

Research

Characterization of the Indigenous Kow Bakar Black Goat of Uttarakhand

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ABSTRACT

Kow Bakar goats, locally known as “Kali Bakari,” are indigenous to specific regions of Uttarakhand, particularly Thalısain (Pauri Garhwal), Syaldey (Almora), and Gairsain (Chamoli). These goats, raised traditionally by local farming communities, are medium-sized with a distinct black coat and are primarily reared for meat. A survey was conducted in 52 villages across three districts of Uttarakhand, namely Pauri Garhwal, Almora, and Chamoli. The goats exhibit unique physical traits, reflecting centuries-old husbandry practices in the Himalayan region. This study presents their morphological traits, performance indicators, and socio-economic importance, highlighting their potential for conservation and genetic improvement programs.

Keywords: Black goat, Kow Bakar goat, Phenotypic characterisation

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INTRODUCTION

India is home to a rich diversity of indigenous livestock breeds, many of which remain under-characterized. As per 2019 livestock census, the State had 13.71 lakh goats and 2.84 lakhs sheep (Report, 2019). Goats are found to be more widely distributed than sheep. The goat is a versatile animal that can be reared with little expense and provides meat, milk, skin and hair. Goat rearing occupies an important place in the economy of hilly states as it provides livelihood to the goat keepers. Goat rearing is more popular in the mid-Himalayan region where the land is un-irrigated and less fertile. The goats thrive in undulating lands, unsuitable for other types of livestock, with minimal or inexpensive input in terms of shelter and housing. Small farmers and landless agricultural labourers are increasingly relying on goats for meeting their cash requirements. In Uttarakhand goats are mainly reared for meat production. The Kow Bakar goat, also referred to as “Kali Bakari” or “Pahadi Bakari,” is a lesser known goat population of Uttarakhand, known for its adaptability, hardiness, and black hairy coat. The name “Kow Bakar” is derived from the local language where “Kow” refers to black colour and “Bakar” to goat. These goats have been reared by generations of farmers across Garhwal and Kumaun regions. Despite their socio-economic importance and unique physical features, the breed has not yet been officially recognized or scientifically documented in detail. This study aims to characterize the breed’s physical attributes, management practices, and utility,

serving as a foundation for future conservation and improvement efforts.

MATERIAL AND METHODS

A comprehensive survey was conducted across three districts of Uttarakhand viz., Pauri Garhwal, Almora, and Chamoli. Five trained enumerators collected data from 119 farmers across 52 villages. A total of 2,890 observations were recorded, covering goats of various age groups. Physical measurements were taken for adult males and females, including horn length, face length and width, ear length, height at withers, body and paunch girth, tail length, and body weight. Data on management practices, feeding habits, housing, and reproductive traits were also collected. Breed characteristics were recorded and compared by sex. Carcass traits were studied based on dressing percentage.

RESULTS AND DISCUSSION

Physical characteristics

The Kow Bakar goat is found predominantly in the mid to high-altitude regions of Uttarakhand. The elevation of these tracts is approximately 1200 to 2500 M above mean sea level (MSL). The approximate area of distribution spans around 16,832 sq. km. Kow Bakar goats are medium-sized, with a compact body and a characteristic black, hairy coat. Both sexes possess flat, dark grey horns oriented upward and backward (Fig. 1, 2 and 3). They have slightly convex foreheads, pendulous ears, and cylindrical tails. Wattles and beards are absent (Shahi *et al.*, 2025).



Fig. 1: Kow Bakar Ram



Fig. 2: Kow Bakar Ewe



Fig. 3: Flock of Kow Bakar

The average adult body weights in males and females are 29.22 ± 0.41 kg and 27.98 ± 0.13 kg, respectively. In adults the measurements of horn length, face length, face width, ear length, height at withers, body length, chest girth, paunch girth and tail length are 15.52 ± 0.35 cm, 19.07 ± 0.19 cm, 13.06 ± 0.17 cm, 13.48 ± 0.14 cm, 61.51 ± 0.62 cm, 62.01 ± 0.57 cm, 69.42 ± 0.51 cm, 73.15 ± 0.51 cm and 12.88 ± 0.13 cm, respectively in males. The corresponding measurements in females are 14.02 ± 0.12 cm, $18.73.21 \pm 0.07$ cm, 11.79 ± 0.06 cm, 12.99 ± 0.04 cm, 59.52 ± 0.22 cm, 61.62 ± 0.20 cm, 67.07 ± 0.18 , 71.22 ± 0.19 cm and 12.27 ± 0.04 cm, respectively. Barwal *et al.*, (2011) reported the physical attributes of another lesser-known population the Udaipuri goat, which is found in the Pauri Garhwal district of Uttarakhand. The average body measurement at adult age for horn length, forehead length, ear length, height at withers, body length, chest girth, tail length were 16.05 ± 0.05 cm, 15.97 ± 0.03 cm, 14.73 ± 0.03 cm, 62.03 ± 0.06 cm, 61.21 ± 0.06 cm, 71.21 ± 0.07 cm and 12.76 ± 0.03 cm, respectively in males and 12.17 ± 0.01 cm, 15.09 ± 0.01 cm, 14.44 ± 0.01 cm, 59.10 ± 0.01 cm, 60.82 ± 0.01 cm, 70.96 ± 0.01 cm and 11.87 ± 0.01 cm,

respectively in females. The Udaipuri goats are small in size with 22.10 ± 0.01 kg body weight of adult females and 24.67 ± 0.07 kg of body weight of males. The biometric measurement in Chaugarkha goat was reported by Singh *et al.*, (2009). The Chaugarkha goats are small in size with 10-12 kg body weight of adult females and 15-20 kg of body weight of males.

Management Practices

The husbandry of Kow Bakar goats is largely semi-feral. Goats browse for 4-6 hours daily, covering 2-3 km. Feed sources include tree leaves (*Banj*, *Bhimal*, *Khadik*), shrubs (*Kadipatta*, *Kandali*, *Ringal*), and grasses. Fodder supplementation includes straw of *mandua* and *jhangora*, and grains like maize and mandua. Mustard cake is occasionally given. Housing is provided only at night; small flocks are housed with cattle, while large flocks are kept separately. Breeding is through natural service with no controlled mating. Singh *et al.*, (2009) also reported the housing management practices of the Chaugarkha goat breed in Uttarakhand.

Utility and Socio-cultural Role

Kow Bakar goats are primarily meat animals, often sold live or used for their own consumption. Their meat is highly valued in local markets. In addition to their economic utility, these goats are used as sacrificial animals during religious rituals, adding cultural significance. The marketing system for live goats remains informal and is based on live weight. No data was available on milk production, as the breed is not used for dairy purposes.

Carcass Characteristics

The average age at slaughter was recorded as 23.70 ± 1.21 months, with a range of 18 to 30 months. The mean live weight at slaughter was 24.64 ± 1.21 kg, ranging from 18.00 to 28.50 kg. The average carcass weight obtained post-slaughter was 11.67 ± 0.58 kg, with a variation between 8.70 and 14.20 kg. The hot dressing percentage was calculated to be $47.38 \pm 0.59\%$, falling within a range of 44.70% to 49.82%. These values indicate moderate carcass yield, typical of goats reared under semi-intensive systems. The carcass features observed in this study show competitive performance when compared to other indigenous and modified goat breeds. In a study conducted by Singh *et al.*, (2021), Barbari goats that were slaughtered between 18 and 24 months of age had an average live weight of 25.2 ± 1.3 kg and a carcass weight of 12.0 ± 0.6 kg with a hot dressing percentage of 47.6%, which is comparable to the present findings.

Salient and Identifiable Traits

The Kow Bakar goat exhibits several salient and identifiable traits that distinguish it from other local breeds. These goats possess a uniformly black hairy coat and a compact, medium-sized body structure. Both males and females are characterized by pendulous ears and flat, dark-grey horns that are oriented upward and backward. Notably, wattles and beards are absent in this breed. The tail is cylindrical in shape, and the forehead has a slightly convex profile. Owing to their adaptability to the hill environment, Kow Bakar goats are mainly reared as a meat-type breed, making them an important asset for local meat production and traditional livestock systems.

The Kow Bakar goat is a unique, region-specific indigenous population with strong adaptability to the hilly terrain of Uttarakhand. This population though

unregistered, demonstrates valuable genetic and cultural traits that warrant immediate documentation, conservation, and possible genetic improvement efforts. Characterization studies like this provide a vital baseline for breed recognition and conservation planning by national agencies. Given its importance in local livelihoods and traditional practices, efforts should be made for formal registration, organized breeding programs, and market linkages to enhance the socio-economic status of farmers in the region.

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