The Population Status and Habitat of Sambar (Cervus unicolor) in Corbett Tiger Reserve: A study based on data analysis (from 1992 to 2008) Ramnagar, Uttrakhand, India

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***ABSTRACT**: Sambar deer (Cervus unicolor) is the largest species of deers found in Corbett Tiger Reserve . The conservation status of Sambar is listed as vulnerable on the IUCN red list since 2008. The winter coat of the Sambar is grey-brown to dark brown, and adult rutting stags appear almost black only males have antlers, which in adults, have three tines an each side and are shed annually. The diet include a wide variety of plants, browse and grasses also, this ability indicates that they are not very specialised in their food requirements. Sambar is nocturnal animal, in day time there is weak sense, smelling and vision power which is suitable for predators. In the Corbett Tiger Reserve the abundance of Sambar population is in National Park area (61.61%) than remaining in the Sonanadi Wildlife Sanctuary (20%) and Buffer area (18.39%) and total population is decreases in the study period.*

Keywords: Antlers, browse, buffer zone, corridors, captivity, rutting, vulnerable**.**

INTRODUCTION: The Corbett National Park established in 1936 as India's first National park, Corbett is famous for its wide wildlife. rich vegetation and its location in the foothills of the Himalaya (bhabar tract) in Nainital and Pouri Garhwal district of Uttrakhand state . The total area of Corbett tiger Reserve 1288.32 sq.km. in which Corbett National Park 520.82 sq.km., Sonanadi Wildlife Sanctuary 301.18 sq.km. and Reserve Forest 466.32 sq.km.

Description of animal: Sambar (Cervus unicolor) one of the largest species of deer found in Corbett tiger reserve , important prey of large carnivors Tiger (Panthera tigris). The adult Sambar stands 140-150 cm. hight at shoulder, and the average weight of the male ranges between 225kg. (Lydekker 1916, Crandall 1964, Prater 1980, Downes 1983). The average weight of fawns at birth in captivity has been recorded to be 9.65kg (Acharjyo and Mishra 1972). The winter coat of the Sambar is grey-brown to dark brown, and adult rutting stags appear almost black only males have antlers, which in adults , have three tines an each side and are shed annually. Full antler development is attained at approximately 10 years of age (Lydeker 1898).

Habitat use and preference: Sambar generally avoid areas of high human disturbance (Shankar 1994). Khan (1996) also found such avoidance of heavily disturbed areas in Gir, with sambar pellete group densities being significantly negatively correlated with cattle dung densities and ness distance. Sankar(1994)

and Khan(1996) investigated seasonal habitat utilisation patterns in Sariska and Gir, respectively using pallet group densities in different habitats. Male Sambar emigrate from the safety of the group at an early age and during the dispersal period, are vulnerable to predation (Johnsingh 1983).

Food habits: The Sambar consume a wide variety of plants than any other ungulate in India (Schaller 1967) and this is largely due to the varied habitats it uses. The diet can be broadly classified into browse and grass (Khan 1994), and the contribution of browse and grass to the diet varies with season : mainly browse in winter and summer, and grass soon after the rains. In Corbett it feeds on leaves of Bamboo (Bambusa vulgaris), kari patta (Moraiya coinegi), Bhanua (Chlorodendron spps.), Basingha (Odotora bassica), fruits of Amla (Emblica officinalis), Ber (Ziziphus mauritiana), Bel (Aegle marmelus), Jamun (Syzygium cumini), Gular (Ficus glomerata), Tendu (Diaceferus termentoa), in grasses Dub grass (Cynadon dactylus), Kansi (Themenda arundinaceae), Tiger grass (Thysanolaena maxima), Vetiveria zizaniodis, Vicoa indica, Trichodesma indicum, Lactuca spp. Crotolaria spp., and Desmodium spp.

MATERIALS AND METHODS: Data had been collected from Office of Corbett Research Range (Shodh range) Ramnagar. The data is in the form of total no. of population of Sambar deer, not shown in sex wise but categories in National Park Area, Buffer zone (Reserve Forest) and Sonanadi Wildlife Sanctuary . In this paper the data from 1992 to 2008 (in between 16 year) were analysed.

STUDY AREA: The Corbett tiger reserve is choosen for the data based study.

Year	Park area	Buffer area	Sonanadi Wildlife Sanctuary	Total
1992	3200	568	1600	**5368**
1993	3265	762	1549	**5576**
1995	3778	1166	751	**5695**
1997	3816	1221	690	**5727**
1999	2935	1234	758	**4927**
2001	2622	772	853	**4247**
2003	2640	733	866	**4239**
2005	2495	571	790	**3856**
2008	1900	826	719	**3445**

Table.1 Population of Sambar deer in corbett Tiger Reserve from 1992 to 2008.

Source-Corbett Research Range (Official).

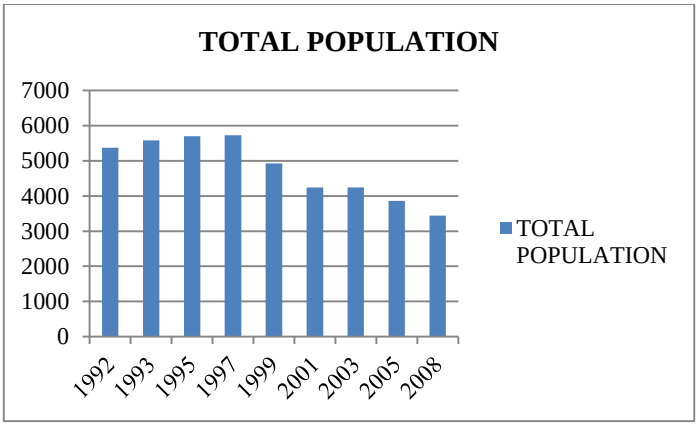

Figure.1 The total population of Sambar in CTR from1992- 2008.

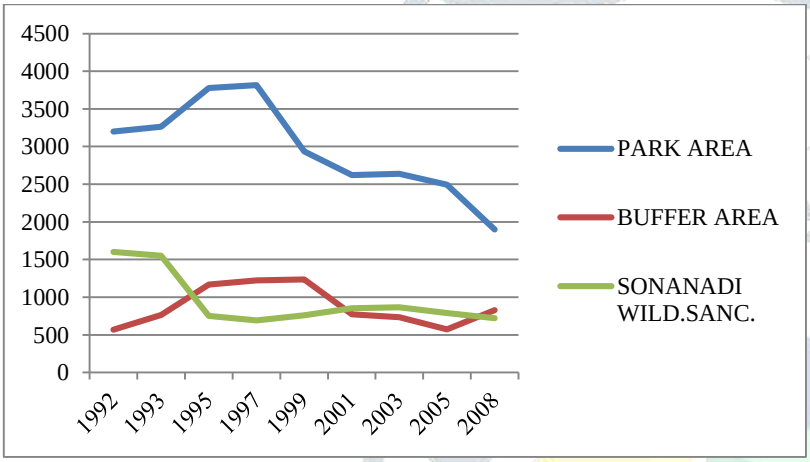

Figure.2 Population of Sambar in Park area, Sonanadi Wildlife Sanctuary and Buffer area.

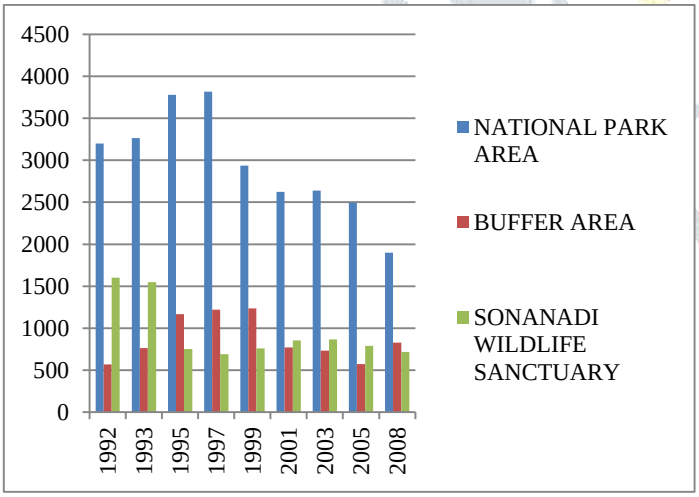

Figure.3 The distribution of Sambar in Park area, Sonanadi Wildlife Sanc. and Buffer Area.

RESULT AND DISCUSSION:

1. The figure.1 shows that there is slightly increase in total population from 1993 to 1997 and peak is found in 1997 than decrease in population and in 2008 there is minimum no. of population is recorded .

2. The figure.2 shows that the population of Sambar deers is higher in National Park Area in comparison to buffer forest and Sonanadi Wildlife Sanctuary.

3. The figure.3 shows that in 1993 to 1995 the number of Sambar are increase in National park area and buffer area and decrease in Sonanadi Wildlife Sanctuary. But after 1997 their is decrease in no.of population in park area and after 1999 also decrease in buffer area. So the total population of Sambar in Corbett tiger researve is decrease .

CONCLUSION: The overall study concludes that the population of largest deer Sambar is decreases in Corbett Tiger Reserve because Sambar is nocturnal animal and inactive at day time so its predation is easy for predator specially for old age Tiger. And the population decrease specially in National park area. It may be resulted by tourist activity in park area which affect breeding and other activities of animal , hunting in buffer area and migration of animal via corridors to landscape area of Corbett National Park.

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