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From strength to struggle: A review on the native hill cattle of Theni district

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Abstract

The Theni Hill Cattle, an indigenous population of non-descript cattle in Tamil Nadu, represent a vital component of the region's hill farming system. They are uniquely adapted to rugged terrain, low-input conditions, and the traditional grazing patterns of small and tribal farmers. Despite their economic and ecological value, these native cattle are under threat due to land-use change, limited veterinary support, and crossbreeding with exotic breeds. This review consolidates available literature and field observations on the Theni Hill Cattle, covering their morphology, adaptability, disease resistance, socio-economic importance, and conservation needs and highlights the urgency of breed documentation and sustainable management.

Keywords: Theni hill cattle, indigenous breeds, non-descript cattle, disease resistance, genetic conservation

1. Introduction

Livestock rearing in India's hilly and semi-arid regions has traditionally relied on indigenous breeds, which form the backbone of low-input, climate-resilient farming systems (Vel, n.d.). The Theni Hill Cattle are one such native genetic group found predominantly in the Soolapuram, Kumbakarai, Megamalai, and Periyakulam hill regions of Theni district, Tamil Nadu.

These cattle have co-evolved with their environment and the livelihood systems of local communities. Their primary role includes draught work, organic manure production, and socio-cultural participation in rural traditions. However, like many indigenous breeds, their numbers are declining due to modernization and genetic dilution.

2. Breed Origin and Distribution

The Theni Hill Cattle belong to the broader group of non-descript hill cattle of Tamil Nadu, which also includes populations such as the Malaimadu and Manaparai types (Selvam *et al.*, 2023) [3]. These animals are not yet recognized as a distinct breed by the ICAR-National Bureau of Animal Genetic Resources (NBAGR) but share similarities in conformation and utility.

Their distribution is concentrated in Theni district, particularly in the hilly tracts and forest-fringe villages. Local farmers identify subtypes based on location and performance commonly referred to as the Periyakulam, Megamalai, and Soolapuram strains.

3. Morphological and Productive Characteristics

Theni Hill Cattle are small to medium-sized animals with an average body weight ranging from 200 to 300 kg. The coat color varies from black and grey to light brown, occasionally with white patches. They have curved horns, a well-developed hump in males, and a tight, small udder in females traits that indicate adaptation to draught rather than dairy purposes.

Key Features

- **Body type:** Compact and muscular.
- **Temperament:** Active and alert
- **Feed requirement:** Minimal, mostly native grasses and crop residues
- **Milk yield:** 1-2.5 liters/day for 150-180 days
- **Milk composition:** 4-5% fat, dense texture, used for domestic purposes

These cattle perform well under free-ranging conditions, requiring little external input, making them ideal for subsistence farming.

4. Adaptation and Disease Resistance

Indigenous hill cattle possess innate disease resistance and adaptability to climatic extremes. Their genetic hardiness allows them to thrive in high-temperature, high-humidity, and rugged conditions where exotic breeds often fail.

According to field surveys conducted by local institutions such as the Periyakulam Horticultural College (2023-24), around 92% of hill cattle owners reported no major disease outbreaks in the past two years. Farmers note particularly low incidences of Foot and Mouth Disease (FMD), Hemorrhagic Septicemia (HS), and tick infestations.

Contributing Factors

- Genetic adaptation to local environments
- Free grazing on herbal vegetation with natural medicinal value
- Low stress due to extensive rearing systems
- Compact udder structure, minimizing mastitis risk

Such resilience makes them a promising genetic resource for climate-smart livestock farming.

5. Socio-Economic and Cultural Importance

The Theni Hill Cattle are deeply integrated into the socio-economic fabric of the hill communities. Beyond their utility in ploughing and transport, they provide:

- Dung for organic farming and biogas generation
- A cultural identity, being decorated and worshipped during Pongal and Mattu Pongal
- Economic stability through multi-purpose use (draught, manure, and local milk consumption)

These cattle thus serve as a symbol of self-reliance and sustainability in traditional farming systems.

6. Challenges in Conservation

Despite their value, the native cattle of Theni face several challenges that threaten their survival:

- Loss of grazing lands due to forest restrictions and urban expansion
- Limited veterinary infrastructure in remote hill villages
- Youth migration, leading to decline in traditional livestock knowledge
- Crossbreeding with exotic breeds, causing genetic dilution
- Lack of formal recognition and breeding policies for local strains.

Without timely conservation interventions, these cattle may follow the fate of many indigenous genetic resources that have disappeared due to neglect.

7. Strategies for Conservation and Sustainable Utilization

To safeguard the Theni Hill Cattle, a multipronged strategy integrating science, policy, and community participation is essential:

- Breed documentation and registration: Characterization and recognition through ICAR-NBAGR to ensure conservation attention.
- Community-based breeding programs: Farmer-led selection of superior native bulls to maintain purity and productivity.
- Livelihood support: Incentives, subsidies, and linkages with organic farming schemes to enhance income.
- Awareness and capacity building: Workshops and extension programs to promote indigenous cattle advantages.
- Integration with eco-tourism and cultural initiatives: Positioning native cattle as part of local identity and sustainable tourism.

Such participatory approaches can ensure both the economic viability and genetic preservation of this valuable cattle population.

8. Conclusion

The Theni Hill Cattle exemplify the resilience and ecological harmony of indigenous livestock systems. Their ability to thrive under low-input conditions, combined with disease resistance and cultural relevance, makes them a cornerstone of sustainable hill agriculture.

However, rapid socio-economic changes threaten their continuity. Immediate action through documentation, conservation, and policy support is crucial. Protecting the Theni Hill Cattle is not only about saving a breed but also about preserving a living heritage that connects people, land, and tradition.

Conflict of Interest

Not available

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