



## STUDY ON HABITAT OCCUPANCY OF THE CHOUSINGHA OR FOUR HORNED ANTELOPE (*TETRACERUSQUADRICORNIS*, BLAINVILLE 1816) IN BOUDH FOREST DIVISION, CENTRAL ODISHA, INDIA

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### ABSTRACT:

The Chousingha or the four horned antelope (*Tetracerus quadricornis*, Blainville 1816) is broadly studied through the camera trap photo capture and pellet survey during all India Tiger estimation 2010 and 2014 in Odisha. The habitats are surveyed by well experienced field biologists having sound knowledge and better identification skills of pellet droppings, hoop markings, vocalisation and other signs. Direct sighting is little difficult for the FHA in comparison to chital and barking deer. In two occasions the pellet mount of territorial mark of FHA males are spotted in Adenigarh beat, Hatidhara RF comp 10, Talagaon beat and section of Madhapur range. The chousingha also sighted in Putputigarh RF of Kantamal range during elephant census survey of 2015. One photo capture is achieved during one-month photo capture exercise during April 2014 survey.

### KEYWORDS:

### Introduction

The Four Horned Antelope (FHA) (*Tetracerus quadricornis*, Blainville 1816) is the smallest Asian bovines and is unique having four horns in Bovidae. It is a monotypic species of its genus and is endemic to India mostly found in state of Tamilnadu, Orissa and Gir Forest in Rajasthan. It is commonly known as Chousingha in Hindi as it bears four horns. The single species *T. quadricornis* occurs India and Nepal (Ellermann and Morrison- Scott 1966; Mitchell 1977). Though widely distributed in India. it is nowhere found in high abundance and always been known as a shy and elusive creature.

Head and body length is about 800-1000 mm and tail length is about 126 mm, shoulder height is about 600-650mm and weight is 17-25 kgs there are short, thin and coarse hairs and uniform brownish coat in dorsal and bays (flank), the coat colour is lighter in under sides and white on the inside of legs and middle of the belly as in Indian antelope or blackbuck females. The muzzle, outer surface of the year and a line down of each leg are blackish brown.

Horns -The horns borne only by males are short, conical, smooth and usually four in numbered. The posterior two horns are larger and are about 80-100 mm long. The front two are often short in comparisons to posterior and measures about 25-38 mm long. It sometimes, represented by only raise tuberculation of black hair less

skin. Absence of rings on horns that are keeled in front distinguish the two antelope Nilgai and Chousingha from the true antelopes those have rings and twist spirals. The hooves are small and rounded in front where as other two Indian antelope species of blackbuck and Chinkara has longer and pointed hooves.

### Materials and methods

The conservation status of Four-horned antelope is listed in Red Data Book of IUCN (International Union for Conservation of Nature and Natural resources.) as Vulnerable species. The CITES (Convention on International Trade for Endangered Species of wild flora and fauna) categorized as Unlisted. It is protected as a Schedule- I category of animal under Wildlife (Protection) Act 1972.

The Four-horned antelope was the least studied antelope in India so far as only little scientific information was available (Berwick 1974, Prater 1980, Rice 1991 Bhaskran 1999 and Rahmani 2001). Considering its uniqueness and endemism in India, more scientific research is required on this species.

The Four-horned antelope (*Tetracerus quadricornis*) and Nilgai (*Boselaphus tragocamelus*) are two unique antelopes belonging to Boselaphini Tribe, the Order is Artiodactyla the Family is Bovidae and Sub -Family is Bovinae.

Foot patrolling and survey was done arbitrarily any season

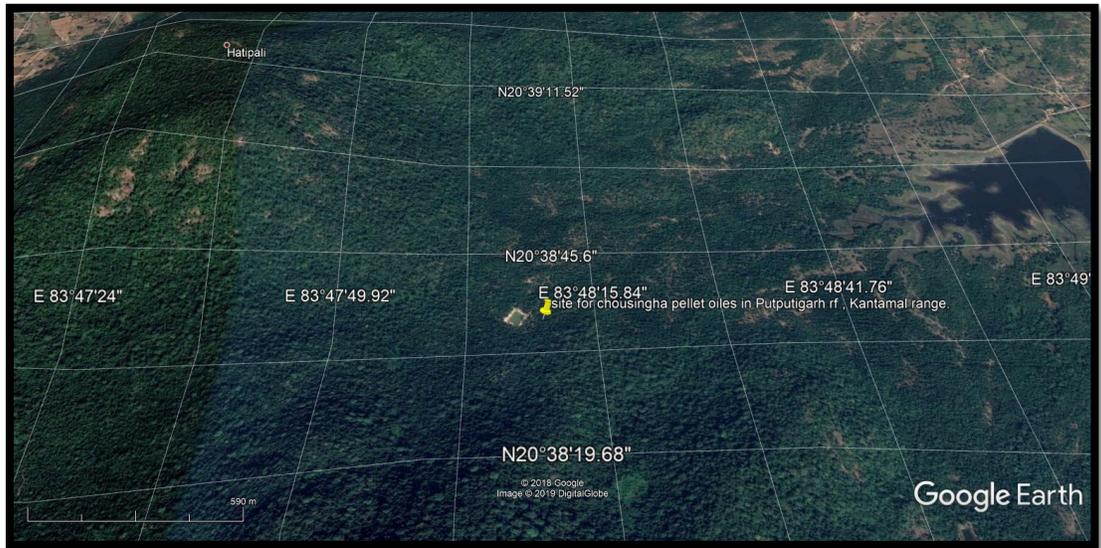
of the year. The ungulate survey and vegetation survey was conducted during the all India Tiger monitoring survey works. The dung survey was done to access the prey density and abundance in the forest habitat. During carnivore sign survey was done in perambulation along important waterbody, stream banks, meadows, saltlick area for sign survey and special interest was kept on territorial pellet piles of Chousingha, mouse deer, barking deer and other sparsely distributed pellets of chital, sambar, porcupine, peafowl, wild pigs. Digital camera is used for sampling pellets, animal sightings and photography of vegetation.

**Study area:-** The Boudh forest division lies in the south of Mahanadi river bank in Boudh district. other forest division are Mahanadi wildlife division and the majestic Satkosia Gorge wildlife sanctuary and Phulbani forest division. The forests are with its lush green dry deciduous vegetation with hills plateaus and some of the agricultural plane fields. This is a very rich wildlife area in the south of Mahanadi region. The Satkosia wildlife division and Boudh division have the common boarder as the River Mahanadi. The meeting places is one of the most enchanting spots in the country. It is in fact the

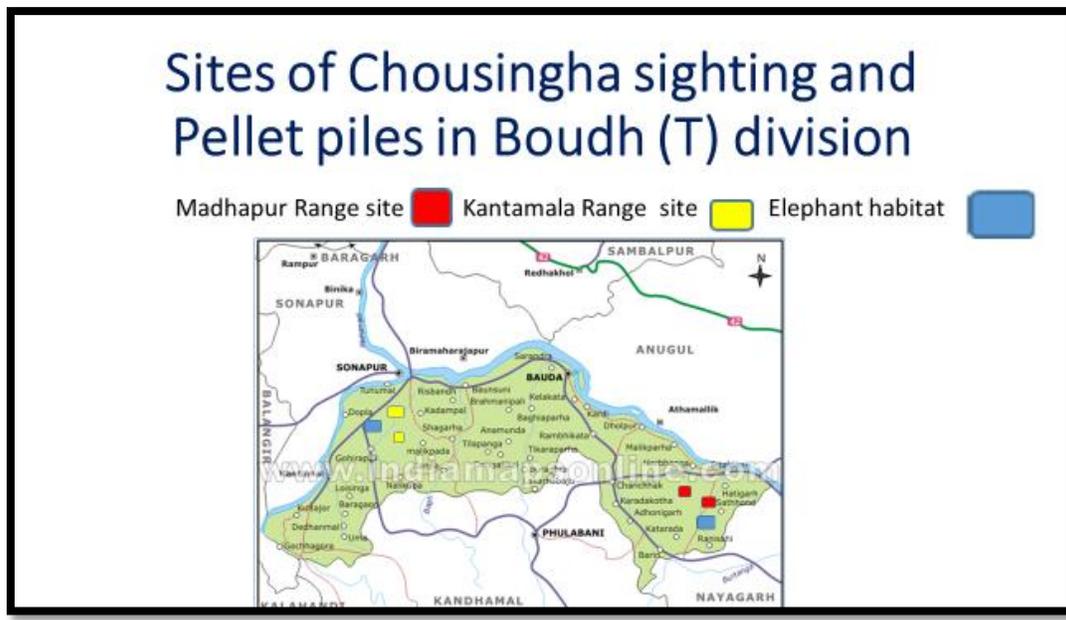
meeting point of Chhotanagpur plateau and Decan plateau in Odisha. However, literally the Chotanagpur plateau extends along the northern bank of Mahanadi up Atthagada and Munduli near Cuttack. The Decan plateau starts from the Southern banks of Mahanadi and coincides with Garhajat hills in Nayagarh region and some part of Eastern Ghats hill ranges in Ghumusur North and Phulbani forest division. Therefore, the Boudh region have most important biodiversity with varied terrain of both mountain and riverine ecosystem. The forests type are dry deciduous forests and moist peninsular Sal forests. It has a strong hold of varied wildlife species like tiger, leopard, elephant, spotted deer, Chousingha, sloth bear, otter, porcupine, ruddy mongoose, wildpig and varieties of resident and migratory birds and different species of reptiles like mugger, crocodile, fresh water turtles, poisonous and non-poisonous snakes etc. So far 38 species of mammals, 128 species of birds, 27 species of reptiles, 4 species of amphibians and 183 species of fish have been recorded in the Boudh forest division and adjoining Satkosia wildlife sanctuary with Mahanadi wildlife division.



**GOOGLE MAP-1 OF HATIDHARA RF WATER BODY IN MADHAPUR RANGE IN BOUDH FOREST DIVISION (SEE PHOTO 1 AND 2) AS GIVEN.**



**GOOGLE MAP -2 OF PUTUPUTIGARH RF EAST OF UDEIPUR AND WEST OF LAKHAPARBAT HABING CHOUSINGHA HABITAT ALONG THE ELEPHANT PASSAGES IN KANTAMAL FORET RANGE OF BOUDH DIVISION.GPS (N 20° 36' 45.6\"/>**



**MAP-3 SHOWING SITES FOR CHOUSINGHA PELLET PILES AND SIGHTING IN MADHAPUR AND KANTAMALA RANGES DURING 2014 ALL INDIA TIGER MONITORING SURVEY WORKS.**

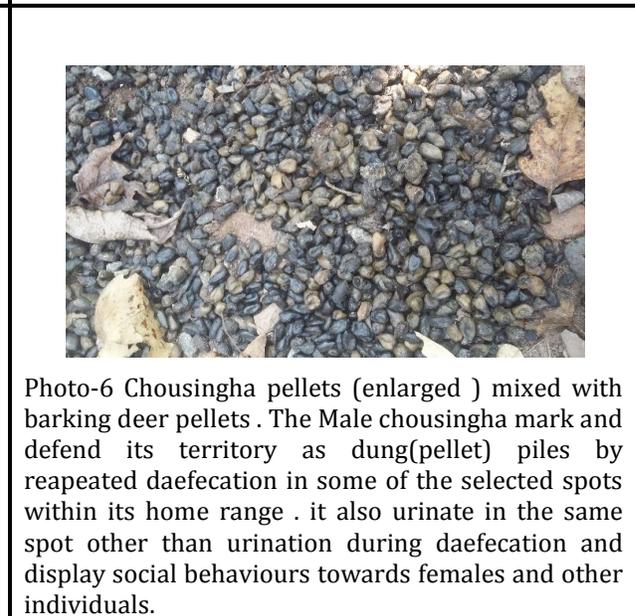
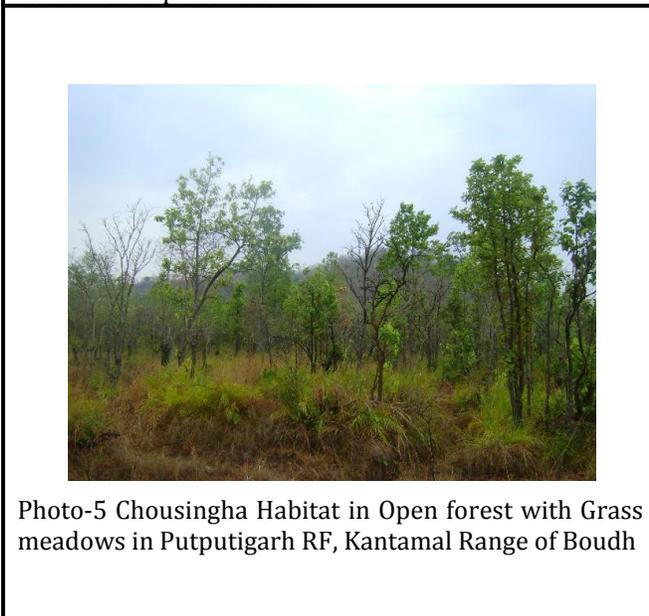
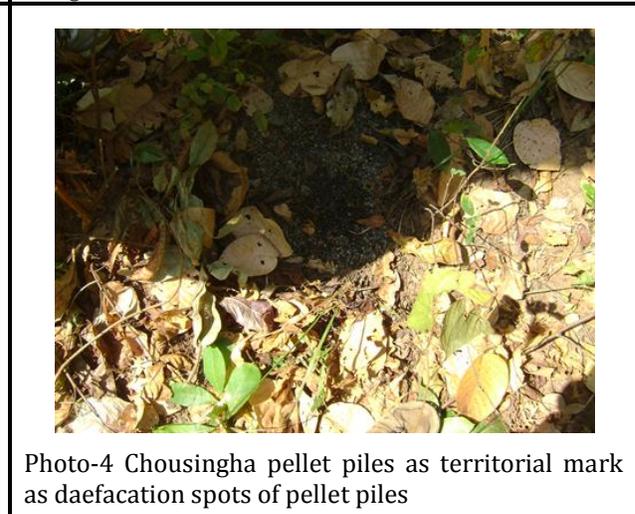
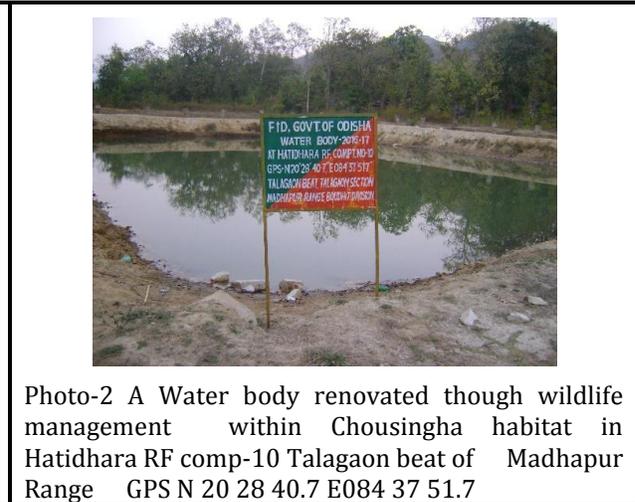
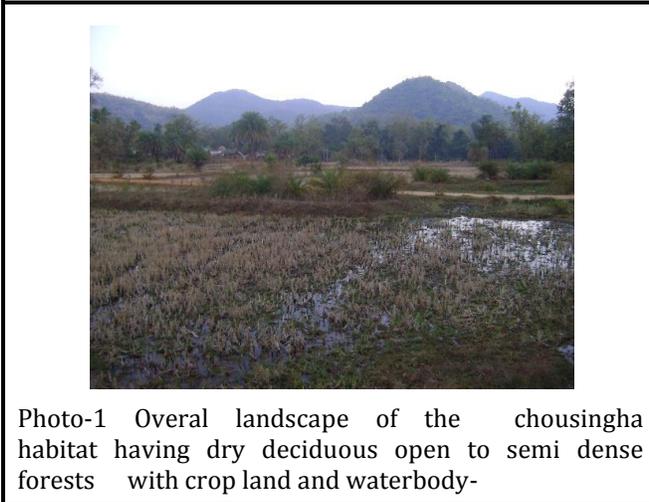
**Results and discussions**

The Chinkara dropping piles are located in two different patches in Madhapur ranges bordering to Mahanadi wildlife division GPS (N 20° 28' 40.7\"/>

Four-horned antelopes live in open ground to dry deciduous forests and open forests.it is shy and swift dashing into dense cover at first sight and sign of danger. It is sometimes confused in the field with hog deer ( *Axis*

*procinus* ) but can be distinguished by its peculiar jerky manner of walking or running. In Odisha it is also come across barking deer habitat and easily distinguished from front sloppy posture and antlers.Though solitary in nature, it may form loose groups of three to five, with one or more adults, sometimes accompanied by juveniles.The four-horned antelope was threatened by the loss of its natural habitat, he said. Moreover, the unusual four-horned skull and the horns had been a popular target for trophy hunters, he added. There are nearly 7000-10,000 of them in the country according to the latest census.

**TABLE SHOWING PHOTO PLATES OF HABITAT TYPES, PELLET PILES, AND CHOUSINGHA IN BOUDH FOREST DIVISION.**



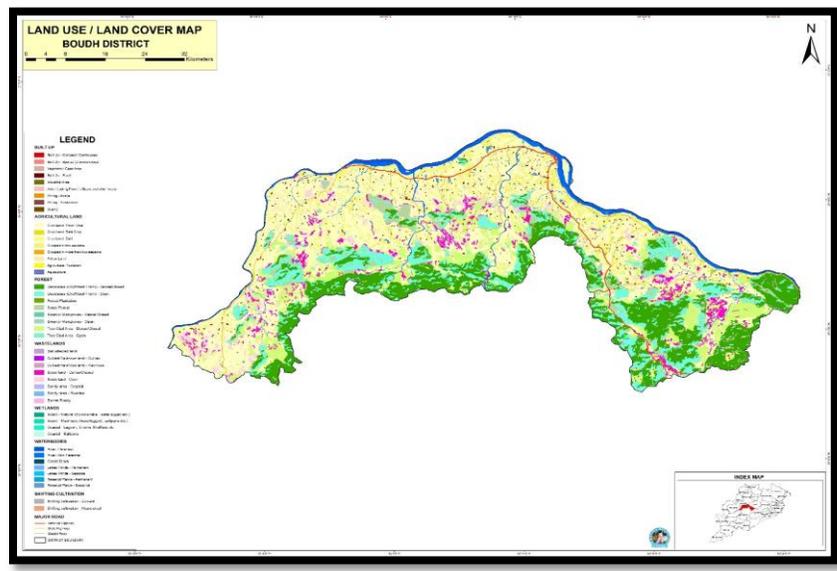
**Distribution of Chousingha:** In India presently, a considerable thin population of this species found in

northern frontiers of Uttar Pradesh to south of Tamil Nadu. It is found in eastern part from Odisha and Bihar to

Gujrat in the west. North eastern states and Bengal the populations are insignificant. The total population may be between 5 to 7 thousand. Ranjitsingh (1987) reported that the range of Chousingha extends from Terai forests and Jammu to Mudumalai sanctuary in TamilNadu though in the past it was reported in Pillani hills. In the state of Odisha, Chousingha is known to distributed in some populations in Badrama, Chandaka , Kalarapat wildlife sanctuary and Satkosia and similipal tiger reserve (Singh, LAK and Swain, D, 2003). it was locally not sighted and poor in distribution due to anthropogenic pressures in Sunabeda wildlife sanctuary (personal comm Feb2007). The Chousingha was locally extinct in Karlapat Sanctuary (Mishra *et al.*, 1996). The last hunted skull of a Chousingha is kept as trophy in a village head and Sarapancha in

Sunabedha wildlife sanctuary and the animal supposed to a new interesting specieshaving 4 horns instead of two

horns (antler) as in barking deer. The locals also protect Nilgai as bigger animal like cow as the local believes. Rice (1991) conducted a questionnaire survey on status of Chousingha in 1986-87 and cited the information gathered from Orissa. During early 1970s the Chousingha occurred in Similipal in open wood land s and along the edge of large valleys to the south (Choudhury, 1974). In Bachurichara valley in May 1972 two Chousingha were seen and in May 1973 five dung heaps were found (Singh, LAK and Swain, D 2003). During a tiger estimation survey 2016 in Sundaragarh forest division the heap of dung piles was located in a hilly forest transect near 1800m point in Lefripada range by meduring survey in first week of April 2014. This dung pile was located in a survey trail in hill top contour near a big tree rachis GPS location is (N 22° 07' 34.5" E083° 46' 40.9").



**MAP 4 OF BOUDH FOREST DIVISION WHICH OVER LAPS THE DISTRICT BOUNDARY WITH VEGETATION , LANDUSE PATTERN AND ROAD NETWORKS.**

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