Indian J Anim Health (2023), 62(2): 371-374
DOI: https://doi.org/10.36062/ijah.2023.15422

Research Article

Constraints perceived by the livestock farmers in management of Khillar cattle of Karnataka

K. Rajashekhar[1], V. Jagadeeswary[2], K. Satyanarayan[3], S. Naveen Kumar[4], V. M. Patil[5] and J. Shilpa Shree[6*]

[1]Department of Veterinary and Animal Husbandry Extension Education, Veterinary College, Bangalore- 560 024, KVAFSU, Karnataka, India; [2]Department of Veterinary and Animal Husbandry Extension Education, Veterinary College, Hassan-573 202, KVAFSU, Karnataka, India; [3]Former Professor and Head, Department of Veterinary and Animal Husbandry Extension Education and President, Karnataka Veterinary Council, Bangalore- 560 024, Karnataka, India; [4]Department of Animal Genetics and Breeding, Veterinary College, Bangalore- 560 024, KVAFSU, Karnataka, India; [5]Department of Livestock Production Management, Veterinary College, Veterinary College, Bangalore- 560 024, KVAFSU, Karnataka, India; [6]Department of Animal Husbandry Economics, TANUVAS, Madras Veterinary College, Chennai- 600 007, Tamil Nadu, India

Abstract

Khillar is a predominant indigenous cattle breed in Karnataka. Native cattle breeds are raised for their hardiness, endurance to draught, heat tolerance, disease resistance, adaptability to harsh climatic conditions, and ability to survive and perform under conditions of limited feed and fodder, even though their milk production is lower than that of crossbred cattle. However, livestock farmers face several issues in the management of Khillar cattle. The current study aimed to examine the challenges experienced by livestock farmers when managing Karnataka's Khillar cattle. With the aid of a planned interview schedule, 240 Khillar cattle owners from 16 villages including 80 small farmers, 80 middle farmers and 80 large farmers were interviewed for the study. The results indicated that the first and foremost economic constraint faced by livestock farmers in the management of Khillar cattle was a lack of knowledge on credit facilities from the Government/Banks (MS 56.01), and the second constraint was a lack of subsidized insurance policy from Government (MS 46.81). The first and foremost factor determining the managerial constraints was lack of labour (MS 68.55), followed by seasonality of agricultural work (MS 64.43) and low productivity of cows (MS 62.07). The findings would assist the decision-makers in taking the appropriate actions to offer subsidised loans and insurance coverage for the draught animals.

Keywords: Constraints, Economical, Khillar, Livestock Farmers, Managerial

Highlights

- Financial constraints were faced by farmers in the management of Khillar cattle.
- Management constraints were faced by farmers in the management of Khillar cattle.

INTRODUCTION

Livestock rearing is one of the most important economic activities in the rural areas of India, which contributes 4.11 per cent to the national GDP and 25.6 per cent to the total agriculture GDP (Economic Survey, GOI, 2021-22 by providing protein rich products such as milk, meat and eggs for human consumption. India has a wealth of genetic resources for cattle and buffalo, including 50 different breeds of cattle and 19 different breeds of buffalo (NBAGR-2015). These animals are well known for their hardiness, draught power, disease resistance, feed conversion efficiency, resistance to drought, and ability to thrive on subpar feed and fodder. The Khillar breed of indigenous cattle is the most common one in Karnataka among the various indigenous cow varieties. These native cattle breeds are raised for their sturdy nature, sustainability to draught, heat tolerance, disease resistance, adaptability to harsh climatic conditions, and ability to survive and perform under scarce feed and fodder conditions even though their milk production is lower than that of crossbreds (Gokhale *et al*., 2009). The *Bos indicus* subspecies includes the Khillar cattle breed, which is indigenous to the districts of Satara, Kolhapur and Sangli in Maharashtra, and Bijapur, Dharwad and Belagavi in Karnataka. The Khillari breed contains four subtypes, including the Atdapadi Khillar, Mhaswad Khillar, Tapti Khillar and Nakali Khillar. The word "Khillari" refers to a herd of cattle, and "Khillar" or "Thillar" or "Shikari" refers to the herdsman. The local agricultural population prefers the Khillar breed because they can endure the challenges of farming and are well adapted to the area's

*Corresponding Author, E-mail: shilpashreej23@gmail.com

tropical and drought-prone circumstances. Low milk yield, which provides a different source of income, is the main cause of the breed's population decline. In addition to being widely used in their home regions, they are also dispersed throughout the Karnataka districts of Haveri, Kalaburagi, Gadag, Uttara Kannada and Bagalkot. The total population of Khillar breed in Karnataka is 7,20,360. According to the 2013 GOI-Breed survey, the Khillar breed has the maximum population in Belagavi, Kalaburagi, Vijayapur and Haveri. In this context, the present study was conducted to analyse the constraints faced by livestock farmers in management of Khillar cattle of Karnataka.

MATERIALS AND METHODS

According to the National Bureau of Animal Genetics Resources, Karnataka has six indigenous cow breeds, including the Amritmahal, Deoni, Hallikar, Khillar, Krishna Valley and Malnad Gidda. For the present study, Khillar indigenous cattle breed was selected purposively based on the presence of highest number of Khillar cattle population in its home/ breeding tract (GOI-Breed survey, 2013). The four districts in Karnataka, viz., Belagavi, Kalaburagi, Vijayapur and Haveri, have the greatest Khillar breed population and were specifically chosen for this study. From each district, two taluks were selected based on highest Khillar cattle density, later selected two villages from each taluk. From each selected village, five small farmers (1-3 nos. of Khillar cattle), five medium farmers (4-6 nos. of Khillar cattle) and five large farmers (7-9 nos. of Khillar cattle) rearing Khillar breed of cattle were randomly selected for the study comprising a total of 15 respondents. Thus, making a total of 240 Khillar cattle owners from 16 villages comprising 80 small farmers, 80 medium farmers and 80 large farmers were considered for the study.

Constraints in cattle management refer to problems faced by farmers in Khillar cattle rearing. Constraints in Khillar cattle management were collected through an interview schedule developed through review of literature and expert suggestions. A total of 18 constraints were listed in the interview schedule, and were asked to rank the problems. Constraints were analysed and ranked according to Garrett score.

Garrett's ranking technique: The factors determining the economic value of Khillar breed, problems in Khillar cattle marketing and constraints faced by the livestock farmers in management of Khillar cattle were identified using Garrett's ranking technique (Garrett, 1979). The respondents were asked to rank the list of nine issues using this methodology. Thus, the respondents' order of merit was translated into ranks using the following formula;

Per cent position=100*(Rij-0.50)/Nj

where Rij = Rank assigned to the i^{th} problem by the j^{th} person

Nj = Number of restrictions or issues ranked by the j^{th} person.

By consulting Garrett's chart, the percent positions thus obtained were transformed into scores. The scores of each respondent were then summed together and divided by the total number of respondents for each problem. All of the issues' primary scores were organised, and the problems were given ranks.

RESULTS

The economic (economic/financial aspects in rearing Khillar cattle) and managerial constraints (management aspects in rearing Khillar cattle) perceived by livestock farmers owing Khillar cattle were depicted in Table 1 and 2, respectively.

Economic constraints: The results in Table 1 indicated that the first and foremost economic constraint faced by livestock farmers in the management of Khillar cattle was a lack of knowledge on credit facilities from the Government/Banks (MS 56.01). The second constraint ranked by the farmers was the lack of subsidized insurance policy from the Government (MS 46.81). The high cost of animals (MS 43.92) was ranked as the third constraint. The fourth and fifth constraint was the high cost of implements and spares (MS 41.10) and the high cost of feed (MS 40.36), respectively. The sixth constraint was the low price of milk (MS 38.63), whereas difficulty in finding a market for sale (MS 31.88) was the seventh constraint. The eighth constraint was a reduction in demand for Khillar animal (MS 22.66), and finally, the high cost of treatment (MS 18.15) was ranked as the ninth constraint.

Managerial constraints: On perusal of Table 2 revealed that the first and foremost factor determining the managerial constraints was lack of labour (MS 68.55). The second constraint was the seasonality of agricultural work (MS 64.43), which could be due to majority of the farmers possessed rain fed agricultural land. Low productivity of cows (MS 62.07) was ranked as the third constraint, followed by less utility because of mechanization (MS 51.47). Other constraints like changes from traditional farm practices (MS 47.65), lack of modern scientific implements (MS 45.30), poor management (MS 36.51), lack of trained extension staff (MS 26.12) and non-availability of veterinary and AI services (MS 21.53) were ranked as least constraints.

Table 1. Economic constraints faced by livestock farmers (n=240)

Sl. No.	Factors	Mean score	Rank
1.	Lack of knowledge on credit facility from Government/Banks	56.01	I
2.	Lack of subsidized insurance policy from Government	46.81	II
3.	High cost of animal	43.92	III
4.	High cost of implements and spares	41.10	IV
5.	High cost of feed	40.36	V
6.	Low price of milk	38.63	VI
7.	Difficulty in finding market for sale	31.88	VII
8.	Reduction in demand for Khillar animal	22.66	VIII
9.	High cost of treatment	18.15	IX

Table 2. Managerial constraints faced by Khillar cattle farmers (n=240)

Sl. No.	Factors	Mean score	Rank
1.	Lack of labour	68.55	I
2.	Seasonality of agricultural work	64.43	II
3.	Low productivity of cows	62.07	III
4.	Less utility because of mechanization	51.47	IV
5.	Changes from traditional farm practices	47.65	V
6.	Lack of modern scientific implements	45.30	VI
7.	Poor management	36.51	VII
8.	Lack of trained extension staff	26.12	VIII
9.	Non availability of veterinary and AI services	21.53	IX

DISCUSSION

In the present study, the first and foremost economic constraint faced by farmers in the management of Khillar cattle was a lack of knowledge on credit facility from the Government/Banks. Since majority of the farmers were economically poor, they required subsidized financial assistance from the banks. The second constraint ranked by the farmers was the lack of subsidized insurance policy from Government. Cattle rearing may involve risk of loss due to death and incurable diseases; hence, farmers require subsidized insurance to their livestock to overcome the financial loss. High cost of animal, high cost of implements and spares and high cost of feed, low price of milk, difficulty in finding market for sale, reduction in demand for Khillar animal and high cost of treatment were ranked in descending order. This indicates that returns are less when compared to the cost of management of Khillar cattle.

The findings of the present study are in line with the findings of Thombre *et al*. (2010), who reported high prices of feed and fodder, low sale prices of milk, costly veterinary services, and high labour wages which did not permit them to maintain the cattle. Further, Akila *et al*. (2016) concluded that the constraints in rearing draught bullocks include mechanization, topographic variation, problem in soil, imbalanced land use etc., while Ainlawar *et al*. (2012) reported that non-availability of loans and subsidy were the major economic constraints in rearing indigenous cattle.

In the present study, the first and foremost factor determining the managerial constraints was the lack of labour. Majority of the farmers were facing labour problem; this could be due to the fact that people were interested in other jobs which were highly remunerative with less hard work. The second constraint was the seasonality of agricultural work which could be due to majority of the farmers possessed rain fed agricultural land. Low productivity of cows was ranked as the third constraint, followed by less utility because of mechanization. Lack of trained extension staff and non-availability of veterinary and AI services were ranked as the least constraints.

Wagh *et al.* (2017) also reported that maintenance of bullock pair with wages of hired labour was the main constraint, followed by increasing price of bullock pair and lack of sufficient work throughout the year. Further, Kawuyol *et al.* (2012) reported that lack of feed resources, lack of village level repair services, availability of advanced implements and inadequate training of animals as the major constraints in utilization of draught

animal power. While Ainlawar *et al*. (2012) reported that the non-availability of fodder throughout the year and the shortage of grazing land as the major managerial constraints in rearing indigenous cattle.

The present study was conducted to analyse the constraints faced by livestock farmers in the management of Khillar and revealed that the first and foremost economic constraint faced by livestock farmers in the management of Khillar cattle was a lack of knowledge on credit facility from Government/Banks followed by the second constraint was lack of subsidized insurance policy from Government. The first and foremost factor determining the managerial constraints was lack of labour followed by the seasonality of agricultural work. The findings would assist the decision-makers in taking the appropriate actions to offer subsidised loans and insurance coverage for the draught animals. The findings would help the policymakers to provide basic amenities in the cattle markets.

Conflict of interest: Authors have no conflict of interest in this study.

Author's contribution: KR: Did the research; VJ: Guided the research; KS, SNK, VMP, JSS: Helped in analyzing the data and interpretation of results.

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Received- 15.12.2022, Accepted- 21.06.2023, Published- 06.07.2023 (Online), 01.12.2023 (Print)
Section Editor: Dr. I. Samanta, Associate Editor