

A Survey of the Abundance, Population Structure, and Distribution of Blackbuck (*Antilope Cervicapra*) using Day Ground Surveys in Berhampur Forest Division, Area, Odisha

S. K. Behera^{1*} and R. K. Mohanta²

¹Integrated Coastal Zone Management Project Unit, Berhampur Forest Division (T), Odisha, India.

²Integrated Coastal Zone Management Project, Forest and Environment Department (Wildlife Wing), PMU, Plot. No- 1459, Sahidnagar, Bhubaneswar- 751007, Odisha. India.

*Corresponding Author: S. K. Behera, Integrated Coastal Zone Management Project Unit, Berhampur Forest Division (T), Odisha, India. Email: subb92@gmail.com

ABSTRACT

The major increase in blackbuck population has been observed in Berhampur Forest Division of Ganjam district, where the forest department data suggest that population has increased from 1020 in 2015 to 2325 in 2018. The population growth of blackbuck in three forest division of Ganjam district was highest in Berhampur Forest Division, followed by Gumshur North Division which may be due to the availability of good habitat and protection from the local people. In some areas, the population has increased so much that the Blackbuck has become an agricultural pest.

Keywords: Population, Group size, Distribution, Blackbuck

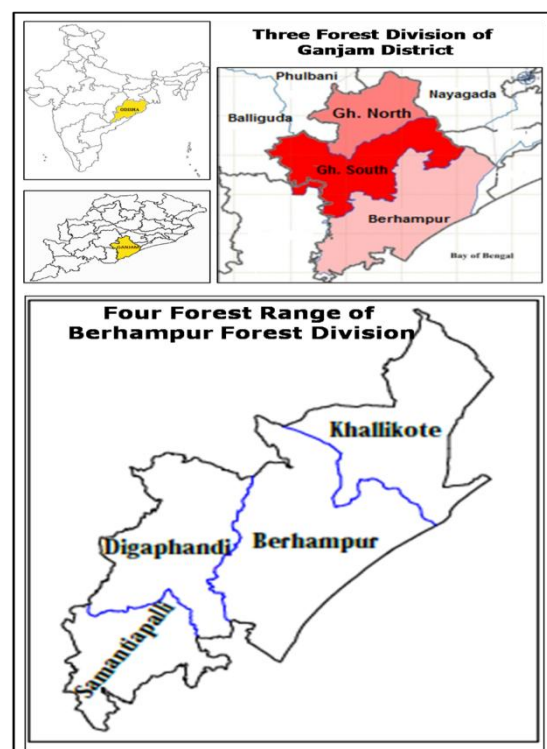
INTRODUCTION

Blackbucks are found in wide range of habitat but it attains greatest densities in semi-arid grasslands (Jarman, Meena). The Blackbuck (*Antilope cervicapra*) is native to India and Nepal and earlier occurred across almost the whole of the Indian subcontinent grasslands. In India, it occurs in 80–100 isolated pockets along the plains and semi-natural habitats (Menon 2014). As most of its habitat falls outside protected areas, the population is vulnerable to shrinkage of habitat and competition with livestock (Mallon 2008) Their distribution decreased during the 20th century and they are now nonexistent in wild in Bangladesh and Pakistan (Bashistha, IUCN). Although blackbuck has disappeared from numerous areas due to habitat destruction for anthropocentric development in India, still they are increasing in many protected areas and Berhampur Forest Division of Ganjam District of Odisha.

METHODS

The Blackbuck Conservation Area was visited on foot in February, March, and April 2018. The secondary data about the past population of Black buck were collected from the available sources in Odisha Forest Department and other literatures. The detail analysis in this paper is

based on 2018 study, while annual population data and other references are covered for general overview.



Map I. Showing the Administrative area of three Forest Division of Ganjam District and Four Ranges of Berhampur Forest Division where Blackbuck habitat is present

Population Census

Direct count of the animals with the help of binoculars was carried out and total population, age and sex composition was recorded and determined after replication. Four knowledgeable persons were included for thorough counting in each session to avoid the double count of animals.

The maximum concurrent count was taken as total population of the Blackbuck. Crude population density was calculated as total number of animals occupying per unit area of BFD

Age and Sex Composition

Binoculars (12 x 50 mm) were used to observe animals and its activities from a distance. Blackbucks were observed regularly and in each start up age and sex composition noted according to (Jhala 1991). Mature male and females were differentiated from their body color and horn and immature were differentiated with keen observation on the belly to examine position of urethra.

Strikingly different posture of male and female during urination and the place of licking of the doe after suckling of the neonate were the main aid to identify the sex of fawns and neonate. Age classes were limited to four group viz. fawn (below six months), adolescent (six months to one year), sub-adult (one to two years) and adult (two years and more); discernible in the field by mere observation.

Herd Size and Number

Average herd size was estimated by dividing the total number of Black bucks counted during the observation period by the total number of herds observed. The population of Black buck recorded during the year of 2018 has been used for the demographic analysis.

RESULTS

In Odisha, in the earlier period, this species was occurring in Balasore and Puri Districts and very scarcely in Bolangir and Kalahandi districts and also in coastal sand dunes of Bhitarkanika and Kujang area. In the current situation, blackbuck in Odisha is confined to certain pockets Balipadar – Bhetnoi and adjacent areas in the Ganjam district of Odisha. Older population of blackbuck (55Nos) was found nearby Chilika Lake (Schellar, 1967) but now this population is not found. Blackbuck habitat is distributed in three Forest Divisions of Ganjam district i.e. Ghumsur North, Ghumsur South & Berhampur (Map I, II).

Population Status of Blackbuck in BFD

During the 2004, scattered population of Blackbuck occurred in the Khallikote Range of Berhampur forest Division (BFD) with a group size of 133 nos. (Fig-1) This population was found in selected pockets of Khallikote Range of BFD till 2009. In the year 2011, populations started to disperse to other areas of BFD and observed in two ranges of this Forest Division one in Khallikote Range and other Berhampur. During 2016 this population dispersed one more to Range, Digaphandi (Map II). The population raised to a maximum of 527 individuals in 2008 (Fig-1) and then in population started to migrate to nearby areas. The chaotic fluctuation in the population of the Blackbuck at Khallikote continued in 2009 and population dropped down to 360 individuals. Blackbuck Population increased to 644 in 2011 and 4 individuals were recorded in Berhampur Range. However, after 2015 it started to grow number rapidly and the growth rate was 56.1% in Berhampur Forest Division. Other two Forest Division Ghumsur North and Ghumsur South the rate of Growth was 29.4% and 17.9 % respectively (Fig 2, 3)

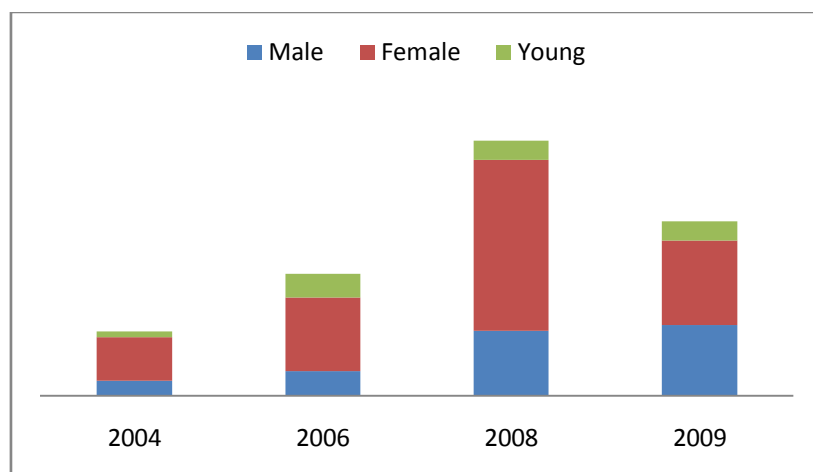
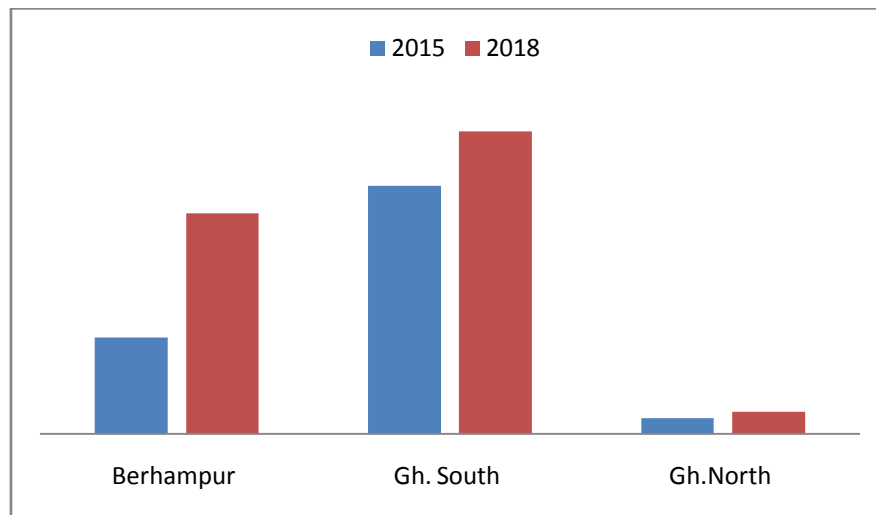
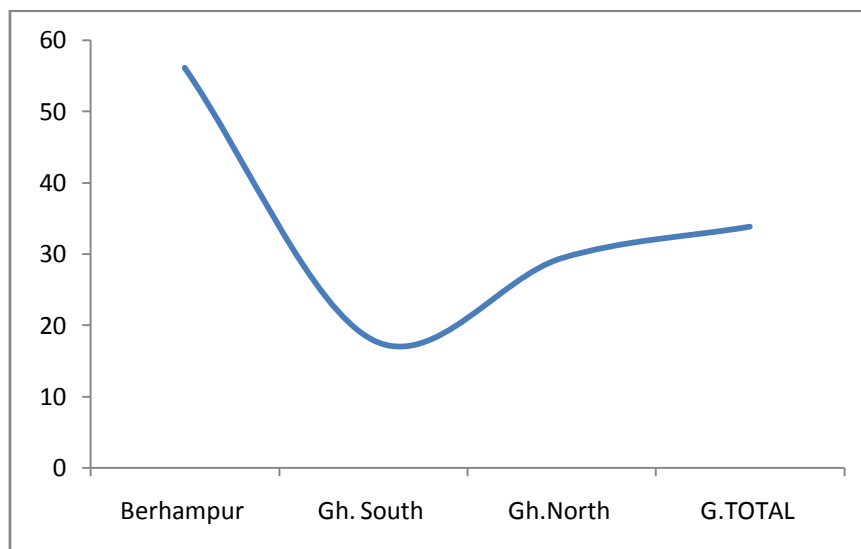


Fig1. Showing the Blackbuck Group size from 2004 to 2009 in Berhampur Forest Division of Khallikote Range

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FigII. Showing the Blackbuck Population during 2015 to 2018 in three Forest Division of Ganjam District



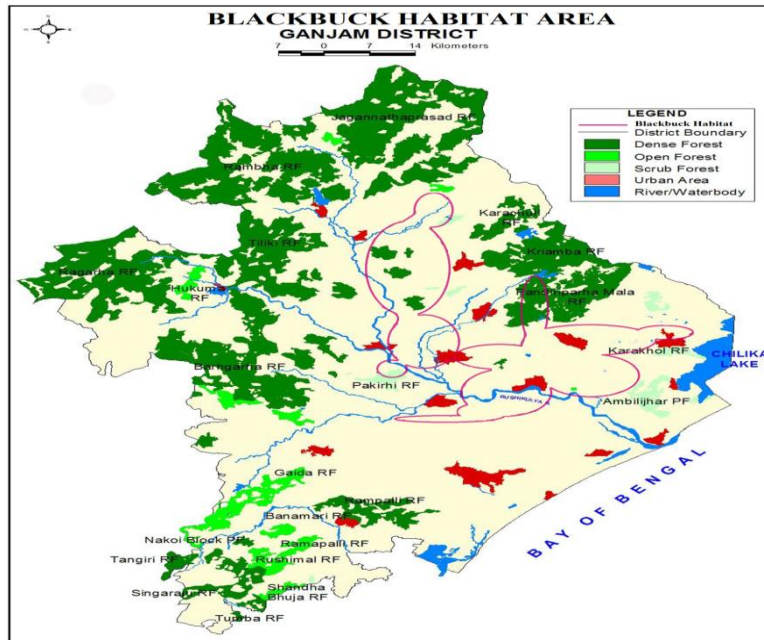
FigIII. Showing the Blackbuck Growth rate percentage from 2015 to 2018 in three Forest Division of Ganjam District

DISCUSSION

However, the degradation of habitats and indiscriminate road kills contributed to the reduction in the population. However, looking at the present population of the animal in the State of Odisha it is evident that the population in Balipadar-Bhetnoi makes a larger percentage of the total in the State (Mohanty, 2011). Overall, a high percentage of adult female population (Fig 1) indicates that the population can increase over time, due to lack of predators (excluding opportunistic and nominal predation by feral dogs) and protection by local communities (Kar 2001). The local communities/conservation volunteers are shifting from passive conservation to active conservation and forest department is performing important role in the conservation of blackbuck and other species.

Forest officers were able to generate awareness for conservation and community participation. The success of blackbuck (*Antelope cervicapra*) conservation programme will throw problem of plenty, which can become a cause of worry for the forest authorities. With the growing population of this ruminant the cases of accidental deaths by road kill and other issues are on the rise. The frequency of prowling fields and eating and destroying standing crops of farmers is also increasing. Realizing the seriousness of the problem, poor farmers may gradually become intolerant to damage to their crops. Blackbuck possesses a number of attributes which can lead uncontrolled population rise if kept unchecked. It is necessary to develop the sustainable models for the long term coexistence of human and blackbucks.

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Map II. Showing the total Blackbuck habitat area of Ganjam District

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