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A study on constraints faced by the shepherds in migratory production system in Narayanpet district of Telangana, India

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Abstract

A study was conducted to analyze constraints faced by the shepherds in migratory production systems in Narayanpet district of Telangana. For the study, 125 shepherds were selected randomly by following the multistage sampling technique. Data was collected from the shepherds using the pre-tested schedule and analysed using Garrett's ranking technique. Identified constraints were subdivided into breeding, feeding, health care and marketing constraints. The study revealed that non-availability of good breeding rams was the major breeding constraint while scarcity of grazing lands was the severe constraint among feeding constraints. Scarcity of grazing lands and exploitation by middle men are the major constraints among the health care and marketing constraints, respectively.

Keywords: Constraints, migratory sheep production system, garrett's ranking system

Introduction

Sheep is an important livestock species of India. They contribute greatly to the agrarian economy, especially in the arid, semi-arid and mountainous areas where crop and dairy farming are not economical. They play an important role in the livelihood of a large percentage of small and marginal farmers and landless labourers engaged in sheep rearing. Telangana state has highest sheep population (19.1M) in India and about 3.25 lakh people depend on the sheep rearing. More than 95% of the sheep are being reared by small, marginal and landless laborers in state.

In Telangana, rearing of small ruminants and their distribution vary widely in different districts and more concentration of sheep population is found in some districts like Narayanpet, Mahabubnagar, Nalgonda, Nagarkurnool etc. In the extensive system of management, the animals are reared on poor and degraded grazing lands resulting in low production and reproduction. This scenario forces the sheep flock owners to migrate with their flocks for sustenance. Seasonal migration from their native place where there is sufficient water and grass in the field is an important feature of sheep management in our country including Telangana state. The migratory sheep flocks follow some well-established routes of migration for about 5 to 6 months in a year in search of grazing and water resources. Documentation of the constarinants faced by shepherds in the existing sheep migratory production system is important to identify the opportunities for future development for sustainable sheep production system and efficient utilization of available resources. Therefore, the present study was carried out in Narayanpet district.

Materials and Methods

The study was purposively conducted in the Narayanpet district of Telangana state as the sheep rearing is mainly carried out by seasonal migration and having highest sheep population in the state. This district is located at 16.746688 oN 77.495815 oE. It is in the Telangana state of India spanning an area of 2,336 square kilometers and is bounded on the north by Vikarabad district, on the east by Mahaboobnagar district, on the south by Nagarkurnool and Wanaparthy districts and on the west by Karnataka state. Narayanpet has a semi-arid climate and receives an average annual rainfall of 534.5 mm. Sheep and goat reared under extensive grazing system and is one of the major livelihood sources for the

small, marginal and landless farmers.

Multistage random sampling technique was adopted in selecting migratory sheep farmers of Narayanpet district. In the first stage, five mandals were selected from the district based on having highest sheep population. In the second stage, five villages from each mandal were selected. In the third stage, five migratory shepherds from each of selected village were selected at randomly. The total sample size constituted 125 farmers for the study as a whole.

First-hand information with regard to constraints in migratory sheep farming was collected through informal discussion with the farmers as well as field personnel of Animal Husbandry department and referring with available literature. Accordingly, identified constraints of migratory sheep farming were sub-divided into breeding, feeding, health and marketing for eliciting the response from the farmers and asked the shepherds to rank all the constraints identified based the severity.

Henry Garret's ranking technique was adopted to analyze the constraints faced by sheep farmers. The respondents were asked to rank the given factors that were limiting sheep rearing according to the magnitude of the factor. The order of merit thus given by the respondents was converted into ranks by using the following formula:

$$\text{Percent position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given for i th factor by j th individual

N_j = Number of factor ranked by j th individual

The percentage position of each rank thus obtained was converted into scores by referring to the table given by Henry Garrett (Garrett and Woodworth, 1969) [1]. Then for each factor the scores of individual respondents were added together and divided by the total number of respondents for whom the scores were added. These mean scores for all the factors were arranged in the order of their ranks and inferences were drawn.

Results and Discussion

The details of various constraints faced by the shepherds and their mean (Garrett) scores were presented in Table 1.

Breeding Constraints

The constraints analysis revealed that non-availability of good breeding arms (62.24) was the major constraint followed by poor knowledge on breeding (61.65), lack of knowledge on pregnant ewe care (59.46), and less conception rate (57.25) and ranked from I to IV, respectively. Non-availability of breeding ram was the major constraint faced by the respondents which is important for increasing the size of the flock. Knowledge on breeding is also most important for high quality of flock and for superior production. Lack of knowledge of care and management of pregnant ewe and less conception rate directly affect the production of flock. Shirsat (2018) [2] stated that non-availability of breeding ram (100%), non-availability of prolific and improved sheep (80%), lack of knowledge in care and management of ram (69.17%) and pregnant ewe (54.17%) were the constraints faced by the respondents in breeding. These findings are also supported by Rajanna *et al.* (2012b) [3], Harilal (2014) [4] and Haripriya *et al.* (2018) [5].

Feeding Constraints

From Table it was observed that scarcity of grazing lands (66.49) ranked first among feeding constraints followed by a scarcity of drinking water (60.22), the high market price of concentrate feed (56.34), and lack of knowledge on balanced feeding (55.96) ranked as I to IV, respectively in the study area. Scarcity of grazing lands and drinking water were the main cause for migration of shepherds. Shrinking of grazing lands and natural resources resulting in scarcity of grazing lands and it had emerged as an alarming situation for sheep farmers. Concerted efforts by the institutional, social and legal agencies are needed to conserve the grazing land so that sheep production may not be affected. Similar results were reported by Rao *et al.* (2013) [6], Harilal (2014) [4], Nisha *et al.* (2016) [7] and Seetha *et al.* (2021) [8].

Table: Constraints faced by the shepherds in Narayanpet district of Telangana

S. No	Type of constraint	Garrett score	Rank
I	Breeding constraints		
1	Non-availability of good breeding rams	62.24	I
2	Lack of knowledge on pregnant ewe care	59.46	III
3	Less conception rate	57.25	IV
4	Poor knowledge on breeding	61.65	II
II	Feeding constraints		
1	Scarcity of grazing lands	66.49	I
2	High market price of concentrate feed	56.34	III
3	Lack of knowledge on balance feeding	55.96	IV
4	Scarcity of drinking water	60.22	II
III	Health care constraints		
1	High incidence of diseases	65.48	I
2	Poor veterinary service	56.60	III
3	High lamb mortality	58.63	II
4	Poor knowledge on prevention and control of diseases	54.82	IV
IV	Marketing constraints		
1	Exploitation by middle men	71.49	I
2	Lack of weight-based pricing	60.1	III
3	Unorganized market	66.01	II
4	Non-remunerative price	58.01	IV

Health Care Constraints

Among the healthcare-related constraints majority of the shepherds reported that high incidence of diseases (65.48) as major constraint followed by high lamb mortality (58.63) as the second most constraint and poor veterinary services (56.60) as the third constraint, and lack of knowledge of prevention of control diseases (54.82) as the fourth constraint. These findings are in conformation with Rajanna *et al.* (2012b)^[3], Rao *et al.* (2013)^[6] and Kantwa *et al.* (2017)^[9].

Marketing Constraints

It was observed that exploitation by middlemen was the most severe problem for the shepherds and reported that exploitation of middlemen (71.49) as major constraint followed by unorganized market (66.1) as a second-most constraint and lack of weight-based pricing (60.1) as a third constraint and non-remunerative price (58.01) as the fourth constraint in the study area. Unorganized, traditional live animal market, lack of transportation facilities, illiteracy and very less level of social participation and having negligible awareness about the available markets are major reasons for these constraints. These findings were in line with the observations reported by Porwal kuldeep *et al.* (2006)^[10], Suresh *et al.* (2011)^[11], Rajanna *et al.* (2012b)^[3], Sankhyan *et al.* (2016)^[12] and Seetha *et al.* (2021)^[8].

Conclusion

Sheep farming is crucial for the agrarian economy of Telangana, providing livelihoods for numerous small, marginal, and landless farmers. Despite its importance, the sector faces several constraints. Breeding challenges, such as the lack of good rams and poor breeding knowledge, significantly impact production. Feeding issues, including scarce grazing lands and inadequate water, drive seasonal migration. Health problems, like high disease incidence and limited veterinary services, further strain the sector. Additionally, marketing difficulties, notably exploitation by middlemen and unorganized markets, hinder profitability. Addressing these constraints through targeted interventions is essential for sustainable development and improved livelihoods for sheep farmers.

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