A study on factors determining the economic value of Khillar breed of Karnataka

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Abstract

Khillar is a predominant indigenous cattle breed in Karnataka as these animals are reared 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. But, livestock farmers face lots of issues in marketing of Khillar Cattle. The present study was conducted to assess the factors determining the economic value of Khillar breed of Karnataka. 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 and interviewed with the help of structured interview schedule. The results indicated that the first and foremost factor determining the economic value of Khillar cow was the prize won in the competition (MS 76.22), followed by presence or absence of undesirable marks (MS 73.59) and breed characters (MS 59.70). The first and foremost factor determining the economic value of Khillar bullock was the prize won in the competition (MS 72.80), followed by presence or absence of undesirable marks (MS 67.20) and breed characters (MS 54.00). The major problem in marketing of Khillar cattle was cheating by brokers (MS 67.63), followed by transportation (MS 63.56) and lack of drinking water arrangements (MS 51.02). The findings would help the policy makers to take necessary steps to provide subsidized loan and insurance policies for the draught animals and also address the constraints faced by the farmers in the market.

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 total agriculture GDP (Economic Survey of India, 2021) by providing protein rich products such as milk, meat and eggs for human consumption. India has a rich source of cattle and buffalo genetic resources comprising of 50 breeds of cattle and 17 breeds of buffaloes (NBAGR-2020) which help in creating the livelihood security to the resource poor farmers and these are well known for their robust nature, draught power, disease resistance, feed conversion efficiency, drought resistance and ability to thrive on poor quality feed and fodder. Among different indigenous cattle in Karnataka, Khillar is a predominant indigenous cattle breed in the region. Although, milk production of these indigenous cattle breed is low as compared to crossbreds, these animals are reared 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 (Gokhale *et al*, 2009). The Khillar cattle breed is a

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member of the *Bos-indicus* sub-species, native to Satara, Kolhapur and Sangli districts in Maharashtra and Bijapur, Dharwad and Belagavi districts of Karnataka in India. There are four sub types of Khillari breed such as; i) Atapadi Khillar; ii) Mhaswad Khillar; iii) Tapi Khillar and iv) Nakali Khillar. 'Khillari' means a herd of cattle and the herd man is known as 'Khillar' or 'Thillari'. The Khillar breed is well adapted to the area's tropical and drought-prone conditions which are preferred by the local farming community due to their ability to handle the hardships of farming. The breed population is declining mostly due to low milk yield, which offers an alternate income stream. Besides their extensive use in their home tracts, they are also distributed in Haveri, Kalaburagi, Gadag, Uttara Kannada and Bagalakote districts of Karnataka. The total population of Khillar breed in Karnataka is 7,20,360. The highest population of Khillar breed is distributed in Belagavi, Kalaburagi, Vijayapur and Haveri (Breed survey, 2013). Present inadequate published information does not provide confidence in planning program for their improvement. And also there is no proper information on estimating the breed value as per their utility. In this context, the present study was conducted to assess the factors determining the economic value of Khillar breed of Karnataka and guides in fixing the price of animal.

Methodology

The present study was carried out purposively in the state of Karnataka as the state has six indigenous cattle breeds in the state, namely; Amritmahal, Deoni, Hallikar, Khillar, Krishna Valley and Malnad Gidda as per National Bureau of Animal Genetics Resources. 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 (Breed survey, 2013). In the present study, four districts were selected having highest Khillar breed population i.e. Belagavi, Kalaburagi, Vijayapur and Haveri.From each district, 60 farmers possessing Khillar breed of cattle were randomly selected, arriving at the final sample of 240 farmers with 80 small, 80 medium and 80 large farmers from four districts.

Garrett's ranking technique

The factors determining the economic value of Khillar breed and problems in Khillar cattle marketing were identified using Garrett's ranking technique (Garrett, 1979). According to this technique the respondents were asked to rank the list of ten factors

determining the economic value of Khillar cattle. The order of merit thus, given by the respondents was converted into ranks by using the following formula;

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

Where, Rij=Rank given for the ith problem by jth individual

Nj=Number of constraints/problems ranked by jth individual.

The per cent positions thus, obtained were converted into scores by referring the table given by Garrett. Then for each factor the scores of individual respondents were added and divided by the number of respondents. The main score for all the factors were arranged and thus, rank were assigned to the factors.

Results and Discussion

Khillar cow

In the present study, the major factors determining the economic value of Khillar cow were, prize won in the competition, presence or absence of undesirable marks, breed characters and calf at foot. Age, parity, presence of undesirable marks, temperament and milk yield were ranked least. Khillar cows are low milk producers and they yield on an average 2-4 litre of milk per day, and hence, milk yield is not the main criteria for determining the economic value of Khillar cow. Similar study on assessing the economic traits of Khillar cattle was conducted by Dhaware *et al.* 2008. Prize won in the competition increases the value of Khillar cow because prizes were determined by the expert committee which involves Veterinary doctors. Higher Age, parity and presence of undesirable marks had negative impact on economic value of Khillar cow. In a similar study, Mahesh (2013) reported that prize won in the competition, presence

Table 1: Ranking of factors determining the economic value of Khillar cow

S. No.	Factors	Mean score(MS)	Rank
1.	Prize won in the competition	76.22	I
2.	Presence/absence of undesirable marks	73.59	II
3.	Breed characters	59.70	III
4.	Calf at foot	55.60	IV
5.	Parity	54.00	V
6.	Age	49.00	VI
7.	General appearance	43.30	VII
8.	Health status	40.50	VIII
9.	Temperament	29.00	IX
10.	Milk yield	18.00	X

or absence of undesirable marks, breed characteristics, general appearance and age (number of front teeth and horn rings) had significant impact on price of cow.

Draft animal

Table 2 indicated that, major factors determining the economic value of Khillar bullocks were, prize won in the competition, presence or absence of undesirable marks, breed characters and general appearance. Age and pair set were ranked least. Khillar bullock price variations were determined by one quantitative (Age) and five qualitative characters (pair set, breed, general appearance, presence or absence of marks and prize won). All the five qualitative factors had significant influence on economic value of bullocks. Being Khillar breed, winning a prize, breed characteristics, general appearance age, and pair set fetched additional economic value. But Khillar cattle with inauspicious marks loose its economic value. This revealed that farmers were ready to pay more price to Khillar bullocks which have won prize associated with prestige and recognition in society. Farmers' belief in fortune associated with marks on the body of animal they possess influenced price of cattle with marks. Mahesh (2013) also reported that prize won in the competition, presence or absence of undesirable marks, breed characteristics, general appearance and age (number of front teeth and horn rings) had significant impact on price of bullock.

Constraints in Khillar cattle marketing

Table 3 revealed that, the major problem in marketing of Khillar cattle was cheating by brokers (MS 67.63), followed by transportation (MS 63.56), lack of drinking water arrangements (MS 51.02), lack of animal sheds (MS 41.10), which were ranked as major constraints. Lack of loading/unloading dock (MS 23.20), lack of veterinary facilities (MS 19.19), and high market fee (MS 17.77) were ranked as least

Table 2: Ranking of factors determining the economic value of Khillar draft animal

S. No.	Factors	Mean score	Rank
1.	Prize won in the competition	72.80	I
2.	Presence or absence of undesirable marks	67.20	II
3.	Breed characteristics	54.00	III
4.	General appearance	46.00	IV
5.	Age	32.80	V
6.	Pair set	27.20	VI

constraints indicating attention to be given by the concerned authority needed. Findings of the present study are in contrary to the findings of Mahesh (2013), Singh *et al*. (2006) and Kumar and Meganathan (2005) who reported lack of transportation facilities as major constraints. Further, Kumar and Suhag (2003) and Rooparani (2007) reported lack of drinking water for animals and men as major constraint in cattle marketing. However, Rajarajan (2000) reported that non-remunerative price for cattle, absence of market regulation, lack of infrastructure facilities, high market charges, exploitation by middlemen, inadequate transportation facilities, and lack of market information as the major constraints in marketing.

Conclusion

The present study conducted to assess the factors determining the economic value of Khillar breed of Karnataka revealed that the major factors determining the economic value of Khillar cow were, prize won in the competition, presence or absence of undesirable marks, breed characters and calf at foot. The major factors determining the economic value of Khillar bullocks were prize won in the competition, presence or absence of undesirable marks, breed characters and general appearance. Age and pair set were ranked least. The major problem in marketing of Khillar cattle was cheating by brokers ,followed by

Table 3: Problems in Khillar cattle marketing

S. No.	Factors	Mean score	Rank
1.	Cheating by brokers	67.63	I
2.	Transportation Problem	63.56	II
3.	Lack of drinking water facilities	51.02	III
4.	Lack of animal sheds	41.10	IV
5.	Lack of fodder	38.33	V
6.	Absence of farmers rest house	35.22	VI
7.	Lack of hygiene	34.19	VII
8.	Uneven/ kachha floor	30.15	VIII
9.	Inadequate area for animal assembly	29.10	IX
10.	Lack of parking space	27.67	X
11.	Lack of fencing	26.19	XI
12.	Absence of internal roads in the market area	24.55	XII
13.	Lack of loading/ unloading dock	23.20	XIII
14.	Lack of veterinary facilities	19.19	XIV
15.	High market fee	17.77	XV

transportation and lack of drinking water arrangements which were ranked as major constraints. The findings would help the policy makers to take necessary steps to provide subsidized loan and insurance policies for the draught animals. The findings would also help the policy makers to address the constraints faced by the farmers in the market.

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