Housing Practices Adopted by Sheep Farmers in Kanchipuram District of Tamilnadu

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ABSTRACT: The study was carried out in the Beneficiary flocks of Network Project on Sheep Improvement (NWPSI) is functioning at Postgraduate Research Institute in Animal Sciences, Kattupakkam, Kanchipuram district of Tamil Nadu. The flocks of NWPSI, from 29 villages were selected a multistage stratified random sampling technique was employed to collect information from 150 sheep farmers from the study area. Majority of sheep shepherds 75% provided shelter for sheep nearer to their residence and (80%) were rearing goat along with sheep. They were followed (98%) in extensive system of management and 50% flocks had 26-50 animals. The sheep farmers provided (50%) of closed with run space shelter and most of the sheep sheds (90%) were mud floor. Half of the sheds were (52%) made with thatched roofing material with gable roof type (72%). The lambs mostly reared along ewes (80%) and no special house made for lambs (81%). The cleaning of sheds practiced (55 %) twice daily. About 52 and 55 per cent of the sheds had no facility of waterers and mangers respectively. Sheep farmers (50%) replaced top soil layer in their sheds once in a year. Most of the farmers (92%) stored manure in the form of open heap. The housing of sheep was based more on traditional knowledge and experience rather in lines with modern scientific housing with minimal requirements. Providing inputs such as short-term loans to shepherd, efficient use of whatever available resources and scientific management of breeding programme will improve the living standard of sheep farmer. To create awareness about scientific housing by periodical training and conducting demonstration are essential to improve the productivity and profitability of this region.

Keywords: Madras Red sheep, housing management, farmers, Kanchipuram.

INTRODUCTION

Small ruminants play an important role in Indian economy and it provides livelihood to two third of rural community. Sheep with its multi faced utility for wool, meat, milk, skin and manure form an important component of rural economy particularly in the arid, semi-arid and mountainous areas of the country. Landless labourers sheep rearing are the main source of occupation and their livelihood depended on this activity Prabu *et al*. (2009). Jodha (2008) reported that grazing of sheep is the cheapest way of feeding followed extensive system of management. The grazing lands is reducing drastically over the years and productivity of grazing lands declined due to improved strains of grass and legumes are becoming vanished from grazing lands resulted decrease in availability of good quality fodder to sheep during most of the season. According to the 20th Livestock Census, (2020) the total sheep population in the country 74.26 million, increased by 14.1% over previous census.

Madras Red sheep is a medium sized meat type hairy breed well adapted to the hot and humid conditions. The breeding tract of Madras Red lies in the North-eastern agro-climatic zone of Tamil Nadu which includes Chennai, Thiruvallur, Kancheepuram, Vellore, Cuddalore, parts of Thiruvannamali and Villupuram districts (Acharya, 1982). The climate is semi-arid tropical type with April-June as hot months and December-January as cold. Most of the sheep farmers in the region were landless. This sheep serves as a source of livelihood for several small, marginal and landless livestock farmers. The flocks are stationary and do not migrate during any part of the year and around 21% flocks are grazed by females (Anonymous 2007).

MATERIALS AND METHODS

The study was carried out based on the flocks of Network Project on Sheep Improvement (NWPSI) is

functioning at Postgraduate Research Institute in Animal Sciences, Kattupakkam, Kanchipuram district of Tamil Nadu. The scheme is functioning in nineteen villages of Kanchipuram districts and 120 flocks. The mean annual maximum and minimum temperature are 35.83°C and 22.65°C respectively. The mean annual rainfall of Kanchipuram district is 94 mm and relative humidity ranges from 65 to 85 percent. Among the beneficiary flocks of NWPSI, 150 farmers from 29 villages were identified for information about the management of housing. The farmers were selected at random for the collection of necessary information. The inputs on various aspects of sheep housing practices adopted by each respondent were collected through a formal and personal interview using a interview schedule.

Statistical Analysis. The data were tabulated frequency and percentage was calculated as per standard procedure. The effect of these factors on different production was analysed by univariate general Linear Model (GLM).

RESULTS AND DISCUSSION

It was observed from this study among the shepherds majority of them the location of the shed was (75%) nearer to their residence within the close proximity of owner's dwelling places were just adjacent to their homes. And 15 % of farmers were housed their agricultural fields. It was agreement with the findings of Guriprasad *et al*., (2019) in Karnataka. They were rearing sheep integration with other animals 73% rearing cattle along with sheep, 25% rearing along with buffaloes and majority 80% of them rearing goat along with sheep. 54% of the farmers had poultry and only 3% of the farmers had other animals like rabbit, duck and goose etc and rest of the farmers 97% had not possess any other species. Since goats may be well adopted mixed farming with sheep and lead to grazing in pasture land. The results accordance with the (Kailash and Naruka 2015) majority 85.56 percent rearing sheep along with goats in western Rajasthan.

Table 1: Housing management of sheep in the field flocks of Madras Red Sheep at Kanchipuram district.

Sr. No.	Category	Sub category	Percentage
1.	Location of the shed	Near the residence	75
		Away from the residence	15
		Both	10
2.	Integration with other animals	Integration with cattle	73
		No cattle	27
		Integration with buffalo	25
		No buffalo	75
		Integration with goat	80
		No goat	20
		Integration with poultry	54
		No poultry	46
		Other species Duck/Rabbit/Goose etc	3
		No other species	97
3	Flock Size	1-25	15
		26-50	50
		51-100	25
		101-150	8
		>150	2
4.	Sheep rearing system	Semi intensive system	2
		Extensive system	98
5	Housing type	Open	17
		Closed	3
		Closed with open space	50
		Both open and closed	30
6.	Orientation of shed	Easr to west	90
		Norh- south	10
7.	Structure	Kutcha (Mud)	90
		Pucca	10
8.	Support	Wood	54
		Stone	10
		Steel	36
9.	Basement	Yes	15
		No	85
10.	Wall	Wood	32
		Stone	18
		Brick	50
11.	Type of floor	Earthen floor	90

		Cement	3
		Earthen floor with tarpauins cover	7
12.	Roof type	No roof	11
		Gable roof	72
		Lean to type	17
13.	Roofing material	No roof	11
		Thatched	52
		Asbestos	15
		Galvanised iron	2
		Tiles	1
		Tarpaulins	2
		Thatched with tarpaulin sheet	17
14.	Manger	Stone	12
		Cement	10
		Wood	9
		Other	14
		None	55
15.	Waterer	None	52
		Cement	20
		Other	28
16.	Drainage	Mud	57
		Stone	39
		None	4
17.	White Washing	Yes	60
		No	40
18.	Frequency of White Washing	None	14
		6 Months	40
		12 Months	30
		Other	16
19.	Housing of Lamb	House separately	20
		Along with ewe	80
20.	Type of lamb enclosure	No special house	81
		Movable structure	9
		Partition inside ewe shed	4
		Kept in farmers house	6
21.	Height of roof at ridge	No roof	10
		5-10 ft	80
		>10 ft	10
22.	Height of roof at eves	No roof	10
		1-2 ft	22
		3-7 ft	63
		8 ft and above	5
23.	Shed cleaning	Once	40
		Twice	55
		Weekly	5
24.	Soil replacement	No replacement	20
		Once a year	50
		Twice a year	12
		Thrice a year	8
		Fill the depressions	10
25.	Disinfection	Yes	40
		No	60
26.	Method of storage of manure	Kept as open heap	92
		Applied directly in agriculture field	8

Figures in the parentheses are the percentages

Among this farmers 15 % of the flocks are having less than 25 animals. 50 % of the farmers having 26 to 50 animals and 25 % having 51 to 100 animals in flock 8% of farmers having 101 to 150 animals and 2% were having flock size more than 150 animals. Similarly varying flock size were reported in other sheep breeds in Chokla sheep at west Rajasthan Kushwala *et al.* (1999) and Nellore sheep was

ranged from 25 to 30 (Virojirao *et al*., 2008). Also Prabu *et al.* (2009) reported the higher sheep flock size 45.61 percent was observed in the landless labourers category in Tamil Nadu.

Majority of the sheep shepherds 98 % followed in extensive system of management and only 2% maintained in semi-intensive system of management. Similar results were observed by Karthik *et al.* (2021) in Nellore sheep. The most of the sheep sheds (90 %) were constructed in east west orientation. Due to heat stress in the tropics this type of orientation protected the animals from direct sunlight (Sastry and Thomas 2015). Reddy *et al.* (2020) also were reported similar to housing practices observed North coastal sheep of Andhra Pradesh Macherla were housed mostly during nights and the lambs were housed in special enclosure.

Half of shepherds 50% provided closed with run space shelter followed by 30% both open and close type shelter, open type with tree shade and fencing 17% and closed type 3 % of the shelter. Most of the sheep sheds were kutcha floor (90%). The kutcha type of floor was more predominant in this region and it was cheaper by using locally available gravel, stone and sand. Reddy *et al.* (2020) observed the shelter is more of Kutcha type (80.43%) rather Puccatype, limiting the latter housing system to 15% in Andhra Pradesh. The boundary of the house was covered by cut branches of thorny bushes and woods. This was lead to unhygienic condition during rainy season. Though this type of floor was unhygienic, this may be more beneficial in quick absorbing the moisture due to urine and manure. These observations were in conformity with the findings of Kailash and Naruka (2015); Rajanna *et al.,* (2013). Similarly Tailor *et al.* (2010) reported that all farmers 99% had kutcha flooring in their sheds and Guruprasad *et al.* (2019) at Hassan district. There was no basement (85%) of the sheep shed and mostly support with wood (54%) and walls are constructed with bricks (50%) and this results aggrement with Guruprasad *et al.* (2019) in Karnataka.

Most of the house were gable roof (72%) followed by Lean to roof (17%) and no roof (11%). Similar results observed by Thiruvenkadan *et al.* (2007) in Mecheri sheep. From this study it was revealed that half of the sheds were 52% made with thatched roofing material. Most of the sheep farmers were using thatch as roof material was highest because of its local availability and low cost. Coconut tree leaves, Palmyra leaves, Paddy straw, Jowar stovers, bushes from forests and grasses were used as roofing materials. Though it was found to be more advantageous, it was less durable and poor in hygiene predispose to diseases Rajanna et al., (2013). Majority of the sheep farmers 81% were not providing any special house for lambs and only 20% were keeping lambs separately in special lamb enclosures like movable bamboo structures. Similar observation reported by and Dass *et al.* (2012). But Rajanna *et al.* (2013) observed majority of shepherds (82.12 %) provided lamb enclosures in Telangana region.

The analysis of housing design revealed that most 80% of the shepherds constructed their shed with a ridge height of 5-10 feet and only 10% of them constructed with ridge height more than 10 feet. Majority of them 63% had sheds with height at eves of 3-7 feet, followed by 1-2 feet height at eves 22%. Though reduced height at eves reduces ventilation inside the shed to a considerable extent farmers are resorting to low roof level in order to reduce the cost of construction of shed.

In sheep houses about 52 and 55 per cent of the sheds had no facility of waterers and mangers respectively. The fact that the sheep were rearing exclusively extensive system of management and fed and watered while they were grazed. The drainage was provided in mud 57 per cent of the sheds while, 39 per cent had drainage built with stone and 4 per cent of the sheds had no drainage at all. The cleaning of sheds practiced either on once daily (40 %), twice daily (55 %) and weekly basis (5 %) respectively. Majority of the farmers were doing white washing of shed (60%) and once in 6 months (40%) and twice in a year (30%) and the results aggrement with Guruprasad *et al.* (2019). A significant observation regarding floor management by farmers was that majority 50% of them replaced top soil layer in their sheds once in a year and 20 % did not follow the soil replacement. The results agreement with Kumaravelu (2008) had that practice of replacing the soil of the floor was beneficial. Most of the farmers 40% disinfectant their sheds, while 60% of them donot follow disinfectant their sheds. The same results observed by Guruprasad *et al*., (2019) in Karnataka. Most of the farmers (92%) stored manure in the form of open heap and (8%) of them poured directly into their agricultural fields. The study aggrement with Rao *et al.* (2013); Rajanna *et al*., (2013) observed that 88.02% sheep farmers in Andhra Pradesh stored their manure in open method.

CONCLUSION

The present study revealed that the sheep farmers have poor level of knowledge about housing and intensity of importance of sheep housing. It was based more on traditional knowledge and experience rather than with modern scientific housing with minimal requirements. Factors like type of housing and roofing material were showing overall better performance of sheep. Creation of awareness in sheep farmers to pursue improved scientific management practices for better housing by periodical training and conducting demonstration are essential to improve the productivity of this region. Providing inputs such as short-term loans to shepherd, efficient use of whatever available resources and scientific management will improve the living standard of sheep farmer. It is observed that lack of fodder for grazing was considered to be a highlighting constraint which could be overcome

by supply of fodder at subsidized rate to the farmers and improved common pasture land for grazing through rural Governmental organizations to the sheep farmers.

FUTURE SCOPE

This study will help to understand the constraint of sheep farmers and will help to make future policy to overcome and improve through scientific management practices.

Conflict of Interest. None.

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