

Death of Elephants Due to Railway Accidents in Odisha, India

Nimain C. Palei*, Bhakta P. Rath & C. S. Kar

Office of the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha, India

*Corresponding author's e-mail: wildpalei@gmail.com

Introduction

India holds the largest population of wild Asian elephants (*Elephas maximus*) with nearly 27,000–29,000 animals (Ministry of Environment and Forest, 2010). In India, a number of endangered wild animals including elephants, tigers (*Panthera tigris*), leopards (*Panthera pardus*), rhinoceros (*Rhinoceros unicornis*) and gaur (*Bos gaurus*) are killed annually by train hits. Since 1987, the country has lost 150 elephants due to train hits. These include 36% cases recorded from Assam, 26% in West Bengal, 14% in Uttarakhand, 10% in Jharkhand, 6% in Tamil Nadu, 3% in Uttar Pradesh, 3% in Kerala and 2% in Odisha (Roy *et al.* 2009; Rangarajan *et al.* 2010). The present paper deals with recorded cases of elephant deaths in Odisha during the period 2000 to 2013.

Methods

The study was conducted across the elephant distribution areas in Odisha. The state is located on the east coast and covers 155,707 km² constituting 4.47% of the geographical area of the country. The forest cover of the state is 48,855 km² (FSI, 2011). Reserve forests constitute 45.29%, protected forests 26.70% and unclassified forests 28.01% of forests, of which 7,060 km² is very dense forest, 21,366 km² moderately dense forest and 20,477 km² open forest.

Records of the Odisha Forest Dept. from 2000 to 2013, relating to elephant deaths due to train accidents were examined (Fig. 1). Additionally forest and other department staff, and local communities were interviewed to get site-specific local information. Locations of incidents were categorized into four broad groups as close to villages, agricultural areas in the fringe of villages, forest edges, and forest areas.

Results and discussion

During the period from 2000 to 2013, a total of 16 elephant deaths were reported due to train accidents in Odisha (Figs. 2 & 3). Of this, 11 deaths (5 in Keonjhar Forest Division and 6 in Berhampur Forest Division) occurred in 2011. The rising trend of elephant deaths due to train hits in Odisha calls for urgent and immediate intervention by the two concerned agencies; the Railways and Forest Departments.

General advisories to prevent train accidents involving elephants

(Jointly issued by Ministry of Railways & Ministry of Environment and Forests)

1. Clearance of Vegetation on the sides of railway track: Zonal Railways will identify in consultation with Forest Department the vulnerable areas and will arrange need-based cleaning of vegetation on the sides of railway track within railway land.
2. Underpasses/overpasses across the railway track to allow elephants to escape: Ministry of

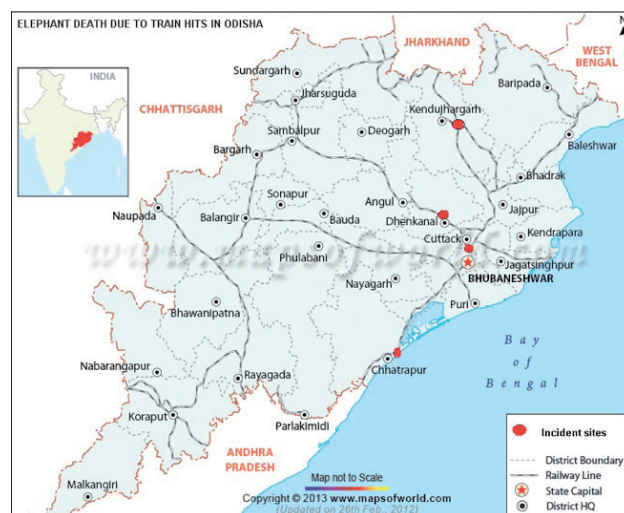


Figure 1. Elephant deaths due to trains in Odisha.

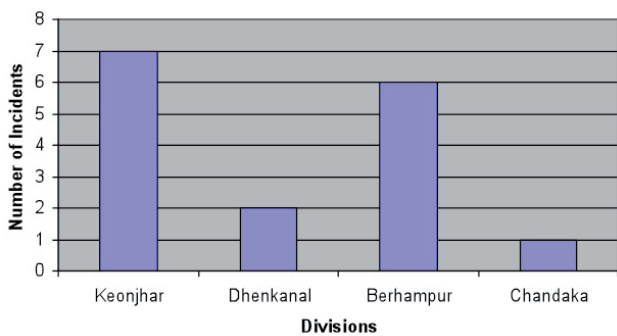


Figure 2. Elephant deaths due to railway accidents in Odisha (2000 to 2013; n=16).

Environment and Forest will provide a list of selected locations for underpasses/overpasses. The cost will be borne by the Ministry of Environment and Forest and the work will be executed by Railways on deposit terms.

3. Signage boards to pre-warn the train drivers: Signage boards will be provided by the railways on both sides of the track in identified locations to pre-warn the drivers.

4. Sensitizing programmes for train drivers/guards/station masters: Train drivers, guards and station masters will be sensitized on wildlife conservation/protection during periodical refresher courses at nominated Zonal Railway Training Centres. The required training materials will be provided by Ministry of Environment and Forest. Also Ministry of Environment and Forest may depute staff for special lectures on wild life conservation. The Railway Board will furnish the list of such zonal institutes to the Ministry of Environment and Forest.

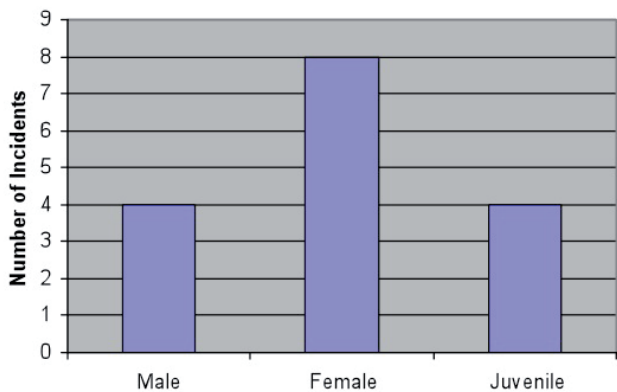


Figure 3. Categories of elephant deaths due to collision with trains in Odisha (2000-2013).

5. Engagement of elephant trackers by Ministry of Environment and Forest and communication with station masters: Ministry of Environment and Forest will engage elephant trackers equipped with mobile phone/walkies to receive/pass on information regarding presence of elephant herds around track length. A separate wireless communication facility will be provided at stations falling within the vulnerable areas identified by Ministry of Environment and Forest. On receipt of information, station master will give “look out advice” to the train crew verbally or otherwise. The advice will be initially for two hours only unless or otherwise extended. Moreover the length of the section should be within 2 km.

6. Keep railway track free from waste that attracts elephants: Railways will advise Indian Railways Catering and Tourism Corporation (IRCTC)/pantry car staff not to throw edible wastes in vulnerable areas. Announcement will be made at the stations located near vulnerable locations advising the passengers not to throw food waste.

Odisha State specific and general decisions for immediate implementation to ensure the safety of elephants

- No movement of goods trains between Jakhpura and Banspani passing through Keonjhar district from 5 pm to 5 am as the route is used only for iron ore transport.
- To have continuous hooting in the sensitive zones identified by the State Forest Department.
- To provide locomotives with powerful beams in the sections.
- To clear all vegetative growth in 30 m width on both sides of the track.
- State Forest Department will organize training programmes for locomotives drivers, cabin men etc. to sensitize them.
- State Forest Department and Railways will put in place a proper communication system so that drivers can be informed of the presence of elephant herds to enable trains to slow down.

Case histories

(a) On the night of 8.8.2012 at about 10 pm a goods train carrying coal and moving from Paradeep to Jamsedpur hit a group of elephants between Nayagarh and Jaroli station of Champua Range of Keonjhar Forest Division. Two elephants died on the spot and another elephant died on 28.8.2012 inside Gurtuan village forest area. The 4th, a juvenile elephant of shoulder height about 5 feet fell in to a ditch on impact and went into the forest after being rescued. It was observed moving inside the forest close to the main herd but on 27.8.2012, the animal was abandoned by the herd and moved inside the forest alone. Due to injury it could not move properly and was rescued from Gurtan village forest for treatment in captivity (Fig. 5).

(b) On 29.12.2012 at about midnight the Coromandal Superfast Express, which travels from Howrah (West Bengal) to Chennai (Tamilnadu) struck some elephants. Five elephants (3 females, 1 male tusker and 1 calf) along with one un-born foetus died on the spot. When the accident occurred the train was travelling at a speed of about 110 km/h. The impact in this accident was so huge that the railway tracks were damaged and the train was detained there for more than 7 hours. The area where the accident occurred was part of the vulnerable area



Figure 4. Elephant death due to collision with train in Nayagarh-Juridi station under Champua Range of Keonjhar Forest Division.



Figure 5. Juvenile elephant injured in train accident in Keonjhar Forest Division.

previously identified by the Forest Department & Railways and signage placed clearly showing that the area is an ‘Elephant Crossing’. In spite of which the accident occurred.

Acknowledgement

We are grateful to the Odisha Forest Department, Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha. We also thank the Divisional Forest Officer, Berhampur, Dhenkanal, Keonjhar and the field staff for their help and cooperation in the field. The authors would like to express their gratitude to K.K. Panigrahi Assistant Conservator of Forests at Wildlife Organization headquarters for his valuable advice and all those that helped to complete this paper, including the reviewers.

References

- Rangarajan M, Desai A, Sukumar R, Easa PS, Menon V, Vincent S, Ganguly S, Talukdar BK, Singh B, Mudappa D, Chowdhary S & Prasad AN (2010) *Gajah: Securing the Future for Elephants in India*. Government of India, New Delhi, India.
- Roy M, Baskaran N & Sukumar R (2009) The death of jumbos on railway tracks in Northern West Bengal. *Gajah* **31**: 36-39.