Original Research Article

Study onsheep flock composition and employment generation of Kenguri sheep farmers in Yadgir, Karnataka

ABSTRACT

The valuable factors regarding Kenguri sheep flock composition and farmers employment generation were computed during the study. From both intensive and extensive rearing systems 20 farms were chosen randomly on accessibility basis from- Northern Eastern dry agro-climatic zone *i.e*., Yadgir district of Karnataka, India. The analysis was performed from January to February in the year 2022, for a period of 2 months. The main components of this work were tabulated by structured proforma by calculating mean, standard deviation and P-value. The total flock size was more intensive rearing system (270.46) when compared to extensive rearing system (122.15) and the other constituents of sheep flock were better seen in intensive rearing system than that of extensive rearing system. The sheep farmers have spent more time for feeding and watering of adults (1.75 and 1.60) hrs and lambs (1.55 and 1.45) hrs, followed by health care (1.17 and 1.10) hrs in intensive and extensive rearing systems, respectively, than other activities. As the flock size and employment play a major role in socio-economic profile of marginal farmers, so this type of evaluation uplifts the sheep farmers for more such rearing and breeding ventures in coming days.

Keywords:Sheep flock, employment, socio-economic profile, feeding, watering, health care

1. INTRODUCTION

Karnataka has 195 One Time Grant Sanctioned Sheep and Wool Producers Co-operative Societies, ~~according~~ 2015–16.The socioeconomic status of the farmers had an impact on the size of the sheep flock. Sheep reari popular self-employment alternative for many rural resource deprived farmers [14]. Sheep and goat farming rely on common property resources for their feed and fodder in Karnataka [11].

India ranked third globally in the Livestock Census 2019 [2], with 74.26 million sheep population. Since the 2012 overall number of sheep population has evolved by 14.13% [3]. A recent estimate from 2020, states that Karnataka was home to 6.7 lakh Kenguri sheep [6].

According to [13] the sheep averageper flock for small, medium, and big farmers in Rajasthan was 24, 43, and 91 per flock, with an average flock size of 64 sheep. [4] found that Shahabadi sheep farmers had an average flock size of 74 sheep per flock, ranging from 23 to 236.

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In Rajasthan, [12] found an average sheep flock size of 68, but [5] reported an average flock size of 503 sheep in Coimbatore, with a migratory flock size of 100-900 and a stationary flock size of 60 (range 40-120). The flock size under field conditions was 113, according to [9 & 8].

2. MATERIAL AND METHODS

2.1. Sheep farm visit

The study was carried out in January and February of the year 2022, over a period of two months. Total 40 sheep sheds from both intensive and extensive rearing systems were selected at random for examination. In extensive and intensive farms, the overall flock size was 122 and 270, respectively. The farmers were notified priorly about the visit to each sheep farm by telephony.

The research area, Yadgir, is located in the Northern Eastern Dry Zone of Karnataka, 389 meters above normal sea level. According to [10], it is located at latitude 16° 15' N and longitude 77° 20' E. Rainfall in this area ranges from 640 to 810 mm annually on average [7].

2.2. Method of data collection

The structured questionnaire that was prepared for collecting data from sheep farmers upon their willingness was used to assess the sheep flock composition and employment generation of farmers in real time under field circumstances in the selected study region.

2.3. Statistical analysis

The findings were obtained via statistical tools such as mean, standard deviation, P-value by using IBM SPSS version 16.0 software.

3. RESULTS AND DISCUSSION

3.1. Sheep flock composition

The overall sheep flock size was more in intensive rearing system (270.46 ± 39.28) when compared to extensive rearing system (122.15 ± 18.64). As the sub components of flock such as breeding ewes (96.73 ± 16.99 and 95.60 ± 15.37), breeding rams (5.80 ± 1.80 and 3.93 ± 0.91), ewe lambs (139.33 ± 35 and 15.20 ± 3.08), ram lambs (28.60 ± 17.70 and 7.47 ± 1.45) were more in intensive rearing system when tallied with extensive rearing system (Table 1).

The proper sex ratio is maintained in intensive rearing but it was little altered in extensive rearing system because of unorganized management practices by sheep farmers. This outcome suggests that reduction in flock size over a period compared to olden days, which might be due to decrease in family size, reduced labour availability, disintegration of joint family concept, reduced grazing land etc. These results were in accordance with [9 & 4].

3.2. Employment generation

The sheep farmers spent (1.15 ± 0.09 and 1.10 ± 0.10) hrs for shed cleaning, (1.75 ± 0.19 and 1.60 ± 0.18) hrs for feeding and watering of adults, in intensive (1.55 ± 0.16 and 1.45 ± 0.14) hrs for feeding and watering lambs, (0.00 ± 0.02 and 10.00 ± 0.12) hrs for grazing, (1.05 ± 0.10 and 1.25 ± 0.08) hrs for collection of fodder, and (1.17 ± 0.11 and 1.10 ± 0.13) hrs for animal health care in intensive and extensive rearing systems, respectively. Time spent for grazing was only seen in extensive rearing, but this was not practiced in intensive rearing system (Table 2).

This trend denotes that most of the time was spent for feeding/grazing and watering and collection of fodder were the main employment activities practiced intensive farming system. This practice helped the farmers to get better body weight gains resulting in higher market prices for these animals. The results were comparable with findings of [13 & 11].

Table 1: Average Kenguri sheep flock composition

Particulars	Intensive (n=20)	Extensive (n=20)	P- value
Breeding ewes (Nos)	96.73 ± 16.99	95.60 ± 15.37	0.8266
Breeding rams (Nos)	5.80 ± 1.80[a]	3.93 ± 0.91[b]	0.0002
Ewe lambs (Nos)	139.33 ± 35.48[a]	15.20 ± 3.08[b]	0.0001
Ram lambs (Nos)	28.60 ± 17.70[a]	7.47 ± 1.45[b]	0.0001
Total Flock size (Nos)	270.46 ± 39.28[a]	122.15 ± 18.64[b]	0.0001

Mean values with different superscripts (a, b) within the row differ significantly ($p<0.05$)

Table 2: Average man hours/day count as an employment generation of sheep farmers

Activities	Intensive (n=20)	Extensive (n=20)	P- value
Shed/pen cleaning (hrs/day)	1.15 ± 0.09	1.10 ± 0.10	0.1047
Feeding and watering of adults (hrs/day)	1.75 ± 0.19[a]	1.60 ± 0.18[b]	0.0145
Feeding and watering of lambs (hrs/day)	1.55 ± 0.16[a]	1.45 ± 0.14[b]	0.0421
Grazing (hrs/day)	0.00 ± 0.02[a]	10.00 ± 0.12[b]	0.0001
Collection of fodder (hrs/day)	1.05 ± 0.10[a]	1.25 ± 0.08[b]	0.0001
Animal health care (hrs/day)	1.17 ± 0.11	1.10 ± 0.13	0.0738

Mean values with different superscripts (a, b) within the row differ significantly ($p<0.05$)

Figure 1: Sheep flock in intensive farm

Figure 2: Sheep flock in extensive farm

Figure 3: Sheepfarmer under intensive rearing**Figure 4:** Sheepfarmer under extensive rearing

4. CONCLUSION

From this work, it can be concluded that, sheep flock composition and employment generation are the key factors for better economic growth of marginally poor farmers. As both aspects of the present study are well witnessed in intensive sheep farmers than that of extensive sheep farmers because of lack of proper rearing knowledge and resource availability. At the end, farmers will get surplus benefits from rearing the sheep which are the basic source of their livelihood.

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