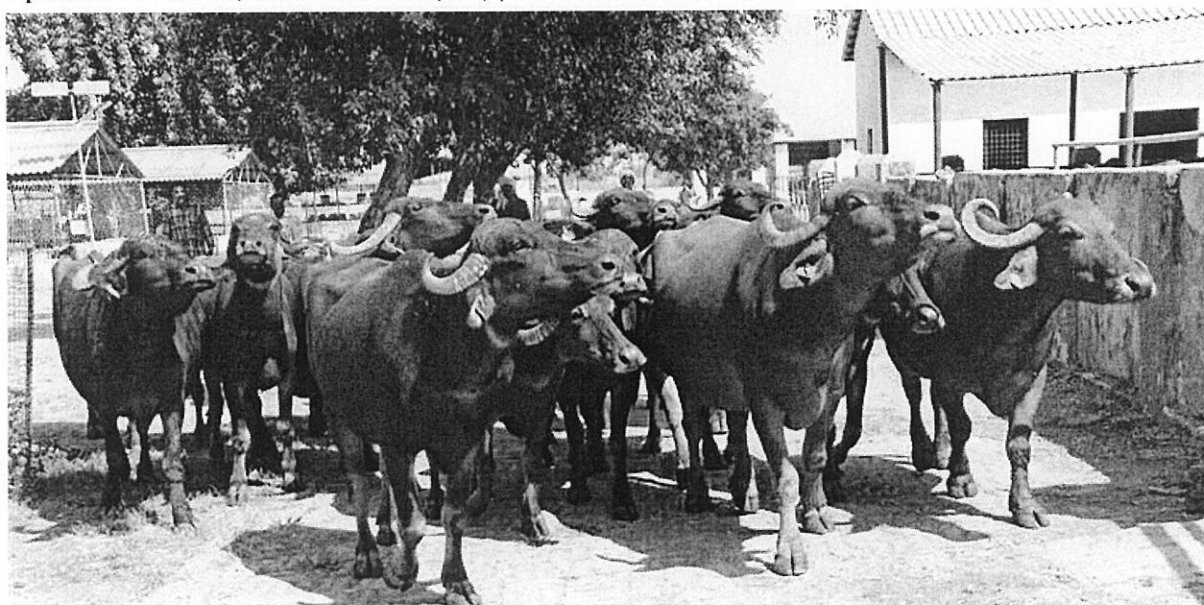


Infocus Agriculture Livestock Sector: Focus on Bhadawari buffalo for climate-resilient dairying

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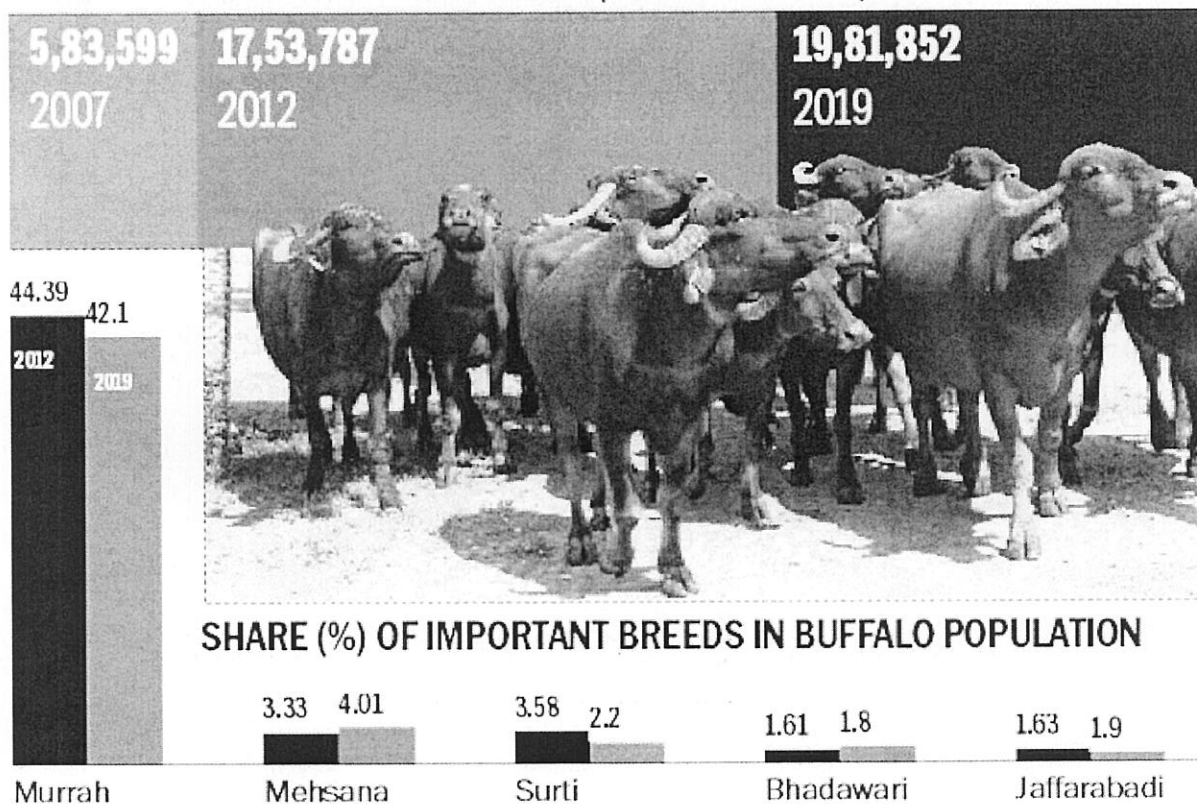
Updated At: Mar 18, 2024 07:38 AM (IST) | BP Kushwaha and Bishwa Bhaskar Choudhary



INDIA, with its diverse climatic conditions and agricultural practices, has long relied on the livestock sector for sustenance and economic stability. However, around 70 per cent of the dairy animals are owned by marginal and small farmers. Buffalo farming is an important component of the sector, constituting around 21 per cent of the livestock population in the country and accounting for around 45 per cent of the national milk production. The Murrah breed has the highest share (42 per cent) in India's buffalo population. In order to increase milk production, indiscriminate crossbreeding of other buffalo breeds with Murrah in the past three to four decades has notably diminished significant breeds, particularly Bhadawari. According to government data, the national Bhadawari population was around 1.3 lakh in 1977. However, as per reports, it fell to around 50,000 by 1997.

By fostering deeper understanding of the Bhadawari buffalo's ecological adaptability and economic benefits, farmers can be encouraged to actively participate in its conservation. Private dairy players need to be brought into the fold of the Bhadawari conservation efforts. Policies should be formulated to incentivise and promote the integration of this breed into private dairy ventures. This can be achieved by highlighting its advantages, particularly its milk's suitability for various dairy products.

BHADAWARI BUFFALO POPULATION (CENSUS YEARS)



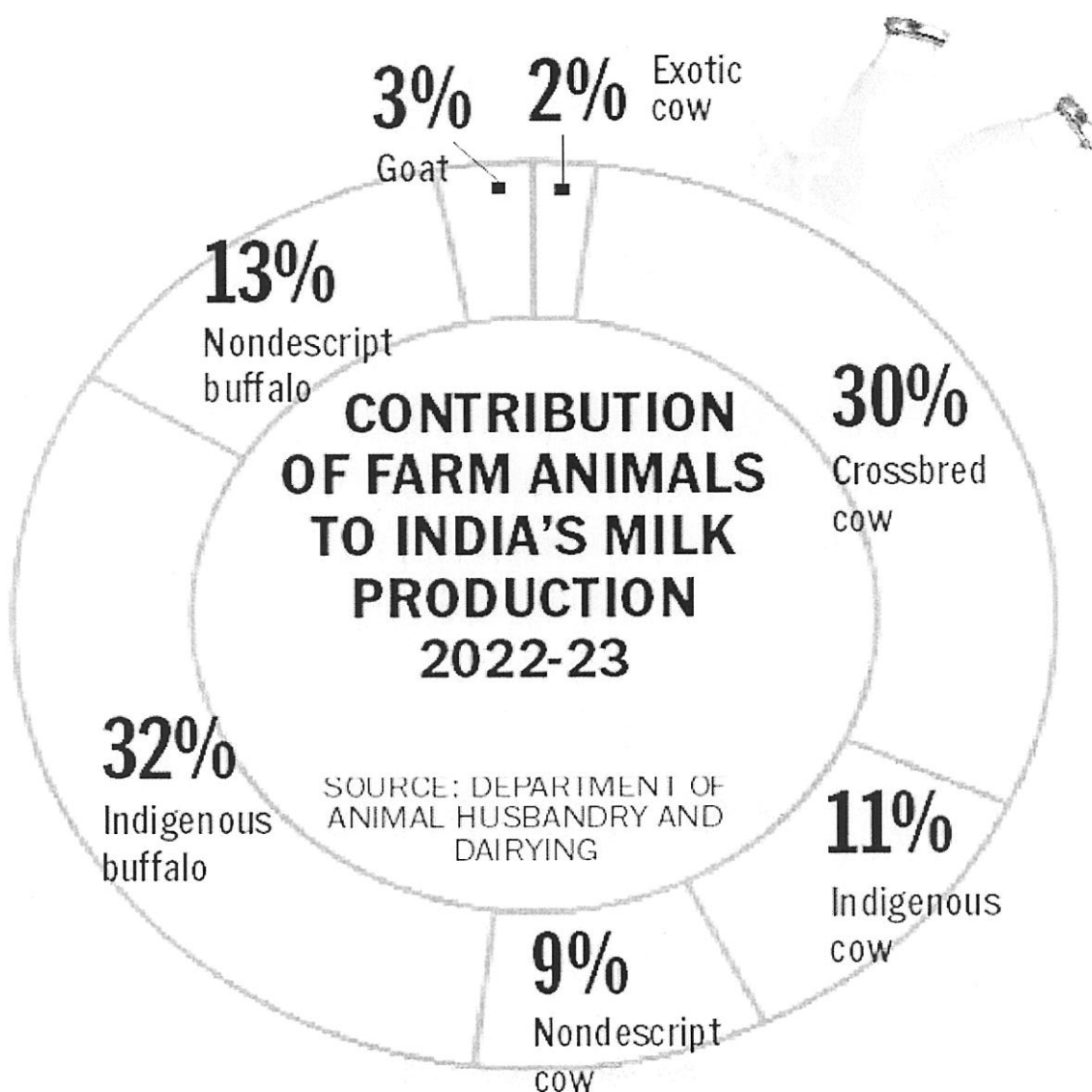
This breed is renowned for its resilience to heatwaves and climatic stress, particularly in the arid and semi-arid regions of India. This variety has evolved efficient mechanisms for heat dissipation, ensuring the maintenance of productivity levels even in the face of extreme weather events. Furthermore, its genetic composition equips it to cope with water scarcity, a common repercussion of climate change. Wallowing, especially during the summer, is vital for buffaloes to counteract heat stress. Bhadawari, in particular, can endure heat stress even without wallowing. Nevertheless, the water intake for drinking is contingent on the animal's body weight. Given that the Bhadawari has a lower body weight than the Murrah, its water requirement is correspondingly reduced. As climate change is going to be more pronounced in future, conserving and promoting domestication of Bhadawari is imperative for building resilience of dairy farmers and sustaining national milk production.

Bhadawari buffaloes also offer superior milk quality, further enhancing their role in sustaining livelihoods of dairy farmers. The milk produced by the Bhadawari is renowned for its high fat ranging from 7 per cent to 14 per cent, making it ideal for various dairy products. Moreover, the milk fatty acid profile of Bhadawari buffaloes is comparable with that of other breeds. The superior composition of their milk not only meets consumer preferences but also provides economic benefits to farmers.

The Bhadawari is a cost-effective option for farmers. The breed's lower body weight results in a decreased need for feed to sustain it on the farm. The capability of Bhadawari buffaloes to thrive on suboptimal and variable forage resources enhances their adaptability in the face of fluctuating feed and fodder availability. Consequently, possessing a breed capable of efficiently converting diverse forage into high-quality milk becomes a strategic advantage, particularly for small dairy farmers who wield influence in the Indian dairy sector. This adaptability ensures that Bhadawari buffaloes continue to contribute to the productivity of the

dairy sector, even when confronted with challenges arising from insufficient fodder availability.

The breed's appeal is heightened by its inherent disease resistance, a critical factor in the light of recent challenges like the lumpy skin disease in Indian cattle. This resilience reduces the need for frequent veterinary interventions, safeguarding the health of the farm animals and minimising economic losses tied to disease-related mortality and treatment costs. The breed's robust health also serves as a risk mitigation strategy for small dairy farmers with limited financial resources. Studies highlight a lower calf mortality rate in the Bhadawari compared to the Murrah; this is crucial for small dairy farmers as high calf mortality can impede growth. The Bhadawari's efficiency in rearing healthy calves ensures a steady supply of replacement animals, boosting overall productivity and profitability. This characteristic is particularly advantageous for small farmers relying on their cattle for both milk production and breeding, contributing to the long-term sustainability of their herds.



Recognising the critical importance of the Bhadawari buffalo, the Hisar-based ICAR-Central Institute for Research on Buffaloes (CIRB) has initiated efforts for its conservation. A network project on Bhadawari buffaloes was started at Jhansi-based Indian Grassland and Fodder Research Institute in 2001. The project aimed to address various facets of conservation, including enhancing the population of Bhadawari buffaloes, preserving the genetic purity of the breed and promoting sustainable breeding practices. Over the years, these initiatives have yielded tangible results, contributing to a noticeable increase in the Bhadawari population. However, the conservation efforts must extend beyond mere numbers and encompass crucial aspects such as safeguarding the breeding tract. This involves implementing rigorous policies to prevent indiscriminate crossbreeding with other breeds, particularly with the Murrah, ensuring the preservation of the Bhadawari's unique genetic traits. The breeding tract, often the epicentre of genetic purity, demands attention to prevent unintended dilution of desirable characteristics. In parallel, creating awareness among farmers assumes paramount importance in the conservation plan. Many farmers may not fully comprehend the distinctive attributes of the Bhadawari, including its low feed requirements and remarkable climate resilience. A targeted awareness campaign — educational programmes, workshops and outreach initiatives — can bridge this information gap, empowering farmers with knowledge that emphasises the breed's advantages and the necessity of its conservation. By fostering a deeper understanding of the breed's ecological adaptability and economic benefits, farmers can be encouraged to actively participate in its conservation. Moreover, private dairy players, who play a pivotal role in the dairy industry, need to be brought into the fold of the Bhadawari conservation efforts. Policies should be formulated to incentivise and promote the integration of Bhadawari buffaloes into private dairy ventures. This can be achieved by highlighting the economic advantages associated with the breed, particularly its milk's suitability for various dairy products.

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Views are personal.