



CHANGING RANGE OF ASIAN ELEPHANTS IN BERHAMPUR FOREST DIVISION IN SOUTH ODISHA, INDIA.

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ABSTRACT:

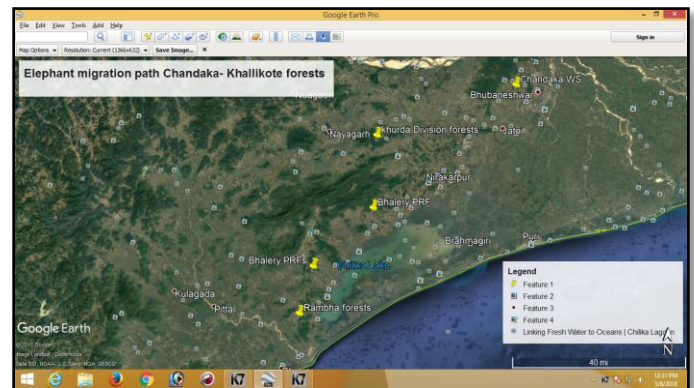
KEYWORDS:

INTRODUCTION

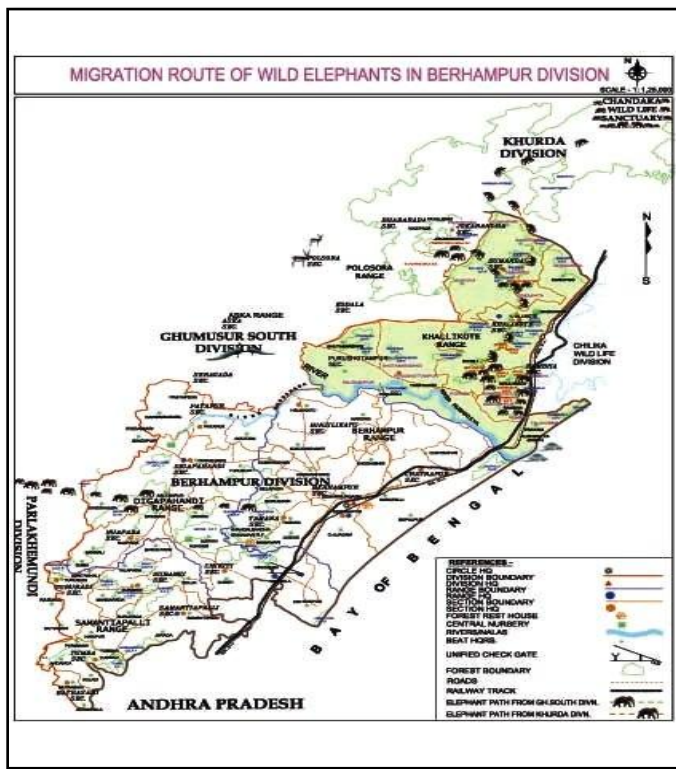
In 2007 a group of 9 elephants moved from their former range in Chandaka-Dampara elephant sanctuary near Bhubaneswar and took up residence in the coastal forests of Khallikote range of Berhampur division. The direct distance between the two areas is 153km. Prior to this event such movements of elephants between the two areas were not seen. The habitat in the former range of these elephants in Chandaka-Dampara elephant sanctuary, consisted of scrub and forest patches. The new range in Khallikote consisted mostly of agricultural lands with numerous water bodies used for agriculture. After taking up residence in the new area, the elephants regularly moved between the Narayani hill in the north to GadaHumma hills in the south of Khallikote forest range. Crop raiding by elephants in this landscape became a major issue for local farmers.

MATERIALS AND METHODS

The data was collected personally during the visit to the site. Interrogation also done to the locals about crop damage and movement data, the data was also collected from Range office files regarding crop damage and death of elephants. Photographic data was taken in the sites. Distances between the study area comes under the Rambha section of Khallikote forest range in Berhampur forest division. The entire landscape covers patch of hillocks with forest vegetation, crop lands and coastal plains with attractive crops.



MAP 1: A) IMAGERY SHOWING ELEPHANT MIGRATION FROM CHANDAKA WILDLIFE SANCTUARY AND KHALLIKOTE FORESTS- YELLOW BUTTONS ARE MIGRATORY ROUTE BETWEEN THESE TWO HABITAT LINKAGE. B) ELEPHANT PASSAGE IN CHILIKA AND BERHAMPUR DIVISION NEAR HUMMA RAILWAY LEVEL CROSSING.



MAP-2: MAP OF BERHAMPUR DIVISION SHOWING ELEPHANT MOVEMENT AREA IN THE CHILIKA DIVISION.

RESULTS AND DISCUSSION

There are two separate groups of elephants inhabited in two different regions of the Berhampur forest division. The west part of the Digapahandi range (Gaida DPF) and Berhampur Range (Ramaguda RF) is newly occupied by the elephant groups of 9 individuals migrated from Lakhari wildlife sanctuary of Gajapati district, these elephant herds are more docile and does less harm to humans and cattle on their migration route. Whereas the elephant migrated from far distance from Chandaka wildlife sanctuary are more problematic and raiding crops frequently. These elephants also resisting elephant squads drives activities and retaliation with farmers in their new cropland dominated habitat in Khallikote forest range.

Injury and death from wildlife attacks often result in people feeling violent sentiment and hostility against the wildlife involved and, therefore, may undermine public support for conservation (K.P. Acharya, P.K. Paudel, P.R. Neupane & M. Köhl, Gajah 45 (2016) 48-72)

The newly populated elephant group of 14 nos (from 9 elephants of parent group) migrated to the coastal area of Chilika coast across Prayagi and roamed for food and water in the coastal landscape. They spent more than 3 months (Dec 2010 to Feb2011) Feb in such a saline area with limited fresh water. The elephant groups raid on groundnut crops in Nadala, Pitala, Siandi, Ramalanka and Nuapada area under Chilika wildlife forest division. In scarcity of food they used to take the soft corn of Kewda or Kia (*Pandanus spp*) locally called kweda or kia,

the flowering and fruiting pods of Cashew (*Anacardium occidentale*) and raid on garden plans like mango (*Mangifera indica*), banana (*Musa sapientum*), guava (*Psidium guajava*) etc. the elephants raid over groundnut (*Arachis hypogaea*) crops in the coastal plains of Chilika region. The entire area along the coastline is full of casuarina plantations with Acacia which are not palatable for elephants. The elephants used the saline water of Chilika lagoon to spray over their body and drinking purpose they use water from knee depth in different ponds in the coastal villages. The elephant herd moved in search of food and water and migrated up to the end of the coastal landmass in Ramabharatia beat of Chilika mouth region. After the groundnut crop is harvested, there are shortage of food in the coastal Chilika and the elephant herd returned in the same way where they invaded the new land. Human-elephant conflict impacts on the lives of people consisted of economic loss, stress and lack of food for subsistence. Economic status, gender and religion influenced their attitudes towards elephants. The majority of respondents had positive attitudes towards elephants but indicated the need for more intervention from the A Forest Department in managing and mitigating human-elephant conflict (Tracy Mabeluanga, Dilip Kumar A. V., Aaranya Gayathri and Avinash Krishnan *Gajah* 45 (2016) 28-32.



PHOTO-1- RAIL LINK IN FORESTED LANDSCAPE NEAR RANI-BARA -C DPF INBETWEENRAMBHA AND HUMMA.



PHOTO1-LAST PART OF CONTINUOUS LAND MASS

NEAR RAMA-BHARTIA IN CHILIKA COAST WHERE THE ELEPHANT GROUP RETURNED TO HUMMA REGION.



PHOTO -3 FIRST DEATH OF A FEMALE ELEPHANT WITH FETUS AT 1ST GOODS TRAIN HIT AT HUMADT 20/7/12 AT 2-3 AM NIGHT

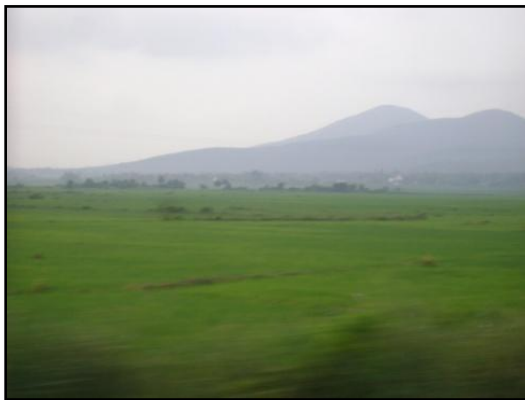


PHOTO- THE COASTAL PLANE CROPLAND AND,THE RANI-BARA HILLS ARE ABODE FOR MIGRATING ELEPHANTS NEAR HUMMA AREA.

Prior to the mass death by rail hit a single female elephant was died and the Caracas lied on the spot just side of the rail track and having GPS location 19° 7' 47.6" E0 85 ° 04' 53.8" and the body dragged from a distance of 536mts from the northern side close to level crossing check gate near Sabulia village. There there was a small water body having 5 ft standing water and vegetable cultivation was done close to this area. This waterhole is used by elephants for drinking purposes. And this area became unsafe for elephants to crossing over train line across two landscapes. At a time 5 deaths including a new born calf death (total of 6 adult elephants in Berhampur Forest Division) occurred in date 28-29 /12/12. Since the tragedy there is common liaison and coordination between the rail and forest department staff is established for safety movement of the elephants in this area.

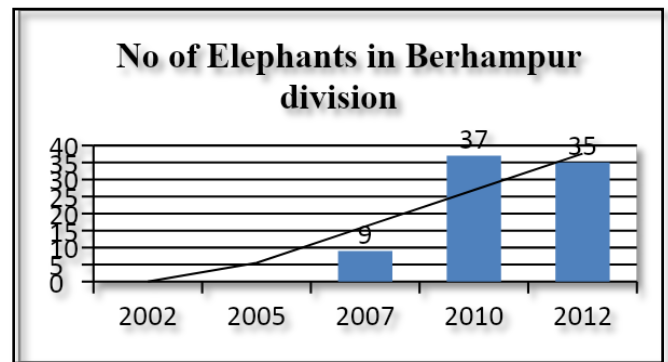


FIGURE 1. YEAR WISE ELEPHANT POPULATION IN BERHAMPUR DIVISION 2007-12

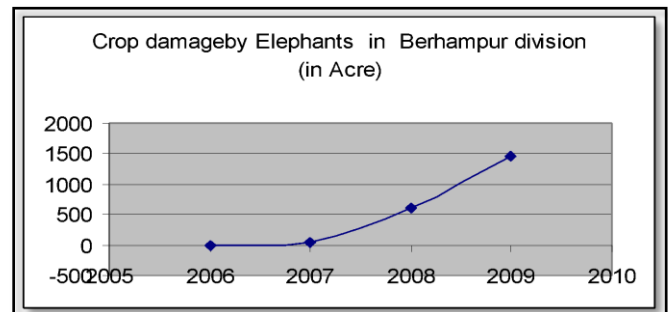


FIGURE 2. YEAR WISE CROP DAMAGE BY WILD ELEPHANTS IN BERHAMPUR DIVISION

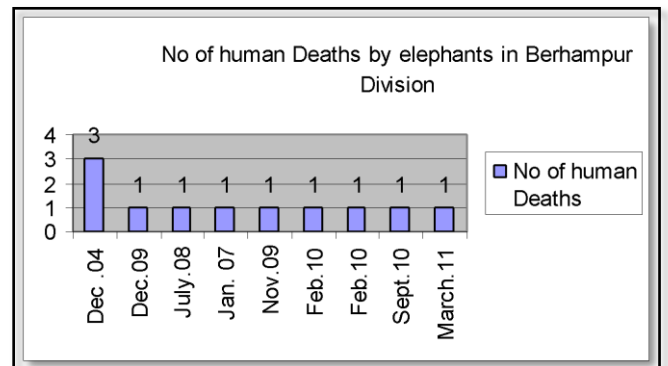


FIGURE 3. YEAR AND MONTHS OF HUMAN CASUALTIES BY ELEPHANTS INBERHAMPUR DIVISION.

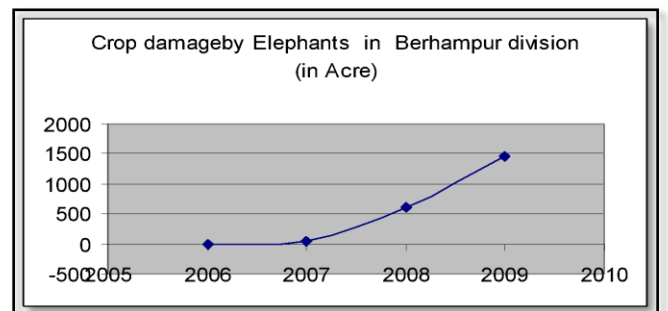


FIGURE 4. YEARWIS CROP DAMAGE BY ELEPHANTS IN ACRE IN BERHAMPUR DIVISION.

In comparison to other two divisions of the Ganjam district the Berhampur division there is maximum crop raiding by

elephants from 2009 to 2012.

Prior to Dec 2011 crop harvesting season, the elephant groups roamed in Biruligada, Gadahuma area were observed during tracking that they feared the train sound and horns when there are close to Humma level crossing. The elephant sub-groups with calves and sub adults are moving away from the train line when any passenger trains cross the newly occupied habitat. The sound and light from engine, coaches frightened these crop raiding elephants and the move towards hilly parts in the west. Gradually then elephant herd accustomed with train movement and in early observation the adult elephants comes through rail under- pass of Humma- Purusottampur road at lonely hours during night time. The elephants gradually dare to cross over the rail line within same level land connectivity in between some part of Humma, Ganjam, Chhatrapur and Narasinghapur railway stations in Berhampur divisions. The elephants after crossing the railway line, cross 4 lane super highways during low traffic times in between Rambha and Ganjam. They also able to move the road at morning and evening hours in between long gap by passing lorry trucks and the drivers are aware about this area and stopped vehicles during crossing of elephant herds.

These newly occupied landscapes of bordering Berhampur division and Chilika division became the land with footmarks that the elephants never visited the area since the history begins. The people have not aware about wild elephants and crop raiding from last 100 years ago and became intolerance towards this crop raiding elephants which tendering the events like deliberate electrocution in their vegetable and crop fields for killing these innocent animals.

On 28.12.2012 at 11.30-11.50 am midnight the Coromandel Superfast Express, which travels from Howrah (West Bengal) to Chennai (Tamil Nadu) struck the elephant herds passing over rail near Sabulia level crossing close to Humma station. Five elephants (3 females, 1 male tusker and 1 calf) along with one unborn 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 2 hours. The train was washed and minor repair was done at Berhampur station at same night and moved to destination. The area where the accident occurred was part of the vulnerable area for accident to other wild animals like bear etc.

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