reviews of the progress of the project are made through regular email and phone correspondence (between UK and in-country partners) as well as through three visits (totalling 5 months) in the past year by the programme manager and RSPB staff to India and Nepal. The meetings in November 2011 were particularly informative for discussing the progress of the project and evaluating where more effort is required. A valuable lesson learned from this workshop was that while each PVSZ is unique and will require specific actions for the area there were more commonalities between PVSZ in the work that was required and the most effective approach. Consequently the November workshop was able to select the most effective activities from different partners and produce a plan of best-practise.

6. Actions taken in response to previous reviews (if applicable)

Not applicable

7. Other comments on progress not covered elsewhere

Political risks and instability remain within both India and Nepal. This has particularly affected the breeding centre and prospects for catching vultures within the state of Assam, and more local in-situ conservation efforts are planned for Assam which should help ease some of the tensions previously present in this area (particularly concerning the collection of nestlings from the wild for the breeding centre). Within Nepal the political situation has remained peaceful, however local protests and particularly road-blocks (some times lasting more than a week) have repeatedly created problems for the project, particularly for the construction of the breeding centre and survey work. Working around these protests has created some inevitable delays with some of the work programme in Nepal.

An other issue for the project, which is likely to remain, is the rising costs of fuel and building materials in India and particularly in Nepal, as well as the rising costs of goat meat. The former initially created problems for the budget of constructing aviaries and buildings in Nepal and has resulted in delaying this work. The latter is still a problem in India, but has been partially solved in Nepal by changing to buffalo meat. Our pursuit of cheaper food sources is hampered by religious, cultural and legal blocks to farming animals that are not normally farmed for food (ie rabbits, cavy, rats, etc).

One unexpected issue for the work in Nepal was the unexpectedly high turnover of staff within the main partner organisation (BCN), with the principal Vulture Officer position being filled by three different candidates in the last year. This lack of continuity has not helped in the management of a complex and fast-moving project, and has hampered some of the planned activities in the last year. The turnover has been due to either training opportunities (a MSc programme in the USA) or salary and career opportunities (a permanent government job) and have been difficult to counter. We are discussing with BCN managers how best to improve contracts and opportunities for staff in order to try to counter-act this problem.

On a positive note, in the last reporting year we published a research article in *Current Science*, India's most prestigious science journal. This success is an indicator of the high profile our project has achieved among scientists and professionals in India.

8. Sustainability

The growing involvement of other organisations and in particular NTNC and DNPWC in Nepal, and the Mahseer Foundation, Tarai Nature, Katarniaghat Foundation and Neo Human Foundation in India has helped provide a broader base for the project and a greater degree of sustainability for the vulture project. Government support for the vulture programme continues, particularly in Nepal where direct funding from the Department of Livestock Services ensures that the vulture-diclofenac problem is now delivered to livestock departments and veterinarians in all 75 districts of Nepal. Continual discussions with national and state governments in Nepal and India are building support for the breeding centres. India government funding has paid directly for the construction of aviaries and other infrastructure at the Pinjore and Buxa breeding centres. Through our collaboration with IVRI, we are pursuing financial support from the Indian Ministry of Environment and Forests (MoEF) to conduct vital safety testing experiments on alternative drugs to diclofenac. BCN is independently pursuing substantial funding from the Hariyo Ban Program to expand its *in-situ* work within Nepal. These are very encouraging signs that both India and Nepal are taking a more leading role in funding and in running the vulture programme, which is the long term future for this project and the species.

9. Dissemination

RSPB press releases following publication of two research articles have led to media coverage in 16 news articles mostly published online. These included articles on the *BBC*, *Nature Magazine* and *The Guardian* websites. In addition, the RSPB media team met with feature writers from a number of publications including the *Daily Telegraph Magazine*, *The Observer* and *Geographical Magazine*, plus had conversations with *FT Weekend* and *The Sunday Times Magazine*.

BCN has continued to disseminate the project widely through newspapers, online articles and radio segments. The BNHS Press Officer and newly appointed Vulture Advocacy Officer (funded and run separately by the RSPB) have been increasing the media coverage for vulture conservation in India. As a result, more than 95 news articles have been published in state and national media. Many have followed press releases but others have been independently sought articles. In addition, all four of the local NGOs working in the VSZ in India have successfully publicised vulture conservation at the state level.

The project's progress is also disseminated through the new SAVE (Saving Asia's Vultures from Extinction consortium) website (launched this year) and through news, blogs and podcasts available on the RSPB website. For the *Hippo Wild Feast* screened on *Channel 4* where African scavengers including vultures were filmed feeding on a hippopotamus carcass, Chris Bowden used twitter to interact with viewers, answering their questions on vulture ecology and providing details on the South Asia vulture crisis and the current conservation efforts.

10. Project Expenditure

Table 3 project expenditure during the reporting period (1 April 2010 – 31 March 2011)

Item	Budget	Expenditure	% variance / comments
Staff Costs	£36,130	£45,519	126%
RSPB Project Manager			Salaries for staff in both India and Nepal have been increased in order to match rising costs of living and inflation in the country. Without further increases to salaries the project faced the prospect of losing (more) trained staff from the vulture teams.
BCN vulture manager			
BCN field biologist			
BCN community worker			
BCN project veterinarian (centre)			
BCN project veterinarian (field)			
BCN field technician			
DNPWC Vulture manager (10%)			
DNPWC Chief Warden (10%)			
NTNC Vulture Keeper			
BNHS biologist			
BNHS biologist			
BNHS biologist			
BNHS veterinarian			
NHF Coordinator			
NHF field biologist			
KF Project Coordinator			
KF Field Assistant			
KF Local area Assistant			
KF Local area Assistant			
MC Program Coordinator			
Overhead costs			138% The large number of organisations the project is collaborating with increased overhead costs beyond what was originally budgeted
Travel & Subsistence			56% Travel and subsistence costs were considerably lower than budgeted, mainly due to the collaboration with local NGOs which reduced the amount of in-country travel that was required
Operating costs			117%
Capital Equipment			73%
BCN GPS x 2 for fieldwork			
BCN Clinometer and compass for field work			
BCN Vet kit & medicine (VCBC Nepal)			
BNHS Motorbike (VCBC West Bengal)			
BNHS Chick room (VCBC West Bengal)			

NHF Projector for film shows	
KF Monitor for film shows	
MC Projector and Screen for film shows	
MC Generator, power cords, speakers	
Other costs (consultancy)	
Other costs (specified)	130%
BCN awareness work 15 districts	
BCN 2nd issue of vulture newsletter	
BCN 5-yr man. plan for VSZ site	
BCN expansion of 5 x VSZ	
BCN Tourism promotion at 5 feeding sites	
BCN vulture fact sheets for tourism	
NHF Vulture education materials	
NHF miscellaneous expenses	
MC stationary and communication costs	
MC miscellaneous expenses	
Total	102%

The total budget for the year came in at £1,923 over budget. This amount was met by the RSPB.

In total sub-contracts with the two main project partners in Nepal and India accounted for >90% of the year 2 budget. The remaining ~10% of spend was mainly spent in support of staff costs at the RSPB and project expenditure by the RSPB on travel and subsistence and overheads.

11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for LTS and the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

The Darwin vulture project in India and Nepal has made some notable achievements in this reporting year. The most important of these is evidence for slowed rates of decline in all three of the Critically Endangered species covered by this project in both countries. The decline in the white-backed vulture may have even reversed. These findings follow evidence for reduced levels of diclofenac in vulture food sources in India and on pharmacy shelves in India and Nepal. In addition, we have had another successful year of breeding at the Pinjore VCBC and the West Bengal centre, with the latter rearing four chicks.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2010-2011

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</p> <ul style="list-style-type: none"> ⇒ The conservation of biological diversity, ⇒ The sustainable use of its components, and ⇒ The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 			
<p>Purpose To improve trans-boundary collaboration and capacity in Nepal and India to implement effective conservation solutions for Asia's Critically Endangered vulture species</p>	<p>P(1) Increase in number and area of Vulture Safe Zones within Nepal and in neighbouring areas of India</p> <p>P(2) Increased capacity of staff at Breeding Centres and Vulture Safe Zones to sustain vulture conservation activities</p> <p>P(3) Vulture Conservation Breeding Programmes in India and Nepal continue to expand</p>	<p>P(1) In Nepal, four VSZs now cover 16 districts and 30,000km²; in India, four VSZs cover 19 districts and 58,000km².</p> <p>P(2) RSPB employed a VSZ Coordinator, Conservation Scientist and Veterinarian. Two VCBC Veterinarians employed In India.</p> <p>P(3) In India, greater than 20 nestlings reared across two VCBCs. In Nepal, construction begins on a second colony aviary.</p>	<p>P(1) Continual expansion of VSZs In Nepal and India. Establishing more VSZs in India.</p> <p>P(2) Increase VCBC and VSZ staff capacity with increase in activities.</p> <p>P(3) In Nepal, construction of second colony aviary, laboratory and visitor centre complete. Prepare for the first breeding season for Nepal VCBC.</p>
<p>Output 1. Expansion of <i>in-situ</i> vulture conservation projects across Nepal and in neighbouring areas of India</p>	<p>>4 Vulture Safe Zones established in Nepal and minimum 1 Vulture Safe Zone established in adjacent areas of India</p>	<p>Currently, four VSZs are being managed in Nepal by BCN and another four VSZs are being managed in India by BNHS and four local NGOs.</p> <p>Action: continual expansion of existing VSZs and establishment of others in particular in India which is much larger than Nepal.</p>	
<p>Activity 1.1 Sites and local conservation NGO partners identified for expansion of Vulture Safe Zones (VSZ) in Nepal and neighbouring areas of India</p>		<p>Eight VSZs in Nepal and India. Capacity building within these VSZs will continue in the next reporting period.</p>	
<p>Activity 1.2 Agreement in place with local and national partners for <i>in-situ</i> work</p>		<p>Agreements in place. Agreements will be maintained in the next reporting period.</p>	
<p>Activity 1.3 Diclofenac stocks removed and replaced with vulture safe meloxicam in VSZ,</p>			

infrastructure and agreements in place for herding cattle and feeding sites established around breeding colonies, local advocacy programme and printed materials in place, and monitoring of vulture numbers established by local teams		Diclofenac-meloxicam swapping completed. Feeding sites established in Nepal. Advocacy, education and monitoring programme by local partners and NGOs underway and will continue in the next reporting period. Best practice frequently assessed and disseminated among teams.
Output 2. Effectiveness of <i>in-situ</i> conservation actions tested across Nepal and India	2a. Monitoring of vulture populations, use of veterinary drugs, and diclofenac in carcasses undertaken in two geographically distinct areas	Monitoring undertaken at both the national and VSZ level in Nepal and India. First round of surveys completed in year one; second surveys to be conducted in the next reporting year (year three).
Activity 2.1. Minimum of one suitable control site for monitoring effectiveness of <i>in-situ</i> work located in same eco zone in India		Nationwide surveys in both Nepal and India will encompass both VSZs and non-VSZs, the latter representing controls.
Activity 2.2. Vulture monitoring, NSAID surveys and carcass samples collected from Nepal and India from <i>in-situ</i> sites and from control area(s) in India		Nationwide surveys will continue every two years and VSZ surveys will be conducted every two years, commencing in the next reporting year.
Output 3. Infrastructure for the Vulture Conservation Breeding Centre in Nepal and West Bengal is increased in capacity	Second colony aviary, chick aviaries, veterinary facility and visitor & education facilities constructed on the site, with supporting infrastructure (water & power) in place in Nepal. Visitor & education facilities at West Bengal	Progress building infrastructural capacity has been slow in Nepal. The activities covered by this output will be a top priority in the next reporting year.
Activity 3.1. Continued support from DNPWC and West Bengal State for expansion of project infrastructure at the site in Chitwan National Park and Buxa Tiger Reserve		Government partners for both the Nepal and the West Bengal VCBC provide continual support.
Activity 3.2. Design and budget for aviaries and visitor facilities agreed with project partners in Nepal and West Bengal		Visitor facilitates plans discussed. Construction to commence in the next reporting year.
Activity 3.3. Colony aviary, chick aviaries and visitor facilities constructed		Second colony aviary under construction. Construction on laboratory and visitor facilities to commence in the next reporting year.
Activity 3.4. Pump and tanks installed to improve water supply, and back-up generator bought and installed to provide reliable electricity		Water supply improved for centre. Back up generator not yet supplied.
Output 4. Breeding Centre staff supported at	A minimum of six staff employed and trained by the project in both India and	Nine staff employed in both Nepal and India.

Nepalese and West Bengal centres for three-year term of project	Nepal	
Activity 4.1. Recruitment and renewed contracts for breeding centre staff in Nepal and West Bengal centres		Staffs have been recruited or had their contracts renewed. This will continue as necessary.
Output 5. Training and capacity of staff in India and Nepal increased with further cooperation between the two country's programmes	5a. International visits by 2 staff to UK to receive training 5b. Training workshops (2 x 1 week in each year) run by project in host countries and training materials and studbook produced 5c. Annual exchange/training visits between Indian and Nepalese partners in each year of project	5a. One visit complete; the other to be arranged. 5b. RSPB/ZSL veterinarian provided a workshops and one-on-one training in India and Nepal to VCBC staff for a period of six months. RSPB VSZ Coordinator and Conservation Scientist provided workshops and one-on-one training in India and Nepal to VSZ staff for a period of two months. Vulture husbandry and veterinary reference manual written and distributed. Advocacy and awareness raising resource packs and monitoring resources packs designed and distributed to VSZ NGOS. Studbooks designed and trialed in Nepal VCBC. 5c Project meeting, VSZ meeting, RSPB training visits and Indian-Nepal training exchanges have been occurred and will continue in the next reporting year.
Activity 5.1. Training requirements for project staff identified, air-tickets bought and dates fixed for staff visits to UK		Artificial incubation training for Buxa VCBC manager to be arranged.
Activity 5.2. Training workshops planned for Nepal/India and ZSL/RSPB/ICBP staff and dates fixed for visits		VCBC and VSZ training will continue in the next reporting period.
Activity 5.3. Themes and visits for staff in Nepal and India agreed and visits arranged		Regular visitation of VSZ Coordinator and project Conservation Scientist and Veterinarian established. To be continued in the next reporting year.
Output 6 Trials of alternative food sources for captive vultures undertaken and feasibility of large-scale production assessed.	Small-scale facilities for rearing rabbits/rats and goats/buffalo established with local communities in areas around vulture centres	Discussions continue on farming alternative food sources for vultures. The activities covered by this output will be a top priority in the next reporting year.
Activity 6.1. Small-scale trials of alternative food sources established with local communities surrounding breeding centre in Nepal and West Bengal		No progress. Priority for the next reporting year.
Activity 6.2. Feasibility study and evaluation of alternative food sources undertaken, with		

expansion of programme if successful	No progress. Top priority for the next reporting year.
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Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>			
<p>Sub-Goal:</p> <p>The establishment of self-sustaining wild vulture populations in South Asia in an environment free from diclofenac and other harmful toxins</p>	<p>SG(1) Wild vulture populations increase in numbers and expand in range and captive vulture populations successfully released and surviving in South Asia</p> <p>SG(2) Contamination of vulture food sources with diclofenac and other harmful veterinary drugs falls to levels that will not impact on the population</p> <p>SG(3) Improvement in IUCN threat status of critically endangered vulture species</p>	<p>Reports to host country governments and peer-reviewed scientific papers document reduction in levels of diclofenac contamination, increasing vulture numbers and successful release of birds</p> <p>IUCN Red List reflect reduced threat to vultures in Asia</p>	
<p>Purpose</p> <p>To improve trans-boundary collaboration and capacity in Nepal and India to implement effective conservation solutions for Asia's Critically Endangered vulture species</p>	<p>P(1) Increase in number and area of Vulture Safe Zones within Nepal and in neighbouring areas of India</p> <p>P(2) Increased capacity of staff at Breeding Centres and Vulture Safe Zones to sustain vulture conservation activities</p> <p>P(3) Vulture Conservation Breeding Programmes in India and Nepal continue to expand</p>	<p>Vulture Safe Zones are registered within local States/Districts and recognised nationally as focal sites for conservation</p> <p>Training reports and activities produced for partners and posted on project website</p> <p>Breeding centre annual reports to government and international partners document increase in captive vulture</p>	<p>Host countries remain politically stable and local areas surrounding vulture conservation projects remain safe for project staff</p> <p>No other conservation issues arise to provide significant new threat to vulture conservation</p> <p>National and international will and funding remains sufficient to support vulture conservation activities</p>

		numbers and infrastructure	
Outputs 1. Expansion of <i>in-situ</i> vulture conservation projects across Nepal and in neighbouring areas of India	1a >4 Vulture Safe Zones established in Nepal and minimum 1 Vulture Safe Zone established in adjacent areas of India	1a. Annual reports for Nepalese and Indian State governments and international partners document establishment of sites	National and local support for <i>in-situ</i> conservation continues Local political and economic situation remains stable and safe for project areas
2. Effectiveness of <i>in-situ</i> conservation actions tested across Nepal and India	2a. Monitoring of vulture populations, use of veterinary drugs, and diclofenac in carcasses undertaken in two geographically distinct areas	2a. Peer-reviewed scientific paper detailed results of work produced and published	Monitored vulture populations remain extent Pharmacies and vets allow monitoring of stocks
3. Infrastructure for the Vulture Conservation Breeding Centre in Nepal and West Bengal is increased in capacity	3a. Second colony aviary, chick aviaries, veterinary facility and visitor & education facilities constructed on the site, with supporting infrastructure (water & power) in place in Nepal. <u>Visitor & education facilities at West Bengal</u>	3a. Completed construction and infrastructure in place and documented on project website and reports to Nepalese government and international partners	National and local political situation remains stable and safe for construction to take place Availability of key construction materials, fuel and power to the site during construction Continued support from Nepalese Department of National Parks and Wildlife Conservation for construction on park land
4. Breeding Centre staff supported at Nepalese and West Bengal centres for three-year term of project	4a. A minimum of six staff employed <u>and trained</u> by the project in both India and Nepal	4a. Contracts with BNHS and BCN and annual reports document numbers of staff in employment	Qualified and suitable staff retained and/or available for recruitment to project Local political situation remains safe for staff to work on the project
5. Training and capacity of staff in India and Nepal increased with further cooperation between the two country's programmes	5a. International visits by 2 staff to UK to receive training 5b. Training workshops (2 x 1 week in each year) run by project in host countries and <u>training materials and studbook produced</u> 5c. Annual exchange/training visits between Indian and Nepalese partners in each year of project	5a, b & c. Reports from international visits, training workshops and exchange visits produced for funders and posted on project website Certificates document training received and produced for funders	International visas issued to allow training visits to UK or elsewhere Time and availability of ZSL, RSPB and ICBP staff to visit and run training workshops in host countries <u>[n.b. proposed enrolment of staff on degree courses, mentioned in the stage 1 application, has been removed as while of benefit to individual staff it is not essential for the overall programme. If other funding sources allow this, then this will still be pursued]</u>

6. Trials of alternative food sources for captive vultures undertaken and feasibility of large-scale production assessed	6. Small-scale facilities for rearing rabbits/rats and goats/buffalo established with local communities in areas around vulture centres	6. Annual reports produced for project funders on success of small-scale projects and feasibility assessment of large-scale project produced	Support and availability of personnel from local community to work on project
<p>Activities</p> <ul style="list-style-type: none"> 1.1 Sites and local conservation NGO partners identified for expansion of Vulture Safe Zones (VSZ) in Nepal and neighbouring areas of India 1.2 Agreement in place with local and national partners for <i>in-situ</i> work 1.3 Diclofenac stocks removed and replaced with vulture safe meloxicam in VSZ, infrastructure and agreements in place for herding cattle and feeding sites established around breeding colonies, local advocacy programme and printed materials in place, and monitoring of vulture numbers established by local teams 2.1 Minimum of one suitable control site for monitoring effectiveness of <i>in-situ</i> work located in same eco zone in India 2.2 Vulture monitoring, NSAID surveys and carcass samples collected from Nepal and India from <i>in-situ</i> sites and from control area(s) in India 3.1 Continued support from DNPWC and West Bengal State for expansion of project infrastructure at the site in Chitwan National Park and Buxa Tiger Reserve 3.2 Design and budget for aviaries and visitor facilities agreed with project partners in Nepal and West Bengal 3.3 Colony aviary, chick aviaries and visitor facilities constructed 3.4 Pump and tanks installed to improve water supply, and back-up generator bought and installed to provide reliable electricity 4.1 Recruitment and renewed contracts for breeding centre staff in Nepal and West Bengal centres 5.1 Training requirements for project staff identified, air-tickets bought and dates fixed for staff visits to UK 5.2 Training workshops planned for Nepal/India and ZSL/RSPB/ICBP staff and dates fixed for visits 5.3 Themes and visits for staff in Nepal and India agreed and visits arranged 6.1 Small-scale trials of alternative food sources established with local communities surrounding breeding centre in Nepal and West Bengal 6.2 Feasibility study and evaluation of alternative food sources undertaken, with expansion of programme if successful 			

Annex 3 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Published articles

1. Cuthbert, R., Prakash, V., Saini, M., Upreti, S., Swarup, D., Das, A., Green, R. and Taggart, M. (2011) Are conservation actions reducing the threat to India's vulture populations? *Current Science*, 101:1480-1484
2. Saini, M., Taggart, M., Knopp, D., Upreti, S., Swarup, D., Das, A., Gupta, P., Niessner, R., Prakash, V., Mateo, R. and Cuthbert, R. (2012) Detecting diclofenac in livestock carcasses in India with an ELISA: A tool to prevent widespread vulture poisoning *Environmental Pollution*, 160: 11-16
3. Chaudhary, A., Subedi, T.S., Giri, J.B., Baral, H.S., Chaudhary, I., Paudel, K., and Cuthbert, R.J. (2011). Population trends of critically endangered Gyps vultures in the lowlands of Nepal. *Bird Conservation International*. doi:10.1017/S0959270911000426
4. Cuthbert, R., Taggart, M.A., Prakash, V., Saini, M., Swarup, D., Mateo, R., Chakraborty, S.S., Deori, P. and Green, R. (2011). Effectiveness of Action in India to Reduce Exposure of Gyps Vultures to the Toxic Veterinary Drug Diclofenac. *PLoS One* 6(5): e19069. doi:10.1371/journal.pone.0019069
5. Prakash, V., Bowden C., Cuthbert, R. and Routh, A. (2011). Saving India's Vultures from Extinction – How can Veterinarians contribute to their Conservation? *Intas Polivet*. 12: 123-125.
6. Cuthbert, R.J., Dave, R., Chakraborty, S.S., Kumar, S., Prakash, S., Ranade, S.P. and Prakash, V. (2011). Assessing the ongoing threat from veterinary NSAIDs to critically endangered Gyps vultures in India. *Oryx*, 45, 420-426.
7. *Prakash, V., Bowden, C., Cuthbert, R., Prakash, N., Routh, A. and Parry-Jones, J. and. (2012). Husbandry Guidelines for 'in range' conservation breeding programmes of *Gyps bengalensis*, *Gyps indicus* and *Gyps tenuirostris*. *Unpublished manual*, Bombay Natural History Society, Mumbai, India.

* Cover page and acknowledgement section only

Recent press articles

8. Press Association (September 2011)
9. Guardian (September 2011)
10. BBC Nature (September 2011)
11. Nature magazine online news (September 2011)
12. BBC Online (May 2011)
13. Current Science journal cover (December 2011)

Detailed list of press and publicity in the UK and host countries

14. Press and publicity in the UK, India and Nepal

Photographs of the project

15. Photos from India and Nepal

Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 5MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	