

## Goat Rearing Practices in Marathawada Region of Maharashtra State

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**ABSTRACT:** Goat is one of the important small ruminants which have been domesticated by man since time immemorial and has been a traditional occupation of marginal farmers and landless labourers. A study was conducted to analyze the goat rearing practices in Marathawada region of Maharashtra state under field condition. It was undertaken in 777 randomly selected goat flocks of selected 40 villages spread in 4 blocks in two districts (Latur and Osmamabad) of Marathawada region in order to document the goat husbandry practices and socio economic status of goat keepers. The flock size in the surveyed area were 51.92, 36.84, 7.05, 3.21 and 1.28 per cent goat keepers maintaining less than 5, 6 to 10, 11 to 15, 16 to 20 and more than 20 goats per flock. In the surveyed block that maximum households maintained goats in the flock size having less than five and 6 to 10 goats per flock. In survey area out of 156 goat keepers studied, 76.36 and 25.64 per cent for grazing and semi-grazing. While, none of the farmers followed stall feeding to their goats. In grazing flocks the average distance of walking was  $4.99 \pm 0.06$  km which range between  $4.46 \pm 0.12$  and  $5.41 \pm 0.12$  km over the 4 blocks. The overall grazing period averaged  $6.85 \pm 0.06$  hours which ranged between  $6.56 \pm 0.13$  and  $7.19 \pm 0.12$  hours. In case of semi-grazing the overall distance covered for reaching the grazing area averaged  $1.85 \pm 0.06$  km which range between  $1.50 \pm 0.11$  and  $2.32 \pm 0.10$  km and the total grazing period averaged  $3.40 \pm 0.06$  hours which ranged  $2.86 \pm 0.10$  to  $3.62 \pm 0.10$  hours. It was observed that the distance walking for grazing and grazing period was more in the grazing system than the semi-grazing system of management. It was revealed that 83.33, 13.46 and 3.21 per cent goat keepers provided housing at night, day and night and day only, respectively. It was recorded that overall 84.62 and 15.38 per cent of the goat keepers provided closed and open housing, respectively to their goats. It is also observed that 73.72 and 26.28 per cent goat keepers kept their goats in separate byres and part of residence. The flooring of the goat houses indicates that 98.72 and 1.28 per cent had kutchha and pucca floor. In case of type of construction i.e. full or half walls were 77.56 and 22.44 per cent goat structures with half and full wall structure. In case of ventilation of goat structures, it was observed that 79.49 and 20.51 per cent houses had well and poor ventilation. While studying the drainage arrangement for urine in goat housing structures, it was observed that 98.72 per cent goat house did not have well drained system for urine and only 1.28 per cent goat houses had the proper drainage for urine, particularly noticed in pucca type of flooring structures. In case of roofing provided to the animals were 78.21 and 21.79 per cent goats provided with thatched and tinshed house.

**Keywords:** Feeding, Goat rearing, Grazing, Housing management, Marathawada region, Status.

### INTRODUCTION

Goats are rightly considered as “gold” which can encashed by their keepers at any time of the year. Goats have distinct social, economical, managerial and biological advantages over other livestock species. They significantly contribute to the agrarian economy and play a vital role in the livelihood security of the small farmers, even under such challenging environmental conditions as inadequate

rainfall, very high temperatures and poor soil fertility, wherein crop cultivation is often difficult (Devendra, 1988). In India goats are reared mainly by the small and marginal farmers, including landless agricultural labourers. Population of goat in India is 135.17 million and out of that in the Maharashtra state is 84.35 lakh in 2012. Goats are shared at 26% in 2012. Latur has 8% goat population out of total population. The Goat population has declined by

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**Table 1**  
**Classification of Goats according to Flock size**

Goat flock size	Latur		Ausa		Osmanabad		Tuljapur		Total	
	House-Holds	No. of goats	House-holds	No. of goats	House-holds	No. of goats	House-holds	No. of goats	House-Holds	No. of goats
< 5	21(53.85)	58(26.98)	23(58.97)	61(34.66)	18(46.15)	69(32.09)	19(48.72)	57(33.33)	81(51.92)	245(31.53)
6-10	11(28.21)	50(23.26)	13(33.34)	74(42.05)	17(43.60)	85(39.53)	16(41.03)	62(36.26)	57(36.84)	271(34.88)
11-15	4(10.25)	50(23.26)	2(5.13)	25(14.20)	2(5.13)	23(10.70)	3(7.69)	34(19.88)	11(7.05)	132(16.99)
16-20	2(5.13)	34(15.80)	1(2.56)	16(9.09)	1(2.56)	17(7.91)	1(2.56)	18(10.53)	5(3.21)	85(10.94)
> 20	1(2.56)	23(10.70)	-	-	1(2.56)	21(9.77)	-	-	2(1.28)	44(5.66)
<i>Total</i>	39	215	39	176	39	215	39	171	156	777

Figures in paranthese indicate percentages of total number of households and goats

18.8% over the previous census. Latur division had changes goat population as -24.3% in 19<sup>th</sup> livestock population census in 2012 as compared to previous census (NDDDB statistics. com, 2012). The area of Latur and Osmanabad district of Marathawada region of Maharashtra state is spread over 18°-05' to 18°-07' N Latitude and 73°-25' to 77°-25' E Longitudes and 17°35' 18°40' N Latitude and 75°16' to 76°40' E Longitude, respectively in the Deccan Plateau region. The agro industrial by-product, perennial trees and shrubs serve as fodder resource for the goats reared.

## MATERIALS AND METHODS

The study was undertaken in Osmanabadi goats for the first time in the Latur and Osmanabad districts of Marathawada region. Villages were randomly selected from the four blocks *viz.*, Latur (B<sub>1</sub>), Ausa (B<sub>2</sub>), Osmanabad (B<sub>3</sub>) and Tuljapur (B<sub>4</sub>). In each block, 10 villages were selected randomly (totally 40 villages) and in each villages, 8-10 farmers flocks were randomly selected for recording information regarding goat husbandry practices. The data for present study were obtained through survey of 777 randomly selected goatflocks from the four blocks. General information about the goat rearers and husbandry practices (flock size, housing management, feed and fodder resources, provision of water, vaccination and veterinary care provided to the animals) adopted for goats reared in the four blocks of Marathawada region was collected in pretested schedules. The details of the information collected were scored and analyzed for the various management practices adopted in rearing of Osmanabadi goats, in the selected four blocks of marathawada region.

## RESULTS AND DISCUSSION

The classification of goats according to size of flock and the percentage of households rearing such flocks

are given in Table 1. Out of the total 156 households rearing Osmanabadi goats in the four blocks studied, 51.92 per cent (81) were maintaining less than five goats; 36.84 per cent (57) were rearing 6 to 10 goats; 7.05 per cent households were maintaining 11 to 15 goats; while 3.21 per cent (5) were keeping 16 to 20 goats. Only 1.28 per cent (2) maintained greater than 20 goats per flock. It was observed that the percentage of households rearing goats significantly decreased with the increase in the goat number.

Out of total 777 goats studied, 31.53 per cent (245) goats were recorded from the flocks having less than five goats, while 34.88 per cent (271) goats were recorded from the flock size 11 to 15; while 10.94 per cent (85) goats were recorded from the flock size 16 to 20. Only 5.66 per cent (44) goats were from the flocks having more than 20 goats. It was observed in the surveyed block that maximum households maintained goats in the flock size having less than five and 6 to 10 goats per flock. Reddy *et al.* (1991) has recorded the data for goat farmers having small (1 to 20 goats), medium (21 to 40 goats) and large (above 41 goats) sized flocks for studying the breeding practices in rural areas of Andhra Pradesh. Wani *et al.* (1993) has surveyed in Ahmednagar district and observed that 24.60, 43.90, 15.80, 12.30 and 3.40 per cent farmers were rearing Sangmaneri goats in flock size of less than 10, 11 to 20, 21 to 30 and 31 to 40 and above 40 goats per flock, respectively. Singh *et al.* (1996) observed that 76 per cent of goat keepers maintained goats in small flocks size (1-5 goats), 14 per cent in medium flock size (6-10 goats) and 10 per cent in large flock size (above 10 goats).

Thirunavukkarasu and Prabhakaran (1996) recorded that the average flock size of goats maintained per family was 4.62 in small, 13.14 in medium and 26.21 in large sized flocks in Tamilnadu. Anonymous (1999) observed that 66.41 per cent

Table 2  
Grazing and Management practices followed in survey area

Block	N	Grazing		Semigrazing		Stallfeeding
		Dist (km)	Time (hrs)	Dist (km)	Time (hrs)	
B <sub>1</sub> (L)	39	4.46 ±0.12(28)[71.79]	6.56 ±0.13	2.32 ±0.10(11)[28.21]	3.40 ±0.11	-
B <sub>2</sub> (A)	39	4.88±0.12(26)[66.67]	6.73 ±0.11	1.65 ±0.10(13)[33.33]	3.62 ±0.10	-
B <sub>3</sub> (O)	39	5.13 ±0.12(30)[76.92]	6.88 ±0.14	1.50 ±0.11(9)[23.08]	2.89 ±0.12	-
B <sub>4</sub> (T)	39	5.41 ±0.12(32)[82.05]	7.19±0.12	1.93 ±0.11(7)[17.95]	2.86 ±0.10	-
Total	156	4.99 ±0.06(116)[74.36]	6.85 ±0.06(166)	1.85 ±0.06(40)[25.64]	3.40 ±0.06(40)	-

households were maintaining less than 5 goats, while 29.48 per cent, 4.90 per cent, 0.94 per cent and 0.09 per cent of farmers had 6-15, 16-25, 26-50 and above 50 goats in their flocks, respectively. Shinde (2000) reported that 67.84 per cent households were maintained less than 5 goats, while 17.39, 6.96, 6.08 and 1.73 per cent of farmers had 6-10, 11-15 and 16-20 and above 20 goats in their flocks, respectively.

The grazing and management practices followed in survey area are summarized in Table 2. In survey area out of 156 goat keepers studied, 76.36 per cent (116) followed grazing system, 25.64 per cent (40) followed semi grazing system, while, none of the farmers followed stall feeding to their goats. In grazing flocks the average distance of walking was  $4.99 \pm 0.06$  km which range between  $4.46 \pm 0.12$  and  $5.41 \pm 0.12$  km over the 4 blocks. The overall grazing period averaged  $6.85 \pm 0.06$  hours which ranged between  $6.56 \pm 0.13$  and  $7.19 \pm 0.12$  hours in the 4 blocks. In case of semi-grazing the overall distance covered for reaching the grazing area averaged  $1.85 \pm 0.06$  km which range between  $1.50 \pm 0.11$  and  $2.32 \pm 0.10$  km and the total grazing period averaged  $3.40 \pm 0.06$  hours which ranged  $2.86 \pm 0.10$  to  $3.62 \pm 0.10$  hours. It was observed that the distance walking for grazing and grazing period was more in the grazing system than the semi-grazing system of management. Anonymous (1999) reported that 54.94 per cent goats keepers followed grazing system, 45.06 per cent followed semi grazing system. While, none of the farmers followed stall feeding to their goats. The distance of walking and grazing period in grazing and semi-grazing system was  $3.12 \pm 0.29$  and  $2.46 \pm 0.28$  km and  $7.05 \pm 0.21$  and  $4.21 \pm 0.29$  hours, respectively.

### Housing Pattern Followed in Survey Area

The housing practices followed for goats in survey area is given in Table 3. It was observed from 156 observations for housing provided to the goats; it was revealed that 83.33 per cent (130) goat keepers

provided housing only during night hours. It is also observed that hardly 3.21 per cent (5) goat keepers provided housing at day and 13.46 per cent (21) provided with both day and night housing to their goats. Further, it was revealed that overall 84.62 per cent of the goat keepers provided closed housing to their goats while 15.38 per cent goat keepers provided open housing. It is also observed that 73.72 per cent goat keepers kept their goats in separate byres while 26.28 per cent goat keepers kept their goats using part of residence. The flooring of the goat houses indicates that 98.72 per cent had *kutchha* floors and only 1.28 per cent *pucca* floor.

The classification of houses according to the type of construction i.e. full walls or half walls revealed that 77.56 per cent goat structures with half walls and 22.44 per cent with full wall structure. When the ventilation of goat structures was studied, it was observed that 79.49 per cent houses had well ventilation mainly due to higher percentage of half walled structures. Very few cases i.e. 20.51 per cent structures had poor ventilation (Closed structure). While studying the drainage arrangement for urine in goat housing structures, it was observed that 98.72 per cent goat house did not have well drained system for urine and only 1.28 per cent goat houses had the proper drainage for urine, particularly noticed in *pucca* type of flooring structures. In case of roofing provided to the animals, it was observed that 78.21 per cent goats provided with thatched house and 21.79 per cent goat houses are with tinshed. Prabhakaran and Thirunavukkarasu (1992) recorded that traditional method of housing and management was mostly followed by the goat keepers in Tamil Nadu.

Mahapatra and Nayak (1996) observed that about 36 per cent of the tribal farmers were unable to provide separate shed for goats, the goats were kept in houses only during night. About 84 per cent farmers provided a thatched shed with *kutchha* flooring for their goats. Generally the goat keepers

Table 3  
Housing pattern followed in breeding tract

Block	No. of observation	Housing at		Housing at		Flooring		Ventilation		Drain for Urine		Roofing		Well	Poor	Yes	No	Thatched	Tins-hed
		Day	Night	Both	Open	Closed	Separated	Part of Resi	Kutchda	Pucca	Half	Full							
Latur	39	-	30	9	7	32	25	14	38	1	32	7	32	7	1	38	27	12	
			(76.92)	(23.08)	(17.95)	(82.05)	(64.10)	(35.90)	(97.44)	(2.56)	(82.05)	(17.95)	(82.05)	(17.95)	(2.56)	(97.44)	(69.23)	(30.77)	
Ausa	39	-	36	3	4	35	34	5	39	-	36	4	35	4	-	39	34	5	
			(92.31)	(7.69)	(10.26)	(89.74)	(87.18)	(12.82)	(100.00)	(92.31)	(7.69)	(89.74)	(10.26)	(100.00)	(100.00)	(100.00)	(87.18)	(12.82)	
Osmanabad	39	3	31	5	6	33	29	10	39	-	26	13	28	11	-	39	28	11	
		(7.69)	(79.49)	(12.82)	(15.38)	(84.62)	(74.36)	(25.64)	(100.00)		(66.66)	(33.33)	(71.79)	(28.21)		(100.00)	(71.79)	(28.21)	
Tuljapur	39	2	33	4	7	32	27	12	38	1	27	12	29	10	1	38	33	6	
		(5.13)	(84.62)	(10.26)	(17.95)	(82.05)	(69.23)	(30.77)	(97.44)	(2.56)	(69.23)	(30.77)	(74.36)	(25.64)	(2.56)	(97.44)	(84.62)	(15.38)	
Total	156	5	130	21	24	132	115	41	154	2	121	35	124	32	2	154	122	34	
		(3.21)	(83.33)	(13.46)	(15.38)	(84.62)	(73.72)	(26.28)	(98.72)	(1.28)	(77.56)	(22.44)	(79.49)	(20.51)	(1.28)	(98.72)	(78.21)	(21.79)	

Figures in paranthese indicate percentages of farmers.

preferred *kutchahousing* type prepared by using sugarcane trash and dry grasses than that of *puccahousing* type (Patil and Mohite; 1998). In Osmanabadi goat survey report (Anonymoys, 1999), mostly the *kutchahousing* (99.03 per cent) type of housing was adopted with very limited goat keepers (0.97 per cent) providing *pucca* housing to their goats. It was further revealed that 98.14 per cent goat keepers provided housing only during night. Hardly 0.49 per cent goat keepers provided with day time housing and 1.37 per cent households provided with both day and night housing. The housing type, flooring, construction of walls, roofing and sanitary aspects noticed in the area also agreed the trends of present investigation. Shinde (2000) observed in the study that 93.04 per cent farmers provided housing for Osmanabadi goats during night hours only with 70.44 and 29.56 per cent closed and open housing, respectively. It was further revealed that 98.27 per cent had *kutchahousing* floors and only 1.28 per cent *puccafloor* provided to the goats. The well drained system for urine was not observed in the survey area.

## CONCLUSIONS

It was observed that the percentage of households rearing goats significantly decreased with the increase in the goat number. In the surveyed block the maximum households maintained goats in the flock size having less than five and 6 to 10 goats per flock. And in case of the grazing and management practices followed in survey area were the distance walking for grazing and grazing period was more in the grazing system than the semi-grazing system of management. The Osmanabadi goats are mainstay for landless poor families of its region and the breed needs to be conserved true to type in its breeding tract and in future concerted improvement programme needs to be made to harvest the full potential for milk and meat of Osmanabadi goats.

## REFERENCES

- Anonymous. (1999), Final Report of Network Project on Survey of Osmanabadi Goats Submitted by M. P. K. V., Rahuri to the NBAGR, Karnal.7: 66.
- Devendra, C. (1988), Goat Production in Small Farm Systems, Paper Presented at the Workshop on Small Ruminant Research and Development in the Near East, Cairo, Egypt, 2-4 November.
- Mahapatra, P.S. and M.P. Nayak. 1996. Management Practices in Goat Farming in Phulbani District of Orissa. Environment and Ecology. **14**(1): 67-70.

- NDDDB Statistics., (2012), Livestock Population in India. [www.nddb.statistics.com](http://www.nddb.statistics.com)
- Patil, J. D. and A. B. Mohite. (1998), Project on Osmanabadi Goats. *Shetkari Magazine*. **33**(5): 21-24.
- Prabhakaran, R. and M. Thirunavukkarasu. (1992), Goat Husbandry in Tamil Nadu (India). An Economic Appraisal V Int. Conf. on Goats, Pre Conf. Abstracts. IGA Publication, New Delhi. (1): 33.
- Reddy, R.G., A.R.S. Mudaliar and N. Muniraj. (1991). Breeding Strategy in Goats in Rural Areas of Andhra State. *Livestock Adviser*. **16**(12): 39-43.
- Shinde, P.M. (2000), Studies on Phenotypic Characters of Osmanabadi Goats in Rahuri Tahasil of Ahmednagar District. M.Sc. (Agri.). *Thesis Submitted to M.P.K.V., Rahuri (M.S.)*.
- Singh, M. R., B. P. Singh and R. C. Lal. 1996. Productivity and Mortality of Goats under Field Conditions. *Indian Vet. J.* **73** (3): 296-299.
- Thirunavukkarasu, M. and R. Prabhakaran. (1996). Production Capacity of Goats in Different Ecozones of Tamil Nadu. *Indian Vet. J.* **73**(8): 857-860.
- Wani, V.S., U.Y. Bhoite, S.G. Patil and D.P. Koratkar. (1993). Reproductive Performance of Local (Sangamneri) Goats under Field Conditions. *Indian Vet. J.* **70**: 618-621.

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