



Human-Elephant Conflict: Case Study from Balasore and Rairangpur division of Mayurbhanj Elephant Reserve, Odisha, India

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Abstract

The data was collected from a period of 2005 to 2011 from Balesore Division and 2005 to 2012 from Rairangpur Division of Mayurbhanj Elephant Reserve. Total twenty villages were affected in Balasore Division where majority of the people are agricultural dependant. In the year 2005-06 two elephants were killed and in 2006-07 one elephant was killed in Balesore Division with no spectacular harm to human habitation. In the year 2007-08, 08-09, 09-10 several houses and acres of crop fields were damaged by elephants. In Rairangpur Division a total of four elephants were killed by human being and five humans were killed by elephants during the period of 2005-2011. Besides this large acres of crop lands were damaged during this period. Rairangpur division seems to be more affected due to human-elephant conflict than Balasore Division where both human and elephant were killed during last seven years.

Keywords: Human-elephant conflict, anti-depredation measures, movement.

Introduction

Growing human population, urbanisation, developmental activities results in habitat loss for wildlife which gives birth to human wildlife conflict. Human-wildlife conflict (HWC) is fast becoming a critical threat to the survival of many globally endangered species, in particular to large and rare mammals. According to the World Conservation Union Human-wildlife conflict (HWC) occurs when wildlife requirements overlap with those of human populations, creating costs to residents and wild animals. Elephant is one of the largest and wide ranging animals which migrate over long distances in search of food, water and use forest corridors for many hundreds of years. If these corridors are blocked, they enter human settlements. Elephants are also attracted to human settlements by crop or by domestic alcohol distilleries that they can smell from miles away. The resulting human-elephant conflict is a major threat to the survival of the species Menon¹.

Depredation of crops by wild elephants is common along the fringe villages of elephant habitats. Crop raiding by African elephants has been described by various authors report the damage to agriculture by elephants. Sukumar² reports crop

raiding behaviour in relation to the elephant's life history strategy in South India. In Orissa crop raiding of elephants is quite common. Crop damage by elephants and compensation paid in Orissa has been described by Swain³. Elephant death in Orissa has been described by Anonymous⁴. Human deaths due to attack by wild elephants have been reported by Datye⁵ from Central India, by Appaya⁶ and Sukumar⁷ from Karnataka, Veeramani et al.⁸, from Kerala, Dey⁹ from North Bengal, Swain¹⁰ from Orissa. The present study aims to document the consequence of human-elephant conflict from Balasore and Rairangpur Division of Mayurbhanj Elephant Reserve which is one of the largest and important Elephant Reserve of the country due to regular arrival of migratory elephants besides the presence of large number of native elephants.

Study Area of Balasore Division: Balasore wild life division is created after re-organization of forest department with effect from 01.10.2003. This division is co-terminus with the Balasore district and located in the North-Eastern part of the State. The geo-graphical area is 3806 sq km and the forest area is 335.203 sqkm. Forest area constitutes 8.8 percent of the geographical area. The major forest area is located in Nilgiri sub-division.

Table-1

R.F-Reserved Forest, D.P.F-Degraded protected forest, P.R.F-Proposed Reserved Forest, VF-Village Forest, PF-Protected forest

Total Forest Area	R.F	D.P.F	P.R.F	VF	Un-classed forest	Revenue Forest
335.203 sqkm	205.70 sqkm	22.64 sq km	21.54 sq km	3.20 sqkm	0.193 sqkm	81.93 sqkm

The Forest can be broadly classified into two Categories i.e. Coastal Mangrove forest and Casuarina Plantation acting as shelter belt and terrestrial forest of semi-evergreen, moist mixed deciduous and dry mixed deciduous type. The coast extends over 81 km from the mouth of kansa bansa river end of Bhadrak district to the mouth of Subarnarekha River along Bay of Bengal bordering to west Bengal. Kuldih Wild life Sanctuary over 272.75 sqkm is situated in this division notified by Govt of Odisha FF and AH dept during 1984, which comes under Deccan peninsula in chotanagpur plateau of Garjat Hills. This sanctuary is connected to Similipal Biosphere Reserve in the North-West and Hadgarh wild life Sanctuary in the South-West forming a part of mega habitat of the long ranging Asiatic Elephant. Besides the Elephants the Sanctuary abodes Gaur, Spotted Deer, Barking deer, Sambar, Mouse deer, Leopard, king Cobra, Python and a wide Variety of avifauna. It is Included in Mayurbhanja Elephant Reserve Vide Notification No.8F (W)-42/2001-15806/F&E dt 29.9.2001 of Govt of Orissa F&E Department due to Its ecological Importance.

Methodology

Field Investigation and site condition monitoring: The field study was conducted between 2010 and 2011 during which the affected villages were visited and migrated elephants were also encountered during this period. Incidents relating to conflict such as crop damage, house damage, human death and injury, elephant death, causes of all such conflicts were observed during field survey.

Interviewing local people: Local people of the affected villages including victims of conflict, forest staffs were interviewed

through questionnaires to understand movement Pattern of elephant in the area, the way people were affected, their attitudes towards elephant and on different aspects of conflict.

Official collection of information: Data on human-elephant conflict in previous years from 2005 to 2010 were collected from the local Divisional Forest Offices to make comparative study on human-elephant conflict in Balasore and Rairangpur Divisions from 2005 to 2011.

Results and Discussion

The data was collected from a period of 2005 to 2011 from Balesore Division and 2005 to 2012 from Rairangpur Division of Mayurbhanj Elephant Reserve. Total twenty villages were affected in Balasore Division where majority of the people are agricultural dependant. In the year 2005-06 two elephants were killed and in 2006-07 one elephant was killed in Balesore Division with no spectacular harm to human habitation. In the year 2007-08, 08-09, 09-10 several houses and acres of crop fields were damaged by elephants. In Rairangpur Division a total of four elephants were killed by human being and five humans were killed by elephants during the period of 2005-2011. Besides this large acres of crop lands were damaged during this period. Detailed figure about the consequence of human-elephant interface in Balasore and Rairangpur Division has been given in table-1 and table-2. List of affected villages in both the division has been given in table-3 and table-4. Rairangpur division seems to be more affected due to human-elephant conflict than Balasore Division where both human and elephant were killed during last seven years.

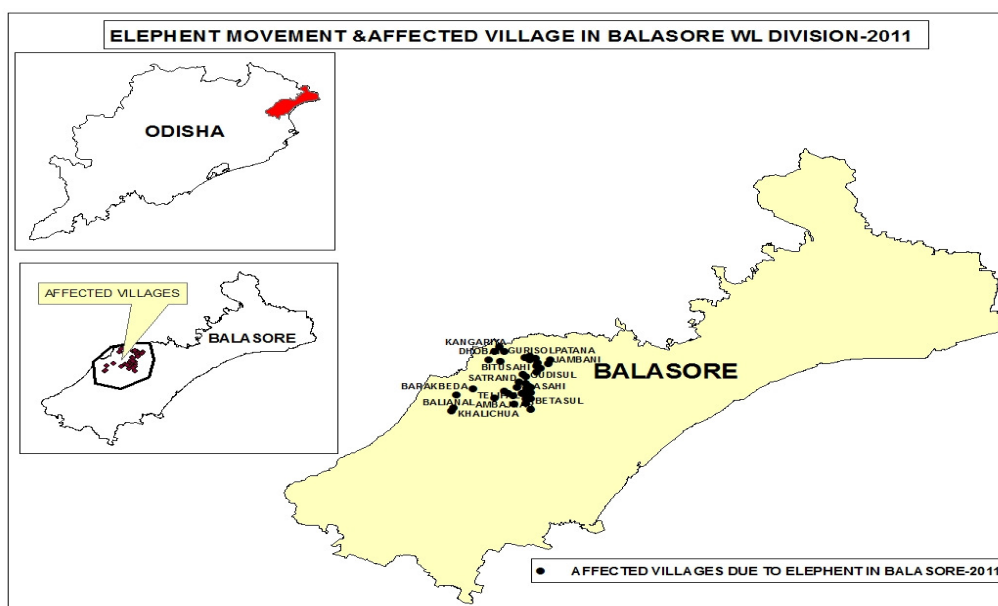


Figure-1
Elephant Movement & affected Villages in Balasore Division

Table-2

R.F-Reserved Forest, D.P.F-Degraded protected forest, P.R.F-Proposed Reserved Forest, VF-Village Forest, PF-Protected forest

Geographical Area	RF	PF	PRF	DPF	UF	VF	other	Total
2480	619.217	Nil	Nil	170.996	0.65	4.18	152.401	947.44

Table-3

Consequence of human-elephant conflict in Balasore Division

Year	Man Killed By Elephant	Human Injured By Elephant	House Damage By Elephant			Crop Damaged By Elephant	Death Of Elephant
			Fully	Partly	Total		
2005-06	-	-	-	-	-	-	02
2006-07	-	-	-	-	-	-	01
2007-08	-	-	18	16	34	3.1	01
2008-09	-	-	2	4	6	12.99	-
2009-10	-	-	-	5	5	11.03	01
2010-11	-	-	-	-	-	1.00	01

Table-4

Consequence of human-elephant conflict in Rairangpur Division

Year	Man Killed By Elephant	Human Injured By Elephant	House Damage By Elephant	Crop Damaged By Elephant	Death Of Elephant
2005-06	02	01	--	47.34	01
2006-07	--	--	--	24.17	00
2007-08	01	--	--	11.14	
2008-09	--	--	--	27.335	--
2009-10	--	--	--	85.85	01
2010-11	02	--	--	93.56Acre	02

Table-5

List of affected villages in Rairangpur division

SL No	Affected Village
1	Sansiajang
2	Badasiajung
3	Jhatisining
4	Ralibeda
5	Dhakata
6	Dighi
7	Kasiabeda

Table-6

List of affected villages in Balasore Division

SL No	Affected Village	SL No	Affected Village
1	Mangalpur	11	Sataranda
2	Routraypur	12	Nuasahi
3	Pundal	13	Asanbani
4	Bodusahi	14	jambudiha
5	Kath pal	15	Balichua
6	Jambabani	16	Routraypur
7	Hatisirsi	17	Baliarsahi
8	Gopalpur	18	Hatimunda
9	Bitusahi	19	Parsahi
10	Gudisole	20	Jampani

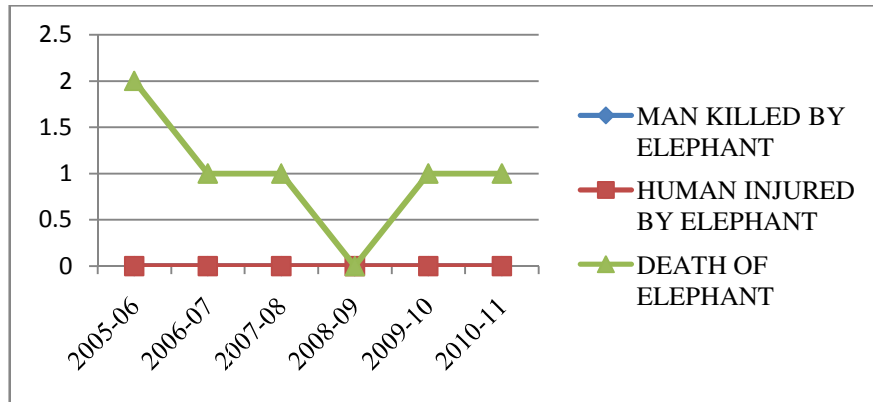


Figure-2
 Human killed, Injured and Death of Elephant in Balasore Division

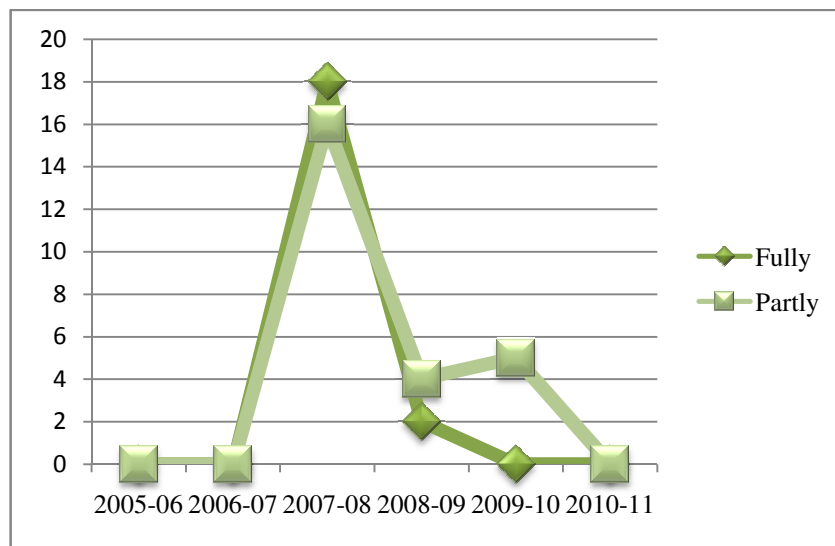


Figure-3
 House damage both partly and fully in Balasore Division

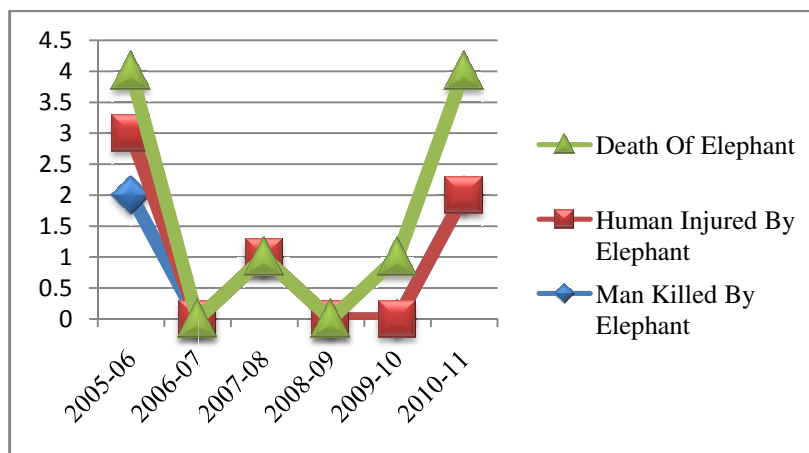


Figure-4
 Death of Elephant, Human Injured, Killed By Elephant in Rairangpur Division

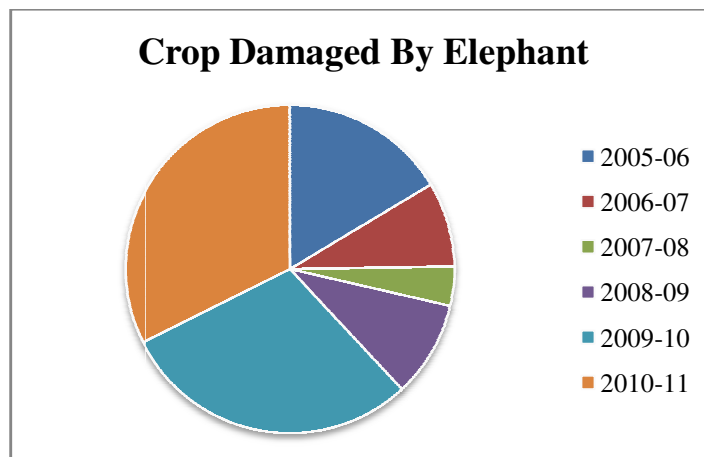


Figure-5
Crop Damaged By Elephant in Rairangpur Division

Cause of conflict and anti depredation measures: Human-Elephant Conflict occurred in Rairangpur and Balasore Division due to both Migratory and Residential Elephants. But for the last two years particularly Balasore Division was severely affected by Migratory elephants migrated from Dalma Sanctuary, Jharkhand. Large numbers of elephants migrated from Dalma entered into Baripada Division of Mayurbhanj District and Balasore Division. Large scale degradation of Forest areas due to increasing human pressure is the main reason behind the increasing trend of human –elephant conflicts in the Balasore and Rairangpur Division. When the interactions between elephants and human beings become very close, undoubtedly there would be a conflict between man and elephant. Elephants cause crop depredation and attacks on human beings which lead to injuries, severe wounds and ultimately to death. Besides this elephants also cause damage to human properties. Sometimes the human beings became revengeful towards elephants, became lured by the tusk of male tuskers and cause elephant deaths. These are the reasons behind human-elephant conflict.

Conclusion

In India, traditional, cultural and religious attitudes towards wild animals make local people tolerant towards wild life, despite the damage to crops and livestock (Imam et al.2002). The general reverence towards plants and animals in some Indian regions has often been reported to be the main reason for a positive attitude towards wild life and nature reserves (Sekhar 1998: Vijayan & Pati 2002: Madhusudan 2003: Mishra et al 2003). Surveys suggest that the local people are emotionally attached to elephants because of their religious beliefs. But sometimes severe damage by elephants and human death by elephants makes people revengeful. So steps should be taken to avoid conflicts between elephant and human which will be helpful for peaceful coexistence of both elephant and human being.

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