



NEAR THREATENED TO LEAST CONCERN: BLACKBUCK CONSERVATION EFFORTS FROM RAJASTHAN, INDIA

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ABSTRACT

Rajasthan is land where conservation is religion. In many sites peaceful cohabitation between humans and wildlife is conjoint. The mutual efforts of Forest Department, Rajasthan and local communities for the protection of wildlife lead to an almost threefold upsurge in blackbuck population in this region. Due to conservation efforts across the country including Rajasthan have placed blackbuck in the Least Concern category in Red Data Book published by IUCN from earlier Near Threatened category. In India, blackbuck is distributed across 15 states and in Rajasthan; it is distributed among 19 districts. The total population of blackbuck in Rajasthan including protected area is estimated to be over thirty thousand in 2016.

Keywords: Antelope, Community, Forest, Population, Protection.

INTRODUCTION

The Wildlife (Protection) Act, a landmark in the history of wildlife legislation in India, came into existence in 1972. The act provides the protection of wild animals, birds and plants and for matters connected therewith or ancillary or incidental thereto. The act provides the basic framework to ensure the protection and management of wildlife. Prior to the Act, hunting of threatened species such as tigers, elephants, blackbucks, Gazelle and leopards was widespread and led to each of these species becoming endangered. Since the Act was developed, many people have been convicted of offences related to poaching, hunting out of season, and killing endangered animals.

In India, people respect trees, animals, forests, rivers and other elements of nature like the sun and the moon. As we pass through the length and breadth of India, we frequently come across numerous sites that portray a peaceful coexistence between humans and wildlife. To some extent, this is possible due to traditional acceptance of the wildlife and largely it is the result of combined efforts of native people living around these sites which protects nature for its sustainable use and ecological significance. For multiple reasons, Rajasthan has perhaps one of India's

most widespread traditions of community conservation. Several types of sacred spaces, mostly in forest and pasture land, have characterized the state (Meena *et al.*, 2017a). The state has the "orans", sacred pastures and woodlands used primarily for grazing of wildlife with the protected tree species. Various local communities including Bishnois consider trees as sacred, but their empathy extends to every living being on earth. So they protect the entire ecosystem that exists in their villages. Animals like blackbucks and chinkaras, and birds like vultures, partridges, peacocks and even the endangered Great Indian Bustard, find the village a safe haven.

Blackbuck (*Antilope cervicapra*) (Linnaeus, 1758) is a stylish gazelle-like antelope regarded as the best-looking member of the family Bovidae. It is called by the name Kala Hiran in Hindi. Taxonomically blackbucks are classified under the subfamily Antilopinae, family Bovidae and the order Cetartiodactyla. The IUCN Red list has listed this animal as-Least Concern with increasing population trend (IUCN 2017) and is included in Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In India, hunting and poaching of blackbuck are prohibited under Schedule I of

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the Wildlife Act of 1972 (Meena *et al.*, 2017b). The Blackbuck is native to India and earlier occurred across almost the throughout the Indian subcontinent. Although blackbuck now has disappeared from numerous areas due to habitat destruction for anthropocentric development, they are increasing in many protected areas and community reserves in Rajasthan, Gujarat and Haryana (Rahmani, 2001). In Rajasthan, herds of blackbuck can be easily seen in western, northern as well as southeastern part of the state (Figure 1).

Blackbuck exhibit pronounced sexual dimorphism; males have black and white pelage and large spiraling horns. The brown areas at the back of males gradually darken with age finally becoming black (Prater 1965). Blackbucks rarely live in isolation, they are mostly found mainly in groups. They are found in wide range of habitat but it attains greatest densities in semi-arid grasslands (Jarman, 1974). They feed on fresh tender leaves, grass, crops, cereals, vegetables and leaves of shrubs and trees (Meena and Chourasia, 2017a). Blackbuck is mainly diurnal, rarely can be nocturnal (Meena and Choursia, 2017b). They show a definite pattern of activities in the fixed hours of the day which may slightly vary with the seasons (Sharma, 2013, Meena *et al.* 2017b). Blackbuck has important ecological roles in grassland ecosystem (Meena *et al.*, 2017c).

Population status of blackbuck in Rajasthan

In India, blackbuck population has been reported in states of Rajasthan, Haryana, Punjab, Gujarat, Maharashtra, Odisha, West Bengal, Uttar Pradesh, Telangana, Bihar, Chhattisgarh, Andhra Pradesh, Madhya Pradesh, Tamil Nadu and Karnataka. Among the 15 states of India, where blackbuck is found, the large number is found is Rajasthan (Rahmani 1991). In Rajasthan, the blackbuck is distributed across various districts which include Baran, Bikaner, Churu, Ganganagar, Hanumangarh, Jaipur, Jalore, Jodhpur, Kota, Nagaur, Pali, Sawai Madhopur, Sikar, Sirohi and Tonk (Figure 2).

The major site where the blackbuck population has been protected is Tal Chhapar Sanctuary. Tal Chhapar Sanctuary is a sanctuary located in the Churu district of Northwestern Rajasthan in the Shekhawati region of India. According to the state forest department the Tal Chhapar Sanctuary houses the largest blackbuck population in the state. Ranthambhore National Park, Chambal and Shergarh protected area have some recordable populations. The data from forest department (Rajasthan) suggest that population of blackbuck has increased in protected areas (Table 1, Figure 3). The Rajasthan forest department is doing efficient work to protect wildlife including blackbuck. The population of blackbuck in different protected area of Rajasthan has increased from 2209 to 2692 in last six years. (Table 1).



Figure 1. Herds of blackbuck a. Sorsan region, Baran b. Guda region, Jodhpur.

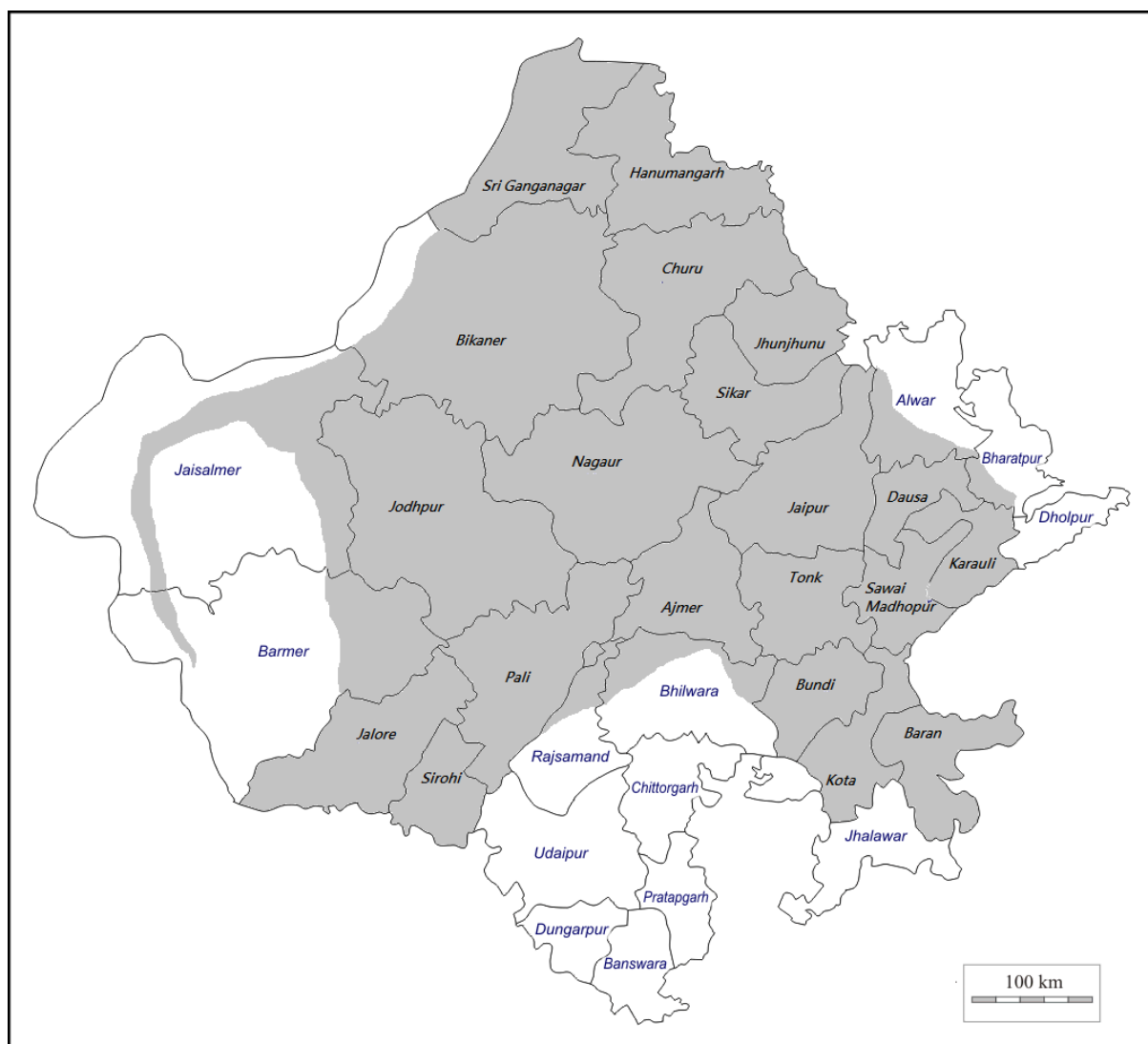


Figure 2. Map of Rajasthan state showing distribution of blackbucks.

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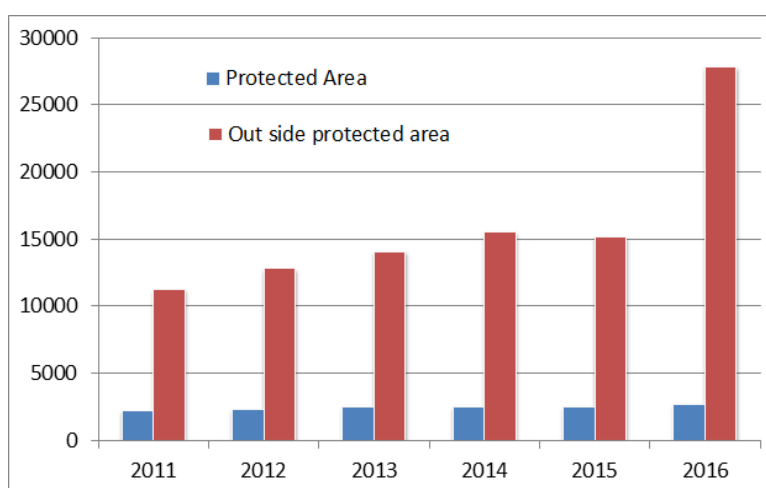
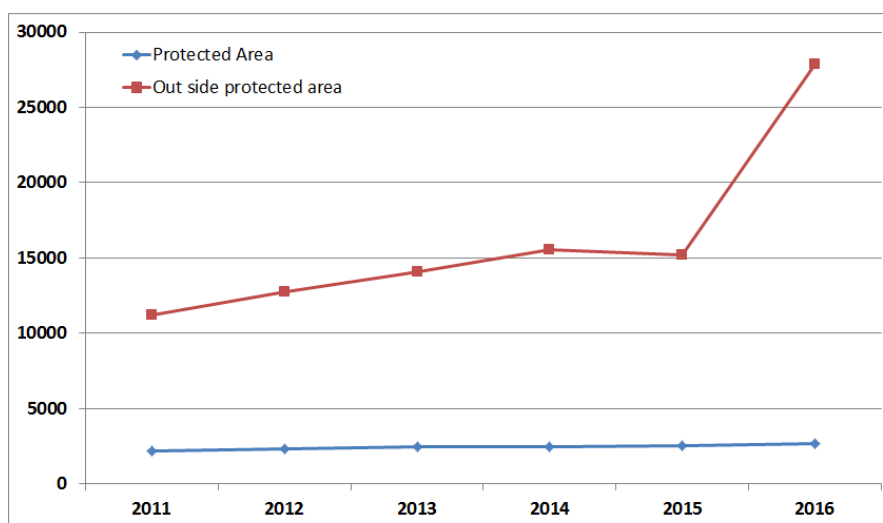
Distribution of blackbuck population outside closed area has been reported in Baran, Barmer, Bikaner, Churu, Ganganagar, Hanumangarh, Jaipur, Jaisalmer, Jalore,

Jodhpur, Karauli, Kota, Nagaur, Pali, Sawai Madhopur, Sikar, Sirohi and Tonk districts of Rajasthan. The increase in the population of blackbuck outside protected area has been phenomenal. In last six years population has increased almost 250 % (Figure 4). The population recorded in 2011 was 11248 which have reached to 27838 in 2016 (Table 1). The increase in population outside protected area represents positive cooperation of society and forest department in Rajasthan.

The major increase in black population in last six years (2011-2016) has been observed in Baran, Bikaner, Jodhpur, Nagaur and Pali. In Baran, blackbuck population has increased from 1144 individuals in 2011 to 3394 in 2016. In Bikaner population has increased almost five-fold while in Nagaur it has doubled (Figure 5). In Pali large number (6201) blackbucks has been reported in 2016, prior to this number of blackbuck were very low. In districts like Bundi, Jaipur, Sirohi and Tonk the count of blackbuck is very low as compare to other sites (Table 2).

Table 1. Trend in population of blackbuck in protected and outside protected area in Rajasthan (Source: Rajasthan forest department, 2017)

Year	Protected Area	Outside protected area	Total
2016	2692	27838	30530
2015	2508	15189	17697
2014	2472	15549	18021
2013	2487	14073	16560
2012	2316	12789	15105
2011	2209	11248	13457

**Figure 3.** Population status of blackbuck (2011-2016) in protected and outside protected area in Rajasthan.**Figure 4.** Change in population of blackbuck from 2011-2016 in protected and outside protected area in Rajasthan.

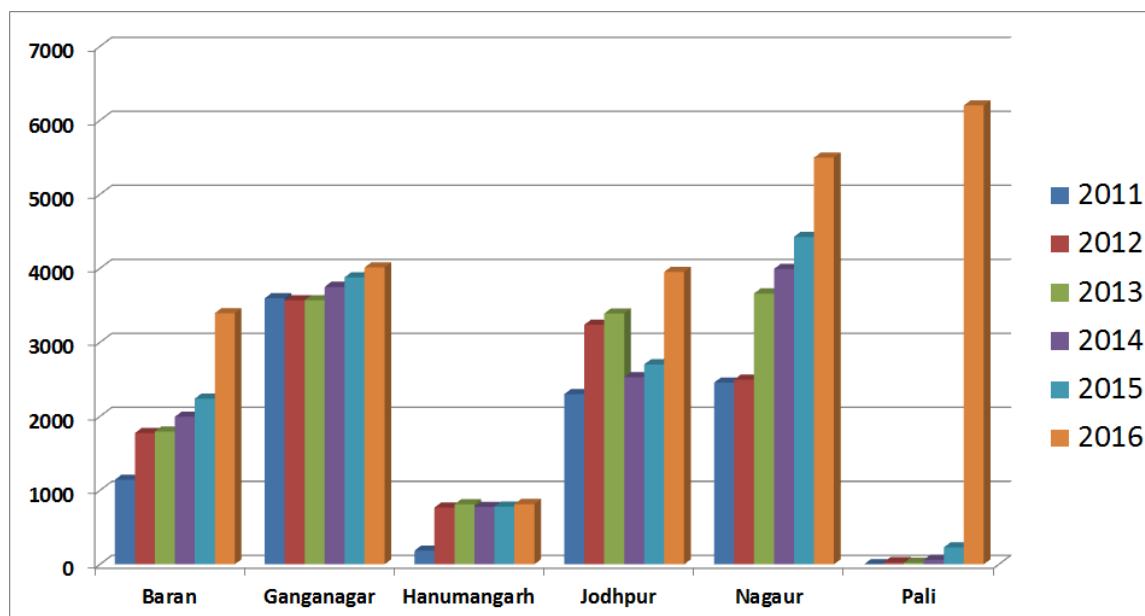


Figure 5. Trend in change of blackbuck population outside of closed area in different districts of Rajasthan (Source: Rajasthan Forest Department, 2017).

Table 2. Population status of blackbuck outside protected area in Rajasthan (Source: Rajasthan Forest Department, 2017).

District	Year					
	2011	2012	2013	2014	2015	2016
Baran	1144	1774	1796	1994	2240	3394
Bikaner	136	140	152	219	235	701
Bundi	49	54	32	24	71	66
Churu	0	0	0	0	0	2673
Ganganagar	3596	3568	3570	3750	3879	4012
Hanumangarh	186	768	811	776	781	815
Jaipur	0	0	0	40	22	23
Jodhpur	2301	3238	3390	2530	2702	3932
Karauli	126	140	163	262	169	160
Kota	182	185	198	356	361	287
Nagaur	2456	2496	3660	3992	4426	5495
Pali	0	30	23	61	229	6201
Sirohi	6	5	14	17	8	14
Tonk	300	321	219	204	66	65

DISCUSSION

Rahmani (1991) reported that blackbuck is observed in the 13 states of India, but now two more states namely Jharkhand and Telangana can be added to this list. Out of these fifteen states, blackbucks are observed in the large number in Rajasthan. Schaller (1967) and Hemsingh and Jakhar (2007) reported that the principal distribution of the blackbuck in India is limited to Western Rajasthan, but reports from forest department suggest that blackbuck can be observed in good number in Northern as well as south-

east parts of Rajasthan. Northern districts like Sriganganagar and Hanumangarh have luxurious blackbuck population; similarly, south-eastern districts like Baran, Bundi, Kota have a noticeable number of blackbucks. Ranjitsinh (1982) estimated between 7600 and 8000 blackbucks in the whole of Rajasthan, but according to the census done by the forest department, Rajasthan in 2016 there are 30530 individuals of blackbuck in protected and outside the protected area which is almost four times of earlier estimates.

CONCLUSION

The data from the forest department, Rajasthan suggest the population of blackbuck in the different protected area has remained almost constant or slightly increased while there has been a significant rise in blackbuck population outside the protected area. The increase in blackbuck population outside protected area has been possible due to collaborative efforts of forest department and the local community. Forest department regularly organizes community meeting, workshop and conservation programs for local youth, community leaders, farmers, teachers and students to raise awareness, education and communication for a better understanding of blackbuck conservation and its importance in Rajasthan. The positive outcomes of such initiative can be witnessed in form of blooming wildlife in different sites.

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