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## Constraints faced by indigenous cattle farmers in Bidar district of Karnataka

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### Abstract

The objective of the research was to determine the constraints faced by indigenous cattle farmers in Bidar district of Karnataka, India. The constraints were recorded by means of personal interview using a structured schedule. A total of 150 respondents from 15 villages of Bidar district formed the study group. Data from the schedules was compiled and analysed using the Garrett's ranking technique for major constraints and the Likert's Scale technique for minor constraints to identify the most important constraints which influence the rearing of indigenous cattle. The major constraint categories, in descending order of importance were related to breeding, general problems, feeding and health care with Garrett's score of 71.02, 61.02, 59.47 and 32.47. Major constraints are Non-availability of good quality bulls, Reduced usage of indigenous cattle's draught power due to developed machineries, general lack of interest in livestock rearing, and the high costs of crop residues, concentrates and labour were the other major constraints.

**Keywords:** Indigenous cattle, Karnataka, constraints

### Introduction

*Bos indicus* cattle (Indigenous cattle) have many merits over *Bos taurus* viz. better disease resistance, low input management system, adaptability to local environmental conditions and suitability for draught work. Existence of purebred indigenous breeds can provide valuable research inputs for developing superior breeds. Therefore, indigenous breeds of cattle should be conserved, developed and proliferated. The livestock sector offers the greatest potential for rural self-employment generation with the least amount of investment. The livestock farming has a fantastic livestock wealth that plays a key part in supplying secondary to primary sources of income to a large group of farmers, small farmers, marginal farmers, and agricultural labourers. Over 70 per cent of the rural population of India are engaged in animal husbandry activities. In India, total livestock population is 535.78 million, consisting of 192.49 million cattle, among which 50.42 million are exotic / crossbred cattle and 142.11 million are indigenous/non-descript cattle (BAHS, 2019) [1]. Most of Indian farmers attached to these indigenous cattle, India possesses 50 native indigenous cattle breeds that are recognised (NBAGR, 2020) [7]. These indigenous cattle breeds are categorised into three groups namely milch, draught and dual-purpose breed. There are six registered cattle breeds in Karnataka viz., Amritmahal, Deoni, Hallikar, Khillari, Krishna Valley and Malnad Gidda. Karnataka state ranks 3rd in the country with respect to total indigenous cattle population. This study was undertaken to identify the major constraints to indigenous cattle production in Bidar district of Karnataka.

### Materials and Methods

The current study was carried out in the Bidar district of Karnataka state. Geographically, it is shaped like the state's crown and is located between 17°35' and 18°25' North latitude and 76°42' and 77°39' East longitude. Bidar district has a land area of 5448 square kilometres and is surrounded on the north-west by Maharashtra, on the east by Telangana, and on the south by Kalaburagi district in Karnataka.

Fifteen villages were selected randomly and total 150 indigenous cattle holders were selected as primary respondents. The data were collected with the help of semi-structured interview schedule developed exclusively for the study by personal meeting with respondents and direct observation in the study area. Data from the schedules was compiled and analysed using the Garrett's ranking technique (Garrett and Woodworth, 1971) [2] for major constraints and the

Likert's Scale technique (Likert, 1932) [5] for minor constraints to identify the most important constraints which influence the rearing of indigenous cattle.

**Results and Discussion**

The mean Garrett's score and ranks of major categories of constraints in indigenous cattle production are presented in Table 1. The distribution of responses, modal values and ranks of constraints in indigenous cattle production as per the Likert Scale analysis are presented in Table 2.

**Table 1:** The mean Garrett's score and ranks of major categories of constraints in indigenous cattle production

Constraints	Garrett's score	
	Mean	Rank
Feeding	59.47	3
Breeding	71.02	1
Health care	32.47	4
General	61.02	2

**Table 2:** Distribution of responses, modal values and ranks of the constraints in indigenous cattle

Constraints	Responses (%)				Rank
	Major	Moderate	Minor	Nil	
<b>Feeding</b>					
Poor community grazing lands	5.5	13.5	14.5	66.5	5
High cost of fodder production	31.5	42.5	13.5	12.5	3
Shortage of green fodder	14.5	31.5	35.5	18.5	4
High cost of crop residue and concentrate feeds	48.5	26.0	12.5	12.5	1
Fodder shortage during drought	31.5	44.5	16.5	7.5	2
<b>Breeding</b>					
Non-availability of good quality bulls	44.5	30.5	14.5	10.5	3
High prices for natural service	42.5	33.5	20.5	3.5	1
Distant AI facilities	29.5	39.5	10.5	20.5	4
Higher repeat breeding with AI	35.5	41.5	21.5	1.5	2
Difficulty in detecting estrus	9.5	30.5	40.5	19.5	5
<b>Health care</b>					
High cost of treatment	23.5	39.5	23.0	14.0	1
Distant veterinary facilities	27.5	34.0	12.0	26.5	2
Inadequate vaccination	18.0	20.5	40.5	21.0	4
Spread of infectious diseases	20.5	25.0	37.0	17.5	3
<b>General</b>					
Disinterest in livestock rearing	34.0	24.5	28.5	13.0	2
High labour costs	39.5	21.0	9.0	30.5	3
Inadequate training	10.5	19.0	30.5	40.0	5
Difficulty in obtaining finance	26.0	14.5	38.0	21.5	4
Mechanised agriculture	42.5	30.5	17.5	9.5	1

**Note:** Modal values are in bold font.

The most important constraint to indigenous cattle production was found to be breeding management, with an overall rank of 1 and mean Garrett score of 71.02. This was due to that Government veterinary institutions were not having proper stock of indigenous cattle semen straws, thus the farmers are depended on private bull owners. Most of the farmers felt that the non-availability of good quality bulls and the high prices for natural service were major constraints. In farmers view artificial insemination in indigenous cattle was not much effective and many of them reported higher repeat breeding with AI and distant AI facilities as moderate constraints. Difficulty in detecting estrus was felt to be a minor constraint by the respondents. (Mande and Thombre, 2009) [6] have reported similar findings.

Another important category of constraints was found to be the general problems associated with indigenous cattle rearing, with an overall rank of 2 and mean Garrett score of 61.02. Reduced usage of indigenous cattle's draught power due to developed machineries is identified as major constraint. Further, High labour costs and lack of interest in livestock rearing were also identified as major constraints, while difficulty in obtaining finance was identified as a minor constraint. High labour costs were a significant problem for farmers who depended on hired labour to rear their livestock. A general lack of interest towards cattle rearing and shift towards short-duration cash crops was also evident. Most of

the farmers did not feel that lack of training was a constraint to indigenous cattle production. Similar findings have been reported by Kathiravan and Selvam (2011) [3].

Problems in the feeding of indigenous cattle was another constraint, with an overall rank of 3 and mean Garrett score of 59.47. The high cost of crop residues and concentrates was identified as a major constraint, while high cost of fodder production, acute fodder shortage during drought were found to be moderate constraints. Shortage of green fodder was a minor constraint, while poor quality of community grazing lands was not felt to be a constraint to indigenous cattle production. The scarcity of agricultural residues was principally caused by a shift in the kharif season cropping pattern from hybrid jowar and pigeon pea to cash crops, particularly soyabean. Many farmers were hesitant to give up agricultural land for fodder cultivation, preferring to buy sorghum stover and other crop leftovers in the event of a fodder crisis. This situation was further exacerbated during periods of drought. This problem was increased further during droughts. Very few of the responders relied on communal grazing pastures to meet their cattle's feed demand. Even landless farm labourers grazed their livestock on the fields where they worked. Other workers (Mande and Thombre, 2009; Kurup, 2001, Kathiravan and Selvam, 2011; Rathod *et al.*, 2012) [6, 4, 3, 9] have also made similar observations regarding the high prices of concentrate feed and fodder.

The problems in health care management of indigenous cattle were ranked last and had an overall mean Garrett score of 32.47. This might be attributed to indigenous cattle's genetic resilience to prevalent illnesses, thus causing the respondents to identify spread of infectious diseases and inadequate vaccination as minor constraints. Distant veterinary facilities were identified as a moderate constraint. This might be because many of the study villages had Government veterinary institutions, while others were within 5 kilometres of Government veterinary facilities. Given the scarcity of medications in veterinary institutions, the high cost of veterinary treatment was identified as a moderate constraint. Similar findings were reported by Patil *et al.* (2009) <sup>[8]</sup>, Kathiravan and Selvam (2011) <sup>[3]</sup>.

### Conclusion

The current study concluded that indigenous cattle were well-suited for the region's agro-climatic conditions and cropping practices, with the major constraints to indigenous cattle production being a lack of good quality bulls, increased mechanisation in agriculture, a general lack of interest in livestock rearing, high demand of labour, high price for natural service, high costs of crop residues and concentrate.

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