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**Gurunath Pasare**
PG Scholar, Department of LPM, Veterinary College Bidar, KVAFSU, Bidar, Karnataka, India

**Prashant G Waghmare**
Associate Professor & Head, Department of LFC, Veterinary College Bidar, KVAFSU, Bidar, Karnataka, India

**Vivek M Patil**
Associate Professor & Head, Department of LPM, Veterinary College Bengaluru, KVAFSU, Bidar, Karnataka, India

**Satish Chandra Biradar**
Associate Professor & Head, Department of LPM, Veterinary College Bidar, KVAFSU, Bidar, Karnataka, India

**Prakashkumar Rathod**
Assistant Professor, Head, LRIC (Deoni), KVAFSU, Bidar, Karnataka, India

**Shrikant Dodamani**
Assistant Professor, Department of AGB, Veterinary College Bidar, KVAFSU, Bidar, Karnataka, India

**Corresponding Author:**
**Gurunath Pasare**
PG Scholar, Department of LPM, Veterinary College Bidar, KVAFSU, Bidar, Karnataka, India

# Management practices of indigenous cattle in North Karnataka

**Gurunath Pasare, Prashant G Waghmare, Vivek M Patil, Satish Chandra Biradar, Prakashkumar Rathod and Shrikant Dodamani**

**Abstract**
Present study was conducted to document the management practices of indigenous cattle adopted by the farmers in Bidar district of Karnataka. A total of 150 respondents were selected randomly from fifteen villages of Bidar district. The information regarding existing breeding practices, housing system and health care aspects were collected using semi-structured interview schedule under field conditions. Majority of the farmers prefer natural breeding practices over artificial insemination, along with this indiscriminate mating of cows was dominated over planned mating with pedigree bull. Majority of them followed indigenous methods for heat and pregnancy diagnosis. In health aspects farmers expressed their inability to access to veterinary services and predominantly depended on local healers and traditional/ethno veterinary practices. This shows that majority of the farmers practicing more traditional way of rearing and there is a great potential to improve the indigenous cattle through adoption of scientific dairying practices to generate more income and livelihood security.

**Keywords:** Natural breeding, indigenous cattle, livelihood security

## Introduction
Cattle rearing has been a traditional livelihood practice in India and are closely linked to agricultural economy. The cattle genetic resource of India is represented by 50 well recognised indigenous breeds (NBAGR, 2020) [4]. Indigenous cattle, in India, are robust and resilient and are particularly suited to the climate and environment of their respective breeding tracts. They are endowed with qualities of heat tolerance, resistance to diseases and the ability to thrive under extreme climatic stress and less than optimal nutrition. Indian arid zone, where livestock rearing is generally main occupation of rural masses, consists of 12 percent of country's geographical area. Out of 50 indigenous cattle breeds of India, five important indigenous cattle breeds are located in different districts of Karnataka. These breeds play a significant role in securing the livelihood of millions of farmers. The National Commission on cattle has also recommended that, in Karnataka, the emphasis should shift from crops to animal husbandry as a major livelihood option (National commission on cattle, 2002). In the present study, a majority (70.00%) of the respondents in the study area had reared indigenous cattle, which continue to provide subsistence income even during scarcity. In this context, it was important to study the existing management practices of indigenous cattle.

## Materials and Methods
The present study was conducted in Bidar district of Karnataka state during the year 2022. 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. Percentage, mean, median and standard deviation were used for analysis of collected data. The data related to indigenous cattle management practices were studied in terms of breeding, housing and health care management practices.

## Results and Discussion
### Housing management
The housing practices followed by farmers are presented in Table 1. Most of the farmers reared cattle in loose houses, whereas the remaining did not have any permanent housing for their cattle. Majority (55.33%) of farmers housed their cattle beside their houses followed by 36.67 percent of farmers who housed their cattle in a separate shed and 8 percent did not

provide any shelter. In view of the fact that the average number of rainy days per year in Bidar is 52 days with lowest mean daily minimum temperature of 16.4 °C and hence, most of the farmers do not provide any extra shelter.

The roof was constructed making use of roof materials like galvanized iron sheet (52%) thatch material (pigeon pea straw) was 28 percent, asbestos cement sheet was 1.33 percent, reinforced cement concrete was 1.33 percent and rest 17.33 percent of respondents didn't provide any roof; such animals were tied outside the house on road side, and occasionally provided shelter with a plastic sheet during the rainy season. Young calves and breeding bulls were provided extra care by housing them in farmers own residence. In case of roof type, the farmers used galvanized iron sheet for the roofing which reduce the cost of construction and added stability to the structure. This was in contrast with the results of Singh *et al*., (2008) [6] and Gokhale *et al*., (2008) [2].

Further, 65.33 percent of the sheds had mud flooring followed by cement concrete (24%), rubber mat (8%) and slab stone (2.67%). Majority of the cattle farmers (82.67%) provided sufficient space per animal while housing their animals and remaining (17.33%) were unaware about scientific spacing concepts. Majority of the respondents did not construct the basement and had raised mud flooring with a gentle slope towards the mud drain. Though the mud flooring is not hygienic the animals did not suffer from parasitic diarrhoea or mastitis, which may be due to greater innate immunity and the fact that the shed got adequate exposure to sun light. However, some of the calves suffered from navel ill. These results were similar to the findings of Kishore *et al*. (2013) [3] who reported that majority of the farmers had kutcha type flooring with similar outcomes.

It was found that 26.67 percent of the respondents did not provide any type of feed manger to their cattle, Whereas, wooden logs or stone slabs and cement constructed feed mangers were provided by 50.67 and 22.67 percent of the farmers respectively. Most of the respondents used thin wooden log or stone slab (50.67 percent) as manger and 26.76 percent respondents did not used any material for constructing feed manger which led to wastage of fodder by way of trampling. Most of the respondents (78%) gave water using a bucket, 5.33 percent of the respondents used a basin made up of steel or cement and 16.67 percent constructed water tank for watering their cattle.

**Table 1:** Housing Management Practice

| Sl. No | Parameters | Frequency | Percent (%) |
|---|---|---|---|
| 1 | **Housing Location** | | |
| | Beside the house | 83 | 55.33 |
| | Separate shed | 55 | 36.67 |
| | No shelter | 12 | 8 |
| 2 | **Structure** | | |
| | Kutcha | 80 | 53.33 |
| | Pucca | 70 | 46.67 |
| 3 | **Roof** | | |
| | Asbestos roof | 2 | 1.33 |
| | RCC roof | 2 | 1.33 |
| | Thatched roof | 42 | 28 |
| | GI sheet | 78 | 52 |
| | No roof | 26 | 17.33 |
| 4 | **Type of floor** | | |
| | Mud | 98 | 65.33 |
| | Mat | 12 | 8 |
| | Cement | 36 | 24 |
| | Stone | 4 | 2.67 |
| | Brick | 0 | 0 |
| 5 | **Space per animal** | | |
| | Sufficient | 124 | 82.67 |
| | Not sufficient | 26 | 17.33 |
| 6 | **Manger facility** | | |
| | Cement trough | 34 | 22.67 |
| | Stone/wodden trough | 76 | 50.67 |
| | No manger | 40 | 26.67 |
| 7 | **Drainage facility** | | |
| | Mud | 104 | 69.33 |
| | Stone | 9 | 6 |
| | Cement | 37 | 24.67 |
| 8 | **Shed cleaning** | | |
| | Once a day | 94 | 62.67 |
| | Twice a day | 56 | 37.33 |

**Breeding management**

The breeding practices followed by cattle farmers are presented in Table 2. It was found that 54.67 percent followed natural mating and 45.33 percent of the respondents practised artificial insemination. Majority of the farmers (62.67%) preferred natural service for breeding followed by artificial insemination with 37.33 percent. The results were in conformity with the findings of Tewari *et al*. (2016) [9]

Most of the respondents (76.67%) practiced breeding their cattle in morning hours followed by evening and afternoon with 15.33 and 8 percent respectively. The best indicator of estrus was found to be vulval discharge (44%) with bellowing and mounting on other animals irrespective of the sex being identified by 35.33 and 20.67 percent, respondents

respectively.

Majority of the cattle farmers (51.33%) responded that artificial insemination should be done one day after the onset of estrus, whereas 33.33 and 15.33 percent felt that it should be done after 12 hours and two days of onset of estrus, respectively. A single insemination was preferred by 77.33 percent of the respondents and rest 22.67 percent of respondents preferred two inseminations with a gap of 24 hours.

The results were in conformity with the findings of Sreedhar *et al*. (2017) [8] The respondent's opinion on the best early indicator of pregnancy was found to be bodily changes in the cow (54.67%), with absence of recurrence of estrus and pregnancy diagnosis at veterinary institutions accounting for 23.33 and 22.0 percent, respectively. The results were in conformity with the findings Singh *et al*. (2018) [7].

**Table 2:** Breeding and reproduction management practices

| Sl. No | Parameters | Frequency | Percent (%) |
|---|---|---|---|
| 1 | **Breeding method** | | |
| | Natural | 82 | 54.67 |
| | AI | 68 | 45.33 |
| 2 | **Preferred breeding method** | | |
| | Natural | 94 | 62.67 |
| | AI | 56 | 37.33 |
| 3 | **Time of breeding** | | |
| | Morning | 115 | 76.67 |
| | Afternoon | 23 | 15.33 |
| | Evening | 12 | 8.00 |
| 4 | **Best indicator of estrus** | | |
| | Bellowing | 53 | 35.33 |
| | Vulval discharge | 66 | 44.00 |
| | Mounting | 31 | 20.67 |
| 5 | **Insemination time after onset of estrus signs** | | |
| | 12 hrs | 50 | 33.33 |
| | 1 Days | 77 | 51.33 |
| | 2 Days | 23 | 15.33 |
| 6 | **No. of inseminations carried out** | | |
| | One | 116 | 77.33 |
| | Two | 34 | 22.67 |
| 7 | **Best early indicator of pregnancy** | | |
| | Bodily changes | 82 | 54.67 |
| | No estrus | 35 | 23.33 |
| | Pregnancy diagnosis | 33 | 22.00 |
| 8 | **Have awarenwss of breed** | | |
| | Yes | 120 | 80.00 |
| | No | 30 | 20.00 |

## Health care management

The health care practices followed by farmers are presented in Table 3. Majority of the farmers (54.67%) were aware of animal health care and rest of the 45.33 percent cattle farmers were not aware of it. Whereas, 46.67 percent of the farmers preferred registered veterinarians for animal health care followed by both (veterinarian and para veterinarian), para veterinarian, local people and self by 26.00, 19.33, 7.33 and 0.67 percent, respectively. Only few cattle farmers (9.33%) availed veterinary service on regular basis and 90.67 percent availed whenever required. Regarding prophylactic measures in the study area, it was noticed that 74 percent of the farmers were aware of time and importance of vaccination and 26 percent of them were not habituated with regular vaccination, 12 percent of respondents adopted regular deworming to them cattle.

Indigenous cattle were found to be hardy and suited to tropical drought prone areas with very low calf and adult mortality was noted. Similar findings were reported by Singh *et al*. (2002) [5] and Das *et al*. (2015) [1]. They also had very low incidence of reproductive disorders and good resistance to ticks. Most of the respondents in the present study felt that vaccination against foot and mouth disease once a year was sufficient (Tewari *et al*., 2016) [9]. However, very few were aware of the importance of deworming, especially in calves. Almost all the respondents took assistance for their sick cattle from the Government veterinary institutions. However, most of the officials of the Veterinary Department opined that unless there was an outbreak of infectious disease in nearby villages, the response to mass vaccination programmes was poor. Very few farmers practiced self-medication or relied on traditional practitioners.

**Table 3:** Health care management practices

| Sl. No | Parameters | Frequency | Percent (%) |
|---|---|---|---|
| 1 | **Aware of animal health care** | | |
| | Yes | 82 | 54.67 |
| | No | 68 | 45.33 |
| 2 | **Animal health care service** | | |
| | Veterinarian | 70 | 46.67 |
| | Para-veterinarian | 29 | 19.33 |
| | Veterinarian +Para veterinarian | 39 | 26.00 |
| | Self | 1 | 0.67 |
| | Local peoples | 11 | 7.33 |
| 3 | **Veterinary services** | | |
| | Regular | 14 | 9.33 |
| | When needed | 136 | 90.67 |
| 4 | **Regular deworming following** | | |
| | Yes | 18 | 12.00 |
| | No | 132 | 88.00 |
| 5 | **Regular vaccination following** | | |
| | Yes | 111 | 74.00 |
| | No | 39 | 26.00 |
| 6 | **Measures taken for ecto-parasitic control** | | |
| | Yes | 33 | 22.00 |
| | No | 117 | 78.00 |
| 7 | **Assistance during calving** | | |
| | Practiced | 12 | 8.00 |
| | Not practiced | 114 | 76.00 |
| | Not known | 24 | 16.00 |

## Conclusions

The study concluded that majority of the respondents' shows that majority of the farmers practicing more traditional way of rearing and there is a great potential to improve the indeginous cattles through adoption of scientific dairying practices to generate more income and livelihood security. Further, more awareness and training needs to be provided to educate the farmer and encourage them to adopt improved management practices.

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**References**

1. Das M, Mili DC, Roychoudhury R, Gogoi AK, Borah MC, Borgohain A, *et al*. Managemental practices adopted by the rural dairy farmers in lower Brahmputra valley. Indian J Anim. Prod. Mgmt. 2015;31(2):62-66.
2. Gokhale SB, Bhagat RL, Singh PK, Singh G, Ahlawat SPS. Performance of Khillar cattle under rural management condition. Ind. J Anim. Sci. 2008;78(1):62-65.
3. Kishore K, Mahender M, Harikrishna C. A study on buffalo management practices in Khammam district of Andhra Pradesh. Buffalo Bulletin. 2013;32(2):54-56.
4. NBAGR (National Bureau of Animal Genetic Resources), 2020. Annual report.
5. Singh G, Gaur GK, Nivsarkar AE, Patil GR, Mitkari KR. Deoni cattle breed of India. A study on population dynamics and morphometric characteristics. Anim. Gen. Resour. Inf. 2002;32:35-43.
6. Singh PK, Pundir RK, Ahlawat SPS, Naveen Kumar S, Govindaiah MG, Asija K. Phenotypic characterization and performance evaluation of Hallikar cattle in its native tract. Ind. J Anim. Sci. 2008;78(2):211-214
7. Singh V, Goswami SC, Jhirwal AK, Kumar V, Choudhary P, Mohan K. Breeding and feeding management practices followed by Gir cattle owners for conservation of Gir cattle in Ajmer district of Rajasthan. Ruminant Science. 2018;7(1):133-136.
8. Sreedhar S, Nagarjuna Reddy A, Sudhakar BV, Ramesh Babu P. Breeding management practices and reproductive disorders in indigenous cattle and buffaloes. Global Journal of Bio-Science and Biotecnology. 2017;6(3):504-508
9. Tewari H, Kumar S, Rath R, Tyagi K. Existing housing and breeding management practices adoptedby dairy farmers in Tarai region of Uttarakhand, India. Ind. J Anim. Res. 2016;78(3):257-259.