

**RESEARCH ARTICLE****Protection of Long-billed Vultures (*Gyps indicus*) from the impacts of shooting of Hollywood movie "Singularity" in Orchha, Madhya Pradesh****Amita Kanaujia and Sonika Kushwaha**Biodiversity and Wildlife Conservation Lab  
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Lucknow (Uttar Pradesh), IndiaEmail: [kanaujia.amita@gmail.com](mailto:kanaujia.amita@gmail.com), [sonika2107@gmail.com](mailto:sonika2107@gmail.com)Received: 10<sup>th</sup> June 2014, Revised: 25<sup>th</sup> August 2014, Accepted: 4<sup>th</sup> September 2014**ABSTRACT**

Vultures are Critically Endangered birds included in Schedule I of Wildlife Protection Act, 1972. Nests of Long billed vultures (*Gyps indicus*) are recorded on the cenotaphs, temples and forts in Orchha, Madhya Pradesh. These come under the Archaeological Department, Bhopal. The shooting of Hollywood Movie "Singularity" by the Neelmudra Entertainment Ltd., Mumbai was going to be around the nests of Long-billed vultures in and around various monuments especially near Badi Chhattri from 21<sup>st</sup> March 2011 to 21<sup>st</sup> May, 2011 i.e. during the breeding period. The permission was given by the Archaeological Department, Bhopal. Therefore conservational steps were taken by the various authorities and researchers involving different Government organizations, Central and State Universities, NGOs and media personal. As a result of advocacy efforts the officials from the State Forest Department and Archaeological Department held a meeting on 28<sup>th</sup>, March 2011 and permitted the shooting with "due care of the vulture chicks". The DFO, Niwari, Tikamgarh in his letter to the Orchha Archaeological Department gave 7 important suggestions and warnings to the Archaeological Department and "Neelmudra Entertainment Ltd., Mumbai like no noise, sound and music, no movement of the crew members, cranes, bamboos, curtains, lightings, construction of artificial wooden, etc. within 200 to 500 meter from the vulture nesting sites. These suggestions and warning were completely violated. As a result of this ignorance, massive disturbance activities were performed just 10 to 100 meters. The numbers of visits to nests by parents with food and water supply for nestlings decreased to 2-3 visits a day. This seriously affected the nourishment of the vulture chick and due to hunger and dehydration one vulture chick died at Badi Chhattris, in nest no. 7G on 4<sup>th</sup> April, 2011. This was warned well in advance by the experts and same was communicated to the Ministry of Environment and Forest, New Delhi. In response the Deputy Inspector General (WL), Ministry Environment and Forest, New Delhi wrote to the Chief Wildlife Warden, Government of Madhya Pradesh, Bhopal to take necessary action to protect the vulture chicks and a feasibility assessment of undertaking film shooting in vulture habitats in consultation of BNHS, SACON, etc. But no such Feasibility assessment was performed on the ground by any of the suggested agencies. A PIL (Public Interest Litigation) was also filed for the same. During all these efforts, media too played an important role. The shooting finally stopped with all the above efforts. It is concluded that shooting affects the breeding success of the vultures. It creates various disturbances that directly affect the "parental care"; as a result the chick may die or remain under development. It is recommended that before giving any permission for activities like shooting, light and sound programs, official tourist fairs, cultural programs, mass meetings, political rallies, people gatherings, marriages, etc. concerned authorities should take necessary opinion and consultation from the Forest and Wildlife Departments as well as the experts.

**Key words:** Long-billed Vultures, Conservation, Shooting, Orchha, Monuments

**INTRODUCTION**

"Birds might live on this earth even if there were no men, but men cannot live without birds" is rightly said by renowned French Writer Michelet. Birds are an integral part of the whole system of life on this earth. There are endless incidences when animals suffered due to never-ending desires and thoughtlessness of human beings. A recent example of this is the decline in *Gyps* vulture population in India and its neighbouring countries. Vultures are the

master scavengers of India. The term "Vulture" has been derived from the Latin Vultur, which is itself derivative of "Vellere". There are 22 kinds of vultures which includes 15 types of Old World vultures 7 types of New World vultures. There are 9 species of vultures found in India. Uttar Pradesh has 8 species of vultures. They have been listed as Critically Endangered which is the highest category of endangerment as defined by the Criteria A1c, e and A2c, e. Parsees practice a form of sky-burial in which the dead are carried by the corpse-bearers and placed on top of a sacred structure called a "Tower of Silence". They are nature's disposal squads or "incinerators". Vultures provide the society with a number of 'services', most notably disposal of carrion. These services have an impact on human health, economic activity and on environmental quality. Although vultures population declined drastically and they are categorized as Critically Endangered, they fail to gain the seriousness regarding their conservation. There are various incidences when the dwindling population suffered due to human laxity. Few examples include the stealing the egg for black magic in Orchha (Kushwaha 2014) and the train accident in Maharajganj that killed 30 vultures together (Kanaujia *et al.* 2010). Conservation of breeding, roosting and feeding sites of vultures plays an significant role in *in-situ* conservation. Therefore shooting of upcoming movie, directed by an Oscar nominated director at Orchha, made the vulture conservationists and forest officials a worried lot.

### BREEDING CYCLE OF LONG-BILLED VULTURES

Nest construction starts in September every year. The nests of *Gyps indicus* are in the monuments (Temples, Palaces, Cenotaphs) of Orchha, like Laxmi temple, Jahagir Mahal, Raja Ram Mandir, Chaturbhuj Temple, Phool Bagshish Mahal, Toopchi ki Hawaeli and Badi Chhatris. The nests are built in such locations of the monuments and trees that are well protected and out of human reach. The nests are constructed along the water bodies. The source of water is river Jamni and Betwa. Vultures are clean birds; they take a bath after every meal, so vulture colonies are near water bodies.

The nest construction is a tedious work for vultures due to its large size as well as the types and number of sticks and twigs used by them (Fig.1). For this reason vultures are reported to reuse their nests. During nest building, nests are never left unguarded (Fig.2). The nest construction activities are mostly seen during the morning hours. The nests are made of sticks lined with green leaves, and with pieces of rags and other rubbish. The size and diameter of the nest is about 2-3 feet and a single nest consists of 2000-4000 sticks.

Only a single egg is laid by the female (Fig 3). Eggs are usually laid during Mid- November. Incubation usually last for 45-52 days and the chicks are seen during the last week of December or first week of January. Both the sexes participate in incubation. The chicks are poikilothermic for several days after hatching and are brooded by an adult until they are able to thermoregulate. The nestling receives predigested food until it is 5-6 weeks old. There after the chick is feed by the regurgitated food that the parent foraged for the stored in the crop. The food requirement increases at the age of 5-6 weeks and continues till the chick is 4 months old i.e. juvenile. The protracted fledgling periods of *Gyps indicus* are quite noticeable. The young ones remain in the nest for 3-5 months after hatching (Fig.4).

The juvenile then keep wandering about for another 8-10 week as flightless birds. They keep moving about near the nests, spending hours at one place. They take another few months to learn flying and forage out in search of food. Fledglings learn to fly in the premises of the monuments with small flights and more walking about (Fig. 5 a & b). Food and water availability are important factors for breeding success (Fig. 6). The whole breeding cycle lasts for 8-9 months. *Gyps indicus* provide excellent parental care. From the time of egg lying till the juvenile started their first flight, one of the two parents is always seen in the nest (Kanaujia, *et al.* 2013). Juveniles while ready to take flights face various hurdles such as food availability, climatic challenges, injury due to falling from nests and attacks by dogs or other animals. It is therefore suggested that the breeding sites should be surveyed and monitored regularly from December (eggs are laid) to June (juveniles ready to fly) so that if any injured bird is seen, it can be hospitalized and rescued. This is very important from conservation

point of view since vultures are slow breeders, laying a single egg in a year (Kanaujia, *et al* 2012).

**Fig. 1:** Collection of sticks for nest construction is a tedious work for vultures



**Fig. 2:** Nests are never left unguarded by *Gyps* species



**Fig. 3:** Single egg of *Gyps indicus*



**Fig. 4:** Young one in nest



**Fig. 5a:** Fledglings out of nests to forage for food**Fig. 5b:** Fledglings learn to fly in the premises of the monuments**Fig. 6:** Food and water availability were important factors for breeding success

#### **ORIGIN OF THE PROBLEM**

The monuments come under the Archaeological Department, Bhopal. The shooting of Hollywood Movie "Singularity" by the Neelmudra Entertainment Ltd., Mumbai was scheduled to be around the nests of Long-billed vultures in and around various monuments especially near Badi Chhattri from 21<sup>st</sup> March 2011 to 21<sup>st</sup> May, 2011 i.e. during the breeding period. The permission for shooting was given by the Archaeological Department, Bhopal. Trepidations were raised that the hectic activities of the production crew could lay on the line the existence of vultures, which were in the course of the nesting period in the area. It was alleged that the production crew could disturb the vultures, which by nature get perturbed due to crowd and sharp lights. Divisional Forest Officer (DFO) Tikamgarh Padam Singh said they had inquired into the complaint but did not find anything offensive on the part of the shooting crew. He outrightly refused to accept responsibility of protecting the vultures as he said it was not his consent, as the building was under the purview of the

Department of Archaeology. The failure of the Forest Department to protect the vultures raised eyebrows over the sincerity of the department in protecting the vultures. Meanwhile, the Ranger of Game Reserve J.P. Rawat in the area on the issue served notices to the director of movie Singularity Roland Joffe and has specified the vulture conservation norms. Rawat claimed that the persons concerned have been warned that strict action would be taken if any of the directives is violated.

### EFFECT ON VULTURES

Vultures invest remarkable effort in their offspring. In fact, Egyptian vultures are extremely cautious when they approach the nest, and tend not to enter if any disturbance is occurring in the surroundings. The average 307m distance from where human disturbance could alter the behaviour of breeding birds is similar to those estimated for other large raptors (Arroyo and Razin 2006; Gonzalez, *et al.*, 2006).

The nestling is entirely dependent on the parents for food for the duration of the nestling period of about 135 days. Nestlings are generally fed once-daily by one parent, and the other parent is usually present at the nest for brooding (up to 30-40 days of age) and predator protection during the latter part of nestling period (Komen 1986). The frequent presence of people in the breeding areas alters the behaviour of adults, mainly during the second half of the nestling period. The sets for shooting were constructed in the premises used by the fledglings to learn flying (Fig 7). The curtains were placed close to the nests, the distance being less than 20 metres (Fig 8). As such, the numbers of visits by parents with food and water supply for nestlings decreased to 2-3 visits a day. This affected nourishment and led to starvation of the chick. Due to hunger and dehydration the development of the vulture chick is very poor. It created various disturbances that directly affected the "parental care"; as a result the chick may die or remain under development. Adults teach new ones the much-needed flying skills between May and July. It is quite likely that chick may not learn to fly in time and may also die. Due to hunger and dehydration one vulture juvenile died at Badi Chhatris, in nest no. 7G on 4<sup>th</sup> April, 2011, before efforts were made to stop the shooting. The disturbances proved to be fatal to the chicks and parents. So as a result "Breeding success" of the vultures declined. The data of four breeding periods (2007-2011) when summarised (Table 1) showed that the shooting had drastic effect on the breeding success (Kushwaha 2014).

According to Slota-Bachmayr (2004), concerning breeding sites, tourism is mainly a problem of disturbances by trend sporting activities (climbing, paragliding, etc.) and/or recreation/curiosity. Especially on the Adriatic islands but also elsewhere this is a problem resulting in drowned juveniles and (at least in one case) in an extinction of a breeding colony. In few cases, mining activities have also been supported as a potential threat (for example in Bulgaria). Before shooting could be stopped one chick at Badi Chhatris in nest no 7G died on 4<sup>th</sup> April, 2011 due to filming and shooting disturbance by the "Neelmudra Entertainment Ltd., Mumbai (Fig, 9-11).

**Table 1:** Summary of breeding data of *Gyps* vultures in Orchha, Madhya Pradesh (September 2007 to June 2011)

Year	Active nests	Deserted nests	Egg not laid/ Chicks death	Successful nest
2007-2008	32	2	2	30
2008-2009	35	3	1	34
2009-2010	25	10	3	22
2010-2011	27	4	8	19
<b>Total</b>	119	19	14	105

Fig. 7: Sets for the shooting of Hollywood movie "Singularity" at Orchha Tikamgarh



Fig. 8: Curtains are put in close proximity to vulture nests



**Fig. 9:** In February female with chick in Nest No. 7G



**Fig. 10:** In March juvenile with both the parents



**Fig. 11:** In April nest is empty, chick was dead and parents flew away due to disturbance



Madhya Pradesh Chief Wildlife Warden, HS Pabla was in the heat of controversy over this shooting where wildlife norms set to protect vultures were openly violated for over a week. MoEF ADGF (Wildlife) Jagdish Kishwan said that he would seek clarification on the matter from the State Forest Department adding it was 'unethical' on the part of the Forest Department to let the violations continue in spite of the warning from conservationists. This was warned well in advance by the experts and same was communicated to the Ministry of Environment and Forest, New Delhi. In response the Deputy Inspector General (WL),

Ministry of Environment and Forest, New Delhi wrote to the Chief Wildlife Warden, Government of Madhya Pradesh, Bhopal to take necessary action to protect the vulture chicks and a feasibility assessment of undertaking film shooting in vulture habitats in consultation of BNHS, SACON, etc. But no such Feasibility assessment was performed on the ground by any of the suggested agencies. Dr. Vibhu Prakash a senior Scientist and vulture expert had recommended that film shooting from a "safe distance" would not harm the endangered species. Importantly, the Forest Department had sought opinion for the permission of the film shoot in Orchha from Prakash, even though Prakash acknowledged that he had 'not been to Orchha for over five years'.

Chief Wildlife Warden HS Pabla categorically declined having any knowledge of the terms and conditions undersigned by the film producers, which clearly demarcates that they should maintain a distance of at least 100 metres from the vulture nests. The Chief Wildlife Warden commenting on the matter said that there was no shoot, which took place in the top floor of the Cenotaphs, and his DFO Padam Singh has not cited any notice of the same. This statement of the Chief Wildlife Warden comes in the light of the fact that the conservationists provided the media with photographic evidence that a crane was used to lift heavy equipment to the top floor of the Cenotaph and a tent was mounted right next the nest of the vulture while shoot of the film took place in presence of the Forest and Archaeology Department officials. Rag also stated that explanation has been sought from the film producers as to why they mounted a tent next to the vultures next during the shoot, contradicting the some Forest Officials turning a blind eye to protection of the endangered species. Timing is all about striking it at the right moment, some get it right while a few get it horribly wrong.

#### **EFFORTS TO PROTECT THE VULTURES**

The crew working in Orchha was approached and they were requested to postpone the shooting and continue in the non-breeding months. This did not work out as they had already invested a lot of money. The \$37 million film Singularity on locations in India, Australia and the United Kingdom. The film had finished 6 weeks of shoot in Australia, 4 weeks in India when they were found violating the terms and conditions of the Wildlife Protection Act 1972 in the Indian city of Orchha, Oscar nominated filmmaker Roland Joffe was busy shooting his movie Singularity with Ajey Jhankar who had sold his household and his wife's jewellery in the process. He had given his all for this production, even invested ₹6.50 crore of his own money. It was a Herculean task to stop them. The conservational steps were then taken by the various authorities and researchers involving different Government organizations, Central and State Universities, NGOs and media personal. objected to the use of a crane to lift the production equipment to the top floor of the Cenotaph, barely a few feet from the nests of the vultures as a result of advocacy efforts the officials from the State Forest Department and Archaeological Department held a meeting on 28th, March 2011 and permitted the shooting with "due care of the vulture chicks". The DFO in his letter to the Orchha Archaeological Department gave 7 important suggestions and warnings to the Archaeological Department and "Neelmudra Entertainment Ltd., Mumbai. Such as no noise, sound and music, no movement of the crew members, cranes, bamboos, curtains, lightings, construction of artificial wooden, etc. within 200 to 500 meter from the vulture nesting sites. These suggestions and warning were completely violated. As a result of this ignorance, massive disturbance activities were performed just 10 to 100 meters. Commissioner of Directorate of Archeology, Archives and Museums, Pankaj Rag served notice to the producers of the film Singularity for violation of the terms and conditions allowed for shoot in the monuments of the heritage city of Orchha. While Rag was aware that some tents had been erected on the ground floor of the State-protected monument of provincial importance, under the Madhya Pradesh Ancient Monuments and Archaeological Sites and Remains Act 1964 (12), the ground officials failed to inform Rag, about tents being erected on the top floor of the monument, which is also a violation of the Wildlife Protection Act 1972 Schedule (a). Rag acknowledged that protection of the 'vultures' in the monuments was the primary



concern and the terms and conditions, was to be jointly monitored by the Forest and Archaeology departments of the State. The Directorate of Archaeology, Archives and Museums served notices to the film producers which had a week's shoot scheduled later for Gwalior. This could mean the withdrawal of permission for shooting of Roland Joffe's current Hollywood production in India. It was not the first time a Roland Joffe directed film has run into a wrangle with authorities, as *City of Joy* (1992) in Kolkata had to spar with bureaucratic hurdles and hostility from the Kolkata locals. Department of Archaeology's Deputy Director and Curator (Gwalior) C.S. Saxena said that the department did not give permission to spoil the monument. It is a protected monument and the terms have been violated and the film's remaining shooting in Gwalior and Orchha would be cancelled. State's Chief Wildlife Warden H.S. Pabla also supported the cancellation of the shoot of the film if the 'vultures' were disturbed.

Noted wildlife activist and former Union Minister Menaka Gandhi also called him up following which a few directives were issued for the shooting crew. The crew has been directed to alter the situation of a generator and few sharp lights also had been altered at the shooting site. The vulture conservationists and Parsi community demanded action against the producers of the film *Singularity* in Orchha over violation of vulture conservation norms. A PIL (Public Interest Litigation) was also filed seeking reprieve from the court in the matter which is a direct violation of the Wildlife Protection Act of 1972, Schedule I under which the vultures (*Gyps indicus*, *Gyps bengalensis*, *Gyps tenuirostris*) are deemed protected. During all these efforts, media too played an important role. Media played an important role during this incidence. They made the authorities realise about the seriousness of effects of shooting. The Pioneer in its April 11,12,13,15 and 16 issue, had carried news related to endangered vultures being under threat in the Central Indian city of Orchha, as the production of Hollywood film *Singularity* continued with deliberate violation of conservation norms. They supported the conservationists to stop shooting. The shooting finally stopped with all the above efforts not only in Orchha but Gwalior too.

## CONCLUSION

The State Archaeological Survey should have consulted the Forest department before assigning permission for the shooting, as the vultures are endangered species and are included in Schedule I of Wildlife Protection Act 1972. The Forest Department ought to be more vigilant as vultures are a very habitat specific species. They are slow breeders. They attain maturity at the age of 5 years and lay a single egg per breeding season. Before giving any permission for disturbing activities like filming and shootings, organizing light and sound programs, official tourist fairs, cultural programs, mass meetings, political rallies, people's gatherings, marriages, etc. particular authorities should take necessary opinion and consultation from the Forest and Wildlife Departments as well as the Experts. The Authorities at crucial times turn a blind eye towards most of the occasions pertaining to wildlife conservation issues. To minimize the damage, permission for filming and shootings may be given in the non breeding seasons as per the norms and Indian Wildlife Act 1972. This will avoid the mass mortality and breeding failure of vultures at Orchha and other sites in Madhya Pradesh and rest of India.

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