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Research Article

Breeding Management Practices of Goats Followed by Tribal Farmers in Rajasthan

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ABSTRACT

The aim of present study was to assess the breeding management practices of tribal farmers in Rajasthan. A total of 120 tribal goat farmers were selected from 12 villages from 6 blocks in 3 tribal dominated districts viz., Banswara, Dungarpur and Udaipur. Ten farmers from each village were selected purposively. The selected goat farmers were grouped into three categories based on flock size as small (<25 goats, N= 60), medium (26-50 goats, N = 36) and large (>50 goats, N = 24). Majority of goat farmers hold a small flock size. Overall 49.17% of farmers used non-descript whereas 50.83% used improved breeding bucks. The per cent of farmers with small, medium and large flocks used their own breeding bucks was 53.33, 55.56 and 75%, whereas 46.67, 44.44 and 25 % used community/ neighbor's breeding buck respectively for breeding purpose. Majority (71.67 %) of the farmers were using their own breeding bucks whereas 30, 38.89 and 41.67 % of farmers were not providing any extra care to pregnant goats in small, medium and large groups of farmers respectively. The percentage of farmers who castrated their male kids among small, medium and large groups of farmers respectively was 23.33, 36.11 and 54.17 % respectively. The data on selection criteria of bucks indicated that an overall average of 36.67 per cent respondents selected breeding bucks on the basis of body weight whereas 45 per cent respondents selected their breeding bucks on the basis of their physical appearance/breed characteristics. Result revealed that overall age at first mating was between 10-15 months in case of 71.67 per cent of farmers The average number of goats covered by a buck was 50-100 goats as reported by a majority of respondents (60.83 %). It was concluded that breeding management practices were mostly traditional without much regard to scientific recommendations.

Key words: *Tribal, Goat farming, Breeding, Breeding system*

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INTRODUCTION

Goats are the world's oldest and among the first ruminants to be domesticated by human beings in South-Western Asia (Iran and Iraq) between 10000 and 6000 years BC. Around 80 per cent of global goat population is in the developing countries. Among them, India ranks second in the world population of goat. With the present population of 135.2 million, goats account for more than 25 per cent of the total livestock in the country and contribute Rs 106335 million annually to the national economy[5]. They provide food and nutritional security to the millions of marginal and small farmers and agricultural labourers by providing animal protein through meat and milk. There are about 34 well defined and recognized breeds of goats in India[6]. Goats are among the main meat-producing animals in India, whose meat (chevon) is one of the choicest meat having huge domestic demand. Besides meat, goats, a multi functional/purpose animal which provide other products like milk, skin, fibre and manure. Goat contributed 5.05 million tonnes of milk (3.67% of total milk production of 137.685 million tons) and 0.97 million tonnes of meat (15.56% of total production) during the year 2013-2014[1].

In India, Rajasthan is ranked first in goat population with a population of 21.66 millions, (37.53%) of total livestock population in the state. Sirohi goat is the most preferred goat breed over other breeds in Rajasthan (Marwari and Jhakhrana). Goats are the backbone of rural economy particularly, in the arid, semi-arid and mountainous regions of Rajasthan. Goat farming is a suitable option for revenue generation for the small scale farmers and tribal people as it require a very low investment and can efficiently survive and sustain sparse vegetation and extreme climatic conditions. Best known as the "**poor man's cow"** or "**mini cow"** these magnificent animals are the best alternative source of additional income and milk contributing immensely to the poor man's economy. In pastoral and agricultural subsistence societies in India, goats are kept as a source of an insurance against disaster. Goats are generally managed under extensive production system and semi intensive system, where only at night shelter is provided. A major part of their fodder requirement is met out through grazing at waste and other common community lands.

India is a conventional home for about 645 tribal communities[2]. They are dispersed in almost all the states and union territories. The areas populated by tribals are mostly underdeveloped. They mostly reside in secluded villages or hamlets. The population of tribal in the country is 104 millions, which is 8.2 per cent of the total population of the country whereas; the Scheduled Tribe (ST) population of Rajasthan State is **7,097,706** constituting 8.4 percent of the total ST population of India[2]. The Scheduled Tribes of the State constitute 12.6 percent of the total population (68548437) of the state. According to the 19th Livestock census, 2012 goats population in the districts of Banswara, Dungarpur and Udaipur which have been categorized as tribal districts in Rajasthan state (study area) is 38.52% of the total livestock population in Rajasthan.

Existing breeding management practices results and discussion:

The information on following breeding management parameters was collected through a semi structured interview schedule pertaining to breeding practices. The data pertaining to breeding management practices is presented in table- 1

Perusal of the data in the table- 1 indicated that on an average 25, 55.56 and 75% the small, medium and large categories of farmers respectively were using nondescript breeding bucks whereas 75, 44.44 and 25% were using improved breeding buck respectively for breeding purpose. Overall 49.17% of farmers were using nondescript and 50.83 % were using improved breeding bucks. These results are closely in agreement with the results of Sharma[7] and Gurjar[4].

The per cent of farmers with small, medium and large flocks using their own breeding bucks was 53.33, 55.56 and 75%, whereas 46.67, 44.44 and 25 % were using community/ neighbor's breeding buck respectively for breeding purpose. On the whole an overwhelming majority (71.67 %) of

the farmers was using their own breeding bucks and the remaining small number of them (28.33 %) was using neighbor/community breeding bucks. The proportion of goat farmers having own breeding buck was higher among goat farmers of large flock size (75%) as compared to medium (55.56%) and small (53.33 %) flock size. The results indicated that keeping of own breeding buck in the flock increased with the increase in goat flock size. The use of breeding buck other than their own buck in flock decreased with increase in the flock size. Similar results were also observed by Gokhale *et al*.[3] and Gurjar[4].

The percentage of small, medium and large categories of farmers providing extra care to pregnant goats was 70, 61.11 and 58.33 % respectively, whereas 30, 38.89 and 41.67 % of farmers were not providing any extra care to pregnant goats in small, medium and large groups of farmers respectively. The percentage of farmers who castrated their male kids among small, medium and large groups of farmers respectively was 23.33, 36.11 and 54.17 % respectively castrated their male kids.

The large farmers castrating higher number of kids may be due to the fact that the numbers of animals available with them were more which are marketed in bulk during festival seasons. The results are close agreement with the results of Sharma[7] and Gurjar[4].

The data on selection criteria of bucks indicated that an overall average of 36.67 per cent respondents selected breeding bucks on the basis of body weight whereas 45 per cent respondents selecting their breeding bucks on the basis of their physical appearance/breed characteristics and only 18.33 per cent respondent selected their breeding bucks on the basis of milk yield of doe. The physical appearance or breed characteristics as a criterion to select breeding buck was practiced maximum at 45 per cent, while only 18.33 per cent goat farmers used milk yield and 36.67 per cent body weight and health as criteria for selection of breeding bucks. The proportion of goat farmers among different flock size who used body weight, health and milk field of doe as selection criteria increased with increase in flock size, while physical appearance /breed characteristic as a criteria for selecting breeding buck was found in increasing order with decreasing flock size. The similar results were reported by Sharma[7] and Gurjar[4].

Table-1: Breeding management practices:

Sr. no.	Variable	Small		Medium		Large		Overall	
1.	**Use of breeding buck**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
	Non-descript	15	25	20	55.56	18	75.00	59	49.17
	Genetically improved	45	75	16	44.44	6	25.00	61	50.83
2.	**Selection of breeding bucks**								
	From own flock	32	53.33	20	55.56	18	75.00	86	71.67
	From community/ neighbor's flock	28	46.67	16	44.44	6	25.00	34	28.33
3.	**Special management of pregnant goats**								
	Stall feeding with concentrates and fodders	42	70	22	61.11	14	58.33	78	65
	Provision of separate housing	38	63.33	21	58.33	11	45.33	70	58.33
4.	**Castration of male kids**								
	Practiced	14	23.33	13	36.11	13	54.17	40	33.33
	Not practiced	46	76.67	23	63.89	11	45.83	80	66.67
5.	**Criteria for selection of breeding bucks**								
	Body weight & body condition	16	26.67	16	44.44	12	50.00	44	36.67
	Dam's milk yield	10	16.67	8	22.22	4	16.67	22	18.33
	Physical appearance/breed characteristics	34	56.66	12	33.33	8	33.33	54	45.00
6.	**Age at first mating**								
	< 10 months	0	0.00	0	0.00	0	0.00	0	0.00
	10-15 months	44	73.33	28	77.78	14	58.33	86	71.67
	>15 months	16	26.67	8	22.22	10	41.67	34	28.33
7.	**Number of goats covered by one buck in a year**								
	Up to 50	12	20.00	10	27.78	7	29.17	29	24.17
	51 to 100	40	66.67	18	50.00	15	62.50	73	60.83
	above 100	8	13.33	8	22.22	2	8.33	18	15.00
8.	**Any institutional support**								
	KVK	35	58.33	20	55.56	14	58.33	69	57.50
	Govt. agencies	15	25.00	10	27.78	6	25.00	31	25.83
	NGO/ Private institutions	10	16.67	6	16.67	4	16.67	20	16.67

The average age at first mating of goats was 73.33, 77.78 and 58.33 % respectively; whereas in 26.67, 22.22 and41.67 % of flocks the age at first matting of goats was more than 15 months respectively (table 4.2). Result revealed that overall age at first mating was between 10- 15 month in case of 71.67 per cent of farmers whereas at 28.33 per cent of flocks the age at first mating was more than 15 month. It was found that the average number of goats covered by a buck was 50-100 goats as reported by a majority of respondents (60.83 %) whereas 24.17 per cent respondents reported this figure to be upto 50 goats per bucks per year. A small number of respondents (15%) reported that the number of goat covered by a buck was more than 100. A majority of farmers (57.50 %) opined that the KVK services were crucial for goat development in the area and they were supported by KVK in their efforts to improve goat production. The other Government agencies (as reported by about 26% of respondents) and NGO's etc (as reported by about 17% of farmers) were also supporting the goat farmers in the selected area.

CONCLUSION

It was concluded that breeding practices were mostly traditional without much regard to scientific recommendations. However, these management practices in general were better in case of small farmers as compared to medium and large farmers.

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