



**STUDY OF THE POPULATION SIZE, PREDATORY COMPLEX AND BEHAVIOURS OF NILGAI IN INDIA w.s.r. To NORTH BIHAR.**

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**ABSTRACTS:**

The Present research work has explained the population size, Predatory complex and behaviours of Nilgai in India. The research work has confirmed the population size, predatory complex and behaviours of Nilgai and loss of crops, cereals, fruits by Nilgai.

**KEYWORDS:**

Population, Predatory complex, ranging and existence of Nilgai.

**INTRODUCTION:**

Nilgai is the most commonly found wild animals of Northern India. It is commonly known as Blue bull in India because of similar appearance of an OX. The present study will help to conserve the biggest Asian antelope in any conservation area. Five districts of North Bihar- 1.Sitamarhi. 2.Muzaffarpur 3.Darbhanga 4. Samastipur 5.Vaishali. According to IUCN(2008) report the estimated population of Nilgai is about 100000 in India.

There is no decline in the population since this animal is adapted to the agricultural areas. Sexes are separate male Nilgai having conical horns female are lacking of horns. Female Nilgai are shorter in height and yellowish brown in colour as compare to male counterpart male Nilgai attains Maturity and change their body colour to grayish blue colour, there are white spots on cheeks.

**MORPHOLOGY:**

The adult Blue bull has a coarse iron-gray coat, a white ring below each fetlock and two white spots on each cheek The densities of *B. tragocamelus* in India vary widely depending on habitat conditions, competition with domestic livestock, predation, and degree of protection (Berwick, 1974, Berwick and Jordon 1971; Pandey, 1988; Awasthi et al. 1994;

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Khan, 1997; Khan et al.1996; Biswas and Sankar, 2002). Nilgai are sexually dimorphic. Males always have horns, which are used in ritualized fighting during the mating season.

### **FEEDING BEHAVIOUR:**

Nilgai is a herbivore animals which browses on shrubs and small trees and grasses and herbs (Blandford, 1888;Chauhan and Ramveer Singh, 1990). They mainly feed on agricultural crops (Prater, 1980; Majupuria, 1982; Schultz, 1986; Rajpurohit, 1988). The Nilgais are found mainly feed on wheat, gram, mustard (Chauhan, 2011) and become serious pest of agricultural crops and are competing with resource utilization with domestic stocks (Caughley, 1981; Howard and Dutta,1982; Ghosh *et al.*,1987). In the absence of preferred food they readily alter their diet. Dietary selection aries seasonally studied by Khan (1994), Mirza and Khan (1974),

Individuals and groups of nilgai are capable of considerable movement if ambient conditions (e.g. drought) dictate (Berwick, 1974; Dharma kumar Singh ji, During summer, the Nilgai prefer to feed the fruits and leaves of *Acacia nilotica* and *Prosopis juliflora*. Woody vegetation dominates diets of *B. tragocamelus* in dry tropical forest of India (Khan, 1994). Sankar and Vijayan (1992) noticed that the feces of *B. tragocamelus* contain seeds of 34 plant species from Keoladeo national Park, India.

### **HERDSIZE**

*Boselaphus tragocamelus* is not a gregarious as other herding ungulates and occurs in relatively small groups. The berds often change their location, which is directly related to availability of food and protection to some extent. At the same time these herds show preferences for certain areas.The Nilgai is only moderately gregarious. Herds of 10 or

fewer are usual, and groups of 20 or more are exceptional. The sexes remain separate most of the time, and only one mature bull in either a bachelor or female herd is the rule. There is a mating peak in November and December, but calves are born in almost every month, after a gestation of more than eight months.

### **Grazing impacts on food plants:**

Grazing impact of Nilgai was studied by various workers in Indian and abroad. Indian, Chauhan (2011) Nilgai caused extensive damage to most agricultural crops. Naturally diurnal,Nilgai raid crops after dusk. Damage to wheat (*Triticum aestivum*), gram (*Cicer arielinum*) and

mustard (*Brassica campestris*) crops was caused not only by forage but also due to trampling of the crop during resting and movements of the animals. In low density Nilgai areas, losses to wheat, gram and moong (*Phaseolus mungo*) crops were 20-30%, 40-55% and 40-45%, respectively.

**Table-1: Showing the Feeding and other activities of Nilgai recorded during day hours**

Time period	Activities (in hours)		
	Feeding	Resting	Other activities
06am-08am	1.30min	30 min.	30 min
8am-10am	30 min.	1hr	30 min.
10am-12pm	40 min.	30 min.	50 min.
12pm-02pm	30 min	1.30min	30 min.
02pm-04pm	30 min.	30 min.	1 hour
09m-06pm	1 hour	30 min.	30 min.

Observations completed in the village Janipur, Nanpur, Sub.Div. Pupri, Dist Sitamarhi, Bihar

#### **DISEASES AND PARASITES:**

*Boselaphus tragocamelus* herbivores a variety of disease agents, but no particular pathogen or disease singularly affects the species or population levels (Sheffield *et al.* 1983). Many diseases, or disease-related conditions, are reported in captive individuals, including lesions associated with lymphoproliferative disease and malignant catarrhal fever (blake *et al.* 1990),

#### **Diseases / mortality**

*Boselaphus tragocamelus* harbors a variety of disease agents, but no particular pathogen or disease singularly affects the species or population levels.

## **Feeding and ranging of the Nilgai**

Nilgai is a herbivore *animals which browses on shrubs and* small trees and forage on grasses and herbs. The observations indicate that a herd of about 5 — 15 individuals of all the age classes may forage/raid.

Nilgai is purely herbivorous and depends on small plants and also grazes on small vegetation especially agricultural crops. The herds generally come out in the evening or late night. Firstly, they discharge their urine and the faecal matter too, then move for They usually assemble at the places where their faeces are deposited, like deems

Nilgai do not have definite pattern of territory and home range. As per the information gathered from village people that the Nilgai herds move in a wide area covering the entire village forest and common land. The herds often change their location, which is directly related to availability of food and protection to some extent. Their night lodgings are always away from the village. Similar observations have been reported

Nilgai shift their location only under human threat occurs in their habitat and deficit natural resources like water, food, and forage are in short supply for their survival. Generally, Nilgai lives in two groups, the bisexual herds and all bull herds. The territories and home ranges are neither well defined nor defended. Female Nilgai were observed very aggressive when their calves were disturbed by any other species like dogs, goats etc. Nilgai after leaving the night resting site herd moves to foraging grounds after a stay for awhile to undertake the social activities. Nilgais are usually more active in the 'Morning and evening and less in the afternoon. Thus, these animals have very wide moving ranges and their herds move from one place to another and shift their lodgings the impression that the Nilgai population is increasing and causing lot of damage. Of the 5 Districts surveyed only very limited area is under two crops that is both the kharif and rabi. It seems that the extension of agriculture in the recent past intercepted Nilgai 's traditional moving routes and foraging area on the outskirts of the villages.

### **Conclusion:**

This study also suggests that their preferences for the natural vegetation and to keep it in undisturbed condition are a usual practice. It is clear from the present data that Nilgai do not want to come in contact with human beings and if they raid agricultural crop and vegetable fields they have to encounter humans and face tough situation not conducive for their survival.

recent since they are diverse feeders. That means they reject plant material for which they\_tgr not developed The crop raiding behavior and preferences to certain crop material suggest that this is a any taste and eat those parts for which they have developed certain taste.

Their population size in the surveyed 5 District does not suggest any alarming situation because of devoid of large predators, small cat and dogs. This seems to be a major factor for population increase in Nilgai and imbalance in the Agri-ecosystem.

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