

**Community-based Ecological monitoring of critically endangered  
Oriental White-backed Vultures in Suklaphanta Wildlife Reserve,  
Important Bird Area, Nepal**



**Report Submitted to:  
Oriental Bird Club, United Kingdom**



**Submitted by:  
Khadananda Paudel  
Vulture Conservation Officer  
Bird Conservation Nepal  
P.O. Box 12465, Lazimpat, Kathmandu, Nepal  
[www.birdlifeneal.org](http://www.birdlifeneal.org)**

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## SUMMARY

Vultures play an important role in ecosystem disposing the dead animals in nature. Four species of vultures in Asia are in grave danger of extinction across the Indian subcontinent due to toxic drug diclofenac. This project aims to monitor the nests of vultures in and around Suklaphanta Wildlife Reserve and together with the monitoring train some local youths for the monitoring of vulture nests and the availability of toxic drug diclofenac in the area. Survey of nesting colonies of vultures in and around Suklphanta Wildlife Reserve was performed and altogether twelve nests of Oriental White-backed Vultures were recorded. School awareness programmes were performed in ten places near to the nesting colonies of vultures. Two community awareness events, two interaction workshops with veterinary practitioners and one interaction workshop were conducted with custom officials of Kanchanpur district during the project period. Two hoarding boards having message on conserving vultures have been placed in project area. In recent times, veterinary use of human diclofenac has been a key challenge to conserve vutures, so strong advocacy needs to be done to completely stop the illegal use of this drug.

## BACKGROUND/INTRODUCTION

Vultures are medium to large sized scavenging birds, feeding mostly on the carcasses of dead animals and are found on every continent except Antarctica and Oceania (Del Hoyo *et al* 1994). Vultures are the primary consumers of carrion in Asia and Africa, with an individual *Gyps* vulture consuming around 1 kg of tissue every three days (Mundy *et al.* 1992). They do safely disposing off dead animals and help in preventing the spread of zoonotic diseases.

There are nine species of vultures recorded from Indian subcontinent of which five belongs to the genus *Gyps* (Prakash 1999). Four species of vultures in Asia are in grave danger of extinction across the Indian subcontinent. Population of oriental White-rumped vulture, long-billed vulture and Slender-billed vulture have declined by more than 97% in India (Prakash *et al.* 2003). Due to these declines, all three species were listed as critically endangered by IUCN 2000, which is highest category of endangerment. Further to this two more species Red-headed vulture and Egyptian vulture are listed as critically endangered and endangered respectively in 2007.

Vultures are highly susceptible to Non-Steroidal Anti-Inflammatory Drug, diclofenac, they are exposed to the drug through the carcasses of treated livestock. Diclofenac kills gyps vultures (Oaks *et al.* 2004; Swan *et al* 2006) including Himalayan Griffon (Das *et al.* 2010) and possibly other species as they too have declined (Cuthbert *et al.* 2006; Acharya *et al* 2009).

In order to halt the decline of these critically endangered birds, Government of Nepal put ban on production, import and use of veterinary diclofenac and endorsed **Vulture Conservation Action Plan for Nepal (2009-13)**. The main objective of Vulture Conservation Action Plan was to prevent the extinction of vulture species by ensuring re-introduction, safe food supply, maintenance of suitable habitat and better understanding of the ecological importance of these birds in Nepal with a goal to revive viable population of vultures in the wild. Vulture Conservation and Breeding Centre was established on 2008 in partnership of Department of National Park and Wildlife Conservation (DNPWC), National Trust for Nature Conservation (NTNC) and Bird Conservation Nepal (BCN).

Bird Conservation Nepal has been supporting this Vulture Conservation Action Plan through integrated approach to conserve vultures in Nepal which involves advocacy, sensitization, monitoring the use of NSAIDs, the collection of veterinarian pledges to stop using diclofenac and the operation of six vulture safe feeding sites. These vulture safe feeding sites collect old and unproductive cows from the nearby villages and rear them at least for seven days to ensure diclofenac free and fed to vultures after their natural death. Diclofenac monitoring and swapping for safe alternative-Meloxicam, monitoring of other Non-tested NSAIDs, nest monitoring, community sensitizations and outreach are key elements of any vulture conservation. The

provision of supplementary food at vulture restaurants is an effective interim measure in the conservation of vulture species through reducing vulture mortality associated with diclofenac exposure (Gilbert *et.al* 2007). This conservation effort is not only linked with biodiversity conservation, but livelihoods are sustained through this as well. These sites have been an attraction to local and international tourism and we have linked this to poverty alleviation program. The sites are important for vultures as well as culture of local indigenous people. Thirty three districts covering the area of 62, 316 square kilometre has been declared veterinary diclofenac free districts in Nepal (BCN 2013, unpublished) Although veterinary use of diclofenac was banned in Nepal in 2006, human-intended diclofenac continues to be used for veterinary purposes, requiring continuous conservation efforts.

## **PROJECT AREA**

The project area is a designated as protected area of the country lies in the extreme southwest of Plain area of Nepal and is identified as an Important Bird Area (IBA) by BirdLife International (Baral and Inskipp 2005). About 60% of the Reserve is covered by Broadleaved forests of *Shorea robusta*, *Dalbergia sissoo* and *Acacia catechu* and rest is covered by grassland and small lakes. Around 373 species of birds are recorded in the reserve including 50% of Nepal's globally threatened species (Baral H.S. and Inskipp, C. 2005). The reserve supports Bengal Florican, wintering population of Hodgson's Bushchat, Swamp Florican, Oriental white-backed Vulture (OWBV), Slender-billed Vulture, Bristled Grassbird, Jerdon's Babbler, and Finn's Weaver etc. There were no sightings of vultures nesting in the area since 2009, a total of eight nests were recorded in bufferzone of Suklaphanta Wildlife Reserve in breeding season 2011-2012. With the study of nesting of vultures in the area in this breeding season a total of twelve nests of OWBV have been recorded (four nests inside Suklaphanta Wildlife Reserve and eight nests in its buffer zone).

## **OBJECTIVES**

The main objective of the project was to develop an ecological monitoring plan in partnership with communities and a grassroots NGO, in the better and sustainable conservation critically endangered species and ecologically important habitat.

The specific objectives of the project were:-

- Explore and survey Oriental White-backed Vulture (OWBV) nests in Suklaphanta Wildlife Reserve, an Important Bird Area.
- Develop an ecological monitoring mechanism with local youths for the sustainability of the project.
- Enhance the capacity of local NGO and conduct awareness campaigns on vulture conservation.

## METHODOLOGY

### Survey and Ecological Monitoring

In order to study breeding success nests are counted, and the nest occupancy, breeding status and general behavior were recorded in the breeding season 2012-2013 of OWBV. During the period nests were counted and nest occupancies were recorded. The nest were identified on the basis of the presence of nesting birds or fresh white dropping on the nest rim and nesting ledge, or fresh dropping below the tree and are classified according to Postupalsky (1974). An active nest is the one in which eggs had been laid, an occupied nest is the one in which eggs have not been laid but some nest building activity must have taken place. A nest from which a chick fledged is termed as 'successful or productive nest'. The geographic positions were recorded with the help of GPS from nearest accessible point. Nests monitoring were made every month to assess the nest status and breeding success. Breeding success of OWBV was determined using following formula

$$\text{Breeding Success} = \frac{\text{productive nest}}{\text{active nest}} \times 100$$

In the breeding season 2012-13, four nests of OWBV were recorded and monitored inside the area of Shuklaphanta Wildlife Reserve and eight nests were monitored in the buffer zone area; four in Pipladi and four in Parsiya. Out of 12 nests of OWBV, seven nests were successful to fledge their chicks producing the breeding success result 58.33% for this breeding season.

### Capacity Enhancement of Local NGO

Community awareness campaigns, school awareness programme and monitoring of vultures were carried out in collaboration with a local NGO; Nature Guide Association Shuklaphanta (NGAS).

### Training to local youth on ecological monitoring of Vultures

Local youths from from the vicinity of the each nesting sites Pipladi and Parsia were trained on ecological monitoring of vultures. These youths were also participated on the survey and monitoring of OWBV in the Shuklaphanta wildlife reserve and its buffer zone. Moreover they conducted some awareness programme on vulture conservation to community persons and school children.

## Awareness activities to school students

To create the awareness about the conservation of the vultures in and around Suklaphanta Wildlife Reserve, ten secondary and higher secondary schools were selected near the vulture nesting areas and the students were trained in identifying vultures, information on vulture ecology, importance of conserving vultures and role of students in conserving vultures. Awareness leaflets and posters having message on vulture conservation were distributed to students and schools.

The list of the schools with dates and no. of participants benefitted from the training are listed in the following table:

S. No.	Name of Schools	No .of participants	Address	Date
1	Janjyoti Multiple Campus	50	Bhansi, Mahendranagar, Kanchanpur	4 October, 2012
2	Siddhanath Multiple Campus	55	Mahendranagar, Kanchanpur	4 October, 2012
3	Mahendranagar Secondary school	29	Mahendranagar, Kanchanpur	12 October, 2012
4	Rastriya Higher Secondary School	65	Pipladi, Kanchanpur	4 October, 2012
5	Tribhuwan Higher Secondary School	52	Ratanpur, Kanchanpur	5 October, 2012
6	Kalika Lower Secondary School	40	Rampur, Kanchanpur	10 October, 2012
7	Gorakhnath Secondary School	28	Kunda, Sankarpur, Kanchanpur	27 October, 2012
8	Shiv Shakti Secondary School	40	Kalagaudi, Pipladi, Kanchanpur	30 November, 2012
9	Baijanath Lower Secondary School	33	Bankatti, Kanchanpur	30 April, 2013
10	Prabhat Vidya Nikaten	27	Bankatti, Kanchanpur	2 May, 2013
	<b>Total no. of students participated</b>	<b>419</b>		

## **Awareness, Advocacy and Government engaging**

### **Coordination meeting with district stakeholders of Kanchanpur district**

In order to raise awareness on stopping diclofenac and conserving vultures with district stakeholders, Bird Conservation Nepal in collaboration with Nature Guide Association Suklaphanta and District Livestock Service Office, Kanchanpur organized an interaction programme with veterinary practitioners of Kanchanpur district at District Livestock Service Office, Mahendranagar on 1 September 2012 on the occasion of International Vulture Awareness Day 2012. Representatives from district government offices, community Forest User Committees, veterinary practitioners, veterinary pharmacy owners and media persons of Kanchanpur district were participated in the programme. Dr. Madam Singh Dhami, Officer at District Livestock Service Office, Kanchanpur presented on importance of vulture in our environment, need stop the complete use of the drug diclofenac in animal treatment and role of vet practitioners in reducing diclofenac use. Mr. Hirulal Dangaura, Monitoring and Education Assistant at BCN explained on role of local community, veterinary practitioners and local organizations in vulture conservation. Altogether 25 participants attended the programme.

### **Interaction meeting with vet community at Jhalari, Kanchanpur**

In order to stop illegal use of diclofenac in animals, Bird Conservation Nepal (BCN) in collaboration with Nature Guide Association Suklaphanta, organised one day interaction meeting with vet community at Jhalari Village Development Committee (VDC), Nawalparasi on 5 September, 2012. Representatives from Community Forest User Committees, veterinary practitioners, and veterinary pharmacy owners of Kanchanpur district were participated in the programme. Mr. Hirulal Dangaura from BCN and Duttha Rana from NGAS presented on importance of vulture in our environment, cause of decline of vultures and need to urgently stop the complete use of the drug diclofenac in animal treatment. Altogether 30 participants used the forum to discuss on urgent need to stop use of diclofenac and conserve vultures.

### **Interaction workshop with Custom Officials at Gaddachowki**

In order to stop illegal use of diclofenac in animals, Nature Guide Association Suklaphanta organised one day interaction workshop with custom officials at Gaddachowki, Kanchanpur on 27 September 2012. Altogether 25 participants representing from District Livestock Service office, Custom office, Police Office, District Para-vet Association and journalists of Kanchanpur district used the opportunity to discuss on the issues of illegal use of banned veterinary drug, diclofenac.

## **Community Awareness Activities**

On 9 September 2012, vulture awareness and interaction programme was organized by Nature Guide Association Suklaphanta at Sankarpur Village Development Committee, Parsiya, Kanchanpur. Different stakeholders from local government, community based organizations and local community were present at the programme. Altogether 48 participants from these different sectors discussed on decline of vultures in Nepal and the role of every individuals and organizations in vulture conservation. Mrs. Dambari Bist, President at Nature Guide Association Suklaphanta added the importance of vultures and requested all stakeholders to unite together for vulture conservation.

Similarly, on 29 January 2013, vulture awareness and interaction programme was organized jointly by Bird Conservation Nepal and Nature Guide Association Suklaphanta at Pipladi Health Post, Pipladi, Kanchanpur. Different stakeholders from local government, local veterinary practitioners, community based organizations and local community were present at the programme. Mr. Khadananda Paudel, Vulture Conservation Officer at BCN and Mr. Krishna Bhusal, Field Biologist at BCN explained participants discussed on urgent need of stopping the illegal use of diclofenac on animals and the role of every individuals and organizations on stopping the illegal use of diclofenac to conserve remaining vultures in Nepal. Altogether 33 participants from these different sectors discussed on need of vulture conservation and the role of every stakeholder on vulture conservation.

## **Monitoring of veterinary drug by District Diclofenac monitoring committee**

Non-steroidal anti-Inflammatory Drugs (NSAIDs) monitoring was done in major veterinary pharmacies of Nawalparasi district in March 2013. Nature Guide Association Suklaphanta and District Livestock Service Office, Kanchanpur jointly monitored 18 veterinary pharmacies in district. The entire entrepreneurs were communicated in issues of vulture crisis, Diclofenac and its banning and alternative Meloxicam. None of the pharmacies were found with Diclofenac. Alternative safe drug, Meloxicam Inj, was found in all pharmacies.

## **Two hoarding boards set up**

One hoarding board having the message on stopping the illegal importation and use of diclofenac in animal treatment has been placed at Gaddachowki custom office (near to boarder area of kanchanpur district).

Another hoarding board having the message on urgent need of conserving vultures and the role of every individuals and organizations on stopping the illegal use of diclofenac to conserve remaining vultures in Nepal has been placed at Parsiya (near to one of the nesting colony of OWBV).

## **KEY ACHIEVEMENT**

Key stakeholders for vulture conservation in area are involved in most of the activities of this project has not only made them aware on the issues of vulture conservation, but also paved a path to carry out activities for conservation of vultures from their level in Kanchanpur district. School students are made aware on the issues so that they will spread the message of vulture conservation, veterinary practitioners and farmers are trained on the role of both in vulture conservation which will support vulture conservation in the area.

## **KEY RECOMMENDATIONS**

- Nest monitoring of vultures in Suklaphanta Wildlife and surrounding area needs to be continued for analyzing the vulture population trend in Nepal.
- Veterinary use of human diclofenac is now the key threat to vultures, so much awareness and strong advocacy needs to be done further to completely stop the illegal use of this drug.

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## ANNEX-1

### Details on nesting colonies of Oriental White-backed Vulture (OWBV) recorded in Suklapahanta Wildlife Reserve and its bufferzone.

District	Area	GPS Location		Elevation	Vulture Species	Nesting Tree	Success/Failure	Remarks
		Lattitude	Longitude					
Kanchanpur	Pipladi	28°53.220'	080°19.895'	198	OWBV	<i>Terminalia tomentosa</i>	Success	Re-use
Kanchanpur	Pipladi	28°53.207'	080°19.834'	197	OWBV	<i>Terminalia tomentosa</i>	Success	Re-use
Kanchanpur	Pipladi	28°53.116'	080°19.834'	196	OWBV	<i>Terminalia tomentosa</i>	Failure	Re-use
Kanchanpur	Pipladi	28°53.289'	080°19.811'	196	OWBV	<i>Terminalia tomentosa</i>	Success	New
Kanchanpur	Parsiya	28°46.641'	080°23.551'	168	OWBV	<i>Terminalia tomentosa</i>	Failure	Re-use
Kanchanpur	Parsiya	28°46.647'	080°23.246'	172	OWBV	<i>Terminalia tomentosa</i>	Success	Re-use
Kanchanpur	Parsiya	28°46.647'	080°23.246'	172	OWBV	<i>Terminalia tomentosa</i>	Success	Re-use
Kanchanpur	Parsiya	28°46.736'	080°23.337'	170	OWBV	<i>Terminalia tomentosa</i>	Success	New
Kanchanpur	Suklapahanta Wildlife Reserve	28°49.518'	080°22.266'	178	OWBV	<i>Terminalia tomentosa</i>	Failure	New
Kanchanpur	Suklapahanta Wildlife Reserve	28°49.518'	080°22.266'	178	OWBV	<i>Terminalia tomentosa</i>	Failure	New
Kanchanpur	Suklapahanta Wildlife Reserve	28°49.560	080°20.321'	178	OWBV	<i>Terminalia tomentosa</i>	Failure	New
Kanchanpur	Suklapahanta Wildlife Reserve	28°50.517'	080°19.871'	177	OWBV	<i>Terminalia tomentosa</i>	Success	New

**ANNEX-2**  
**Some Photos**



**Photo 1 and 2: Hoarding Boards**



**Photo 3: Monitoring of Birds in Suklaphanta Wildlife Reserve**



**Photo 4: Awareness programme to local community at Pipladi**



**Photo 5: Nest of Oriental White-backed Vulture at Pipaldi, Kanchanpur**