

Research Article

Physical characteristics of a new buffalo population “Dang” in Chambal region of Madhya Pradesh

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ABSTRACT

Buffaloes play a crucial role in livestock production, contributing significantly to the dairy sector in India. The present study describes a distinct buffalo population, known as Dang or Junglee buffaloes, found in the ravines of Chambal division of Madhya Pradesh. These buffaloes are reared by the Gurjar, Dhakhad and Yadav communities. Dang buffaloes are well-adapted to harsh environments and thrive on low-quality shrubs and minimal water. They produce 7-8 liters of milk daily under an extensive grazing system. With their unique physical characteristics, including dome-shaped foreheads and dense hair tufts, Dang buffaloes are distinct from other breeds, showing strong adaptation to local conditions. The distinct features of Dang buffalo make it a strong candidate for recognition and registration as a breed.

Key words: Buffalo, Characterization, Indigenous

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INTRODUCTION

In India, about 70% of the population are dependent on agriculture, its allied sector and dairying. Animal husbandry and Dairying has been an important source of income for millions of small household farmers engaged in agriculture. Milk is a major contributor to GDP from livestock sector to the Indian economy. Buffalo plays a pivotal role in livestock and agriculture economy of many countries across the globe providing milk, meat and hides along with draught power. Domesticated species of buffalo are grouped into river (*Bubalus bubalis*) and swamp buffalo (*Bubalus carabanesis*). The world's total buffalo population is around 204 million, out of which India accounts for 10,98,51,678 buffaloes, of which 4,98,46,832 buffaloes are grouped under Non-descript (<https://dahd.nic.in>). Of the total world buffalo population, more than 98 percent are in Asia; 0.8 percent are in Africa, particularly Egypt; 0.9 percent are in South America; and 0.2 percent are in Europe (<http://fao.org/>). As per 20th Livestock Census, 20.47% of the livestock population are buffaloes. Nearly half of the milk produced in India comes from water buffaloes, as opposed to cows (Ministry of Animal Husbandry, Dairying and Fisheries 2019) previously, water buffalo produced the majority of milk in India (Wiley, 2014).

Presently there are 19 registered breeds of buffalo in India namely Bhadawari, Jaffarabadi, Marathwadi,

Mehsana, Murrah, Nagpuri, Nili Ravi, Pandharpuri, Surti, Toda, Banni, Chilika, Kalahandi, Luit (Swamp), Bargur, Chhattisgarhi, Gojri, Dharwadi and Manda. The indigenous buffaloes are distributed into three major categories i.e. pure, graded and non-descript. Out of total buffaloes, 20.3% are pure breeds, 34.3% are graded and the remaining 45.4% are in the Non-Descript category (<https://dahd.nic.in>). Indigenous buffalo breeds have the innate capacity to survive under harsh conditions and produce with limited inputs. When compared to the cattle population, buffalo population is steadily increasing along with its contribution to the total milk production. The aim of the present study is to carry out an exploratory survey to explore a homogenous buffalo population that appeared different from the extant buffalo breeds in the area under study.

MATERIALS AND METHODS

A transact exploratory survey was carried out to characterize the native buffaloes in different villages of Bhind, Morena, Sheopur, Gwalior, Guna and Datia districts of Madhya Pradesh, having a homogenous population that was different from the extant buffalo breeds. During the survey, recording and clustering of primary physical characters for identification of homogenous populations and differentiating populations for identifying potential breeds based on phenotypic characteristics was carried out.

RESULTS AND DISCUSSION

A unique buffalo population was identified in the ravines of the districts of Chambal division, especially in Shivpuri and Guna. These buffaloes, called as Dang/Junglee/Desi by their keepers are reared in a specific production system i.e the ravines of Chambal. These buffaloes are being raised in large herds mostly by the Gurjar, Dhakhad and Yadav communities. They are well adapted to the ravine conditions of hot climate, sparse vegetation and stony terrain and perform well for the milk production completely on extensive system (7-8 Lit/day; 40 Rs/Lit). Dang buffaloes are unique for thriving on low quality shrubs and low water intake. These native buffaloes are found to be more suitable for grazing in the ravine jungle region, covering long distance wherein other buffaloes are not able to do so. The breeding tract of these buffaloes exists in wider

geographical region of Sheopur and adjacent districts of Chambal Division where they are reared by Gurjar, Rawat, Yadav and Kushwaha communities. Herd size ranges from 10-100, and population size may be about 30 thousand. The forehead is dome shaped, with semi-circular horns going initially backward, then moving upward and finally pointing forward.

The Dang buffaloes are highly hairy, with large and coarse hair on all parts of body; hairy tufts are more evident on middle crest, hip bones and inner surface of ear pinna (Fig.1). These buffaloes have white markings on the forehead; switch of the tail and in the hoof region. Dorsal part of skull, dorsal crest and hip bones (hooks) are largely elevated. Hair pattern is not uniform throughout the body. Dense hair spread over the spine region and inside the ears. The back is highly concave.



Fig. 1: Dang buffalo of Madhya Pradesh

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