

Impacts of the Maha-Kumbh Fair on Elephants in Rajaji, India

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Introduction

Haridwar city of Uttarakhand state India, is entirely surrounded with forests, which form part of Shivalik landscape in the lesser Himalayan zone and upper Gangetic plains. Northwest to northeast is the Rajaji National Park (RNP) and the Haridwar forest division (HFD) is to the southwest (Fig. 1). In 2010, the holy event Maha-Kumbh was held in Haridwar. This study assessed the impact of the event on elephants of the RNP.

The Maha-Kumbh 2010

Maha-Kumbh 2010 that was held in Haridwar city was the first Kumbh fair of this century. Spanning across 130 km², the fair area covered the districts of Haridwar, Pauri, Tehri and Dehradun. The fair was the biggest organized to date. Maha-Kumbh has a religious significance in Hindu Mythology with this event being held every twelfth year, while Ardh-Kumbh (shorter version of Maha-Kumbh) is held every six years. Four cities organize this fair alternately Haridwar, Allahabad (Uttar Pradesh), Ujjain

(Madhya Pradesh) and Nasik (Maharashtra). The Haridwar Kumbh is the longest, which stretched over four months (January 1st to April 28, 2010) in this instance. The magnitude of Maha-Kumbh fair can be gauged by the fact that on April 13th and 14th – the day of ‘Shahi Snan’ (royal bath) approximately 10.63 million people were present in the Haridwar Kumbh fair area which is a world record for the congregation of human beings at one single place and time.

Restriction of elephant movements by traffic

Motichur – Kansrao – Barkot wildlife corridor

Elephant movements are frequently observed in the Motichur–Barkot wildlife corridor. From March 2009 to November 2009 elephant groups and solitary bulls were found moving from Motichur forest to Barkot forest, crossing the Song river and the Haridwar–Dehradun national highway near Chidderwala village. During the same period elephant movements occurred near the Gumaniwala and Dhalwala area and several cases of tuskers moving outside and human casualties were observed. Just after January 2010 elephant movements were restricted in this corridor due to the huge traffic pressure across the highway, especially during evening hours.

Gohri forest

Elephants are known to use the Chilla forest widely during December to June. Elephants used to cross the Haridwar–Chilla–Rishikesh motor road during night hours (8 pm onwards) and return back inside the forest before dawn. Congested and uncontrolled vehicle traffic on Haridwar–Chilla–Rishikesh motor route acted as a barrier for elephant movement. From January to April 2010 elephants were observed in this

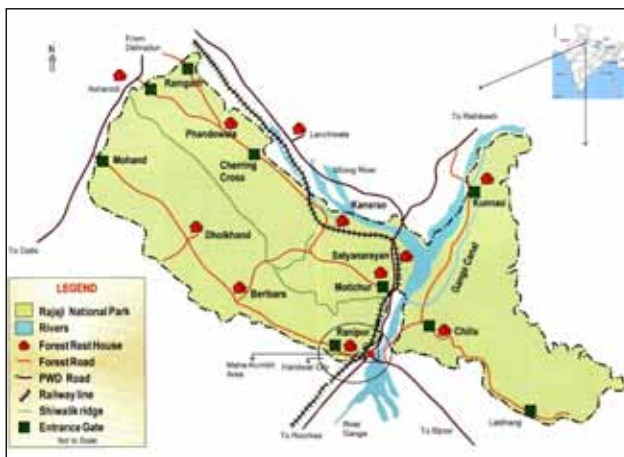


Figure 1. Map of Rajaji National Park showing Haridwar city and Maha-Kumbh 2010 (boxes).

track eight times (6 times groups and 2 times solitary bulls). Traffic pressure did not allow them to move through the motor road. Because of this, elephants diverted themselves towards Shyampur (HFD) and Gohri forest (RNP). Elephant movements were found increased two folds in this forest. Additionally, elephant's movement was observed in Laxman Jhula south forest (Kumbhi chaur) and near the riparian corridor of Ganges, just opposite to Triveni Ghat at Rishikesh.

Soni shroath

From Chilla power house to Gohri forest check post (22 km), except at two points (Soni shroath and Binj river) there is no way for elephants to cross the canal. Although another two small bridges over the canal are situated in Kaudia village and Kunao forest, they are rarely used by elephants due to the settlements there.

Prior to the Maha-kumbh, elephants were observed using the Soni shroath bridge to enter the forest as this belt is rich in *Dalbergia sissoo* (Shisham) – one of the favourite food items of elephant. From mid-February to April 2010, elephants were not observed using Soni shroath bridge and only once the Binj river bridge between November 2009 to May 2010, due to huge running traffic.

Khara – Anjani corridor

Singhal-ka-pul bridge over the east Ganga canal at Shyampur forest (HDF; Haridwar–Bijnor national highway) is an important corridor for elephant movement from Khara Forest to Anjani Forest and towards the Ganges (Fig. 2). The Kumbh authority established a temporary police check-post at Singhal-ka-pul bridge. During the Kumbh el fair, elephants were not able to cross the highway, and also Forest officials were also deputed to deter them if observed.

Chilla–Motichur wildlife corridor

From October 2009 to May 2010, elephants were not observed in the Chilla–Motichur wildlife corridor, which includes a portion of the

Haridwar–Dehradun national highway and the Haridwar–Dehradun railway track, primarily due to the huge amount of anthropogenic activities and increased vehicle traffic and trains as a result of the Maha-kumbh.

Other elephant movement

Elephants utilized the Chilla forest extensively during February to June. At the onset of the monsoon (July onward) their movement is concentrated towards Shyampur and Chiriapur forests (HFD) and Laldhang and Dogadda forests (Lansdowne forest division) from where some bulls journey towards Kalagarh Tiger Reserve and Corbett National Park. Noticeably in between January and May 2010, elephant movements were found to be irregular. They were chiefly observed in Shyampur and Chiriapur forest of the HFD and Gohri forest of the RNP. Elephant movement was less in Chilla forest, but notably from the first week of June 2010 elephant movements increased in this zone. In addition, a group of 14 elephants and 2 solitary bulls were found moving in Haridwar forest (RNP) but their movement was only up to Ranipur area from where they returned back towards Dholkhand Forest, crossing the Beribara Forest. Similarly in Motichur forest, elephant movement was observed only up to the ecotone between Motichur and Kharkhari forests, and elephants did not move towards the Bilkeshwar forest (adjoining to Kumbh area).

Garbage accumulation

At the commencement of the Kumbh fair (November – December 2009), bull elephants



Figure 2. Bull elephants crossing the Haridwar–Bijnor national highway.

were observed to feed on garbage, while moving to the Ganga canal at Shyampur forest (Fig. 3). These types of reports were also observed in previous years, where tourists threw edible items from running trains and wild animals were observed to feed upon them.

Human causalities

Two persons were killed by elephants during this Maha-kumbh period. One incident occurred at Bhadrakali forest (Muni-ki-Reti area, Narendra Nagar forest division) on March 13th and the other at Shyampur forest (HFD) on April 21st. Both the incidences occurred inside the forest.

Developmental activity

Several small-scale developmental projects were carried out during the pre-Kumbh period from September 2009 to January 2010, which included construction of the Bhramपुरi (Haridwar)–Mansadevi–Kharkhari by-pass road, construction of temporary huts and centers in the dry bed of river Ganges and in the islands situated in the Ganges, and construction/maintenance of the Haridwar–Chilla–Rishikesh motor route. During the tenure of this road construction, traffic was diverted through the Jhabargarh Forest of the Chilla forest range (RNP). Approximately 5 km forest stretch was severely affected, restricting elephant movement. Construction of temporary parking in Motichur rau (seasonal water stream, RNP, Fig. 4) and in some pockets of the Shyampur forest (HFD) also hindered the elephant movement towards the Ganges.



Figure 4. Construction of temporary car parking.



Figure 3. Bull elephant is feeding on garbage.

In conclusion, a number of activities associated with the Maha-kumbh fair negatively impacted elephants. Stakeholders such as local people, Gujjars, tour operators, non governmental organizations, government organizations, media persons, researchers from various institutions and universities and protected area managers need to work together to increase public awareness of the effects of human activities on animal disturbance and act to minimize those effects.

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