

Goat Keepers' Adoption about Improved Goat Production Practices

M.L. Meena¹, H.C. Singh², Aishwarya Dudi³, Ajay Kumar⁴ and SVS Chauhan⁵

1. SMS (Agril. Ext.), 3. SMS (H.Sci.), KVK, CAZRI, Pali-Marwar, Rajasthan, 2. Asstt. Prof. (Ag. Ext.) COE (CSAUA&T), Etawah, 4. KVK, Kathua (SKUAST-J), Jammu 5. SMS (Ag. Ext.), KVK (RVSKVV), Morena, MP.

Corresponding author e-mail: moti2007m@yahoo.co.in

ABSTRACT

Goat rearing can be made a profitable venture for small and marginal farmers with very low investments. The study was conducted in arid zone of Rajasthan, India. The districts falling under this zone are Jodhpur, Pali, Barmer, and Jalore, out of these only Pali and Barmer districts were selected purposely, because these districts had highest number of goats as well as maximum milk production. Three panchayat samities were selected from each district and three villages from each of the selected panchayat samiti were selected randomly. Hence, eighteen villages in all were taken up for study. The respondents from each selected village were divided into three categories of small, medium and large flock owners, respectively. Respondents possessing 1-50 goats were termed as small flock owners, those possessing 51-100 goats, as medium flock owners and those possessing more than 100 goats as large flock owners. From each identified category, 5 respondents were selected on random basis. Thus from each of selected villages, fifteen goat owners were identified for the study. Thus in all, there were 270 goat owners. Results indicated that more than half of the respondents possessed medium level of adoption. They had higher adoption about clean milk production followed by management, feeding, breeds and breeding practices. There was significant difference in adoption levels between different categories of respondents with regard to breeds and breeding, feeding and management practices of goat production technology. The overall extent of adoption in general was found to be highest in large flock owners followed by medium and small having mean per cent scores of 55.54, 45.70 and 34.80, respectively.

Key words : Goat; Dry land farming; Small and marginal farmers; Investments; Goat production technology;

Goats are the poor man's cow and it contributes significantly in income generation and employment generation of rural masses. Rural population of the arid zone of Rajasthan depends on livestock for their milk and meat requirement. Goats have a sizable population of total livestock strength in the zone. Total population of goat in the zone was 35.80 lacs when compared with 31.07 lacs sheep and total livestock population of the zone is 92.32 lacs (17th livestock census, 2003-04). Most of the small ruminants in the village condition were kept on natural available feed resources i.e. tree leaves, grasses, residues of vegetable crops and food grain crops. Goats mainly depend on grazing in common lands, village waste lands, irrigation canals and channels, *gocher* lands and agricultural land during the lean period

of agriculture crops. There exists a symbiotic relationship in man-land livestock ecosystem. Livestock comprising mainly bovine and ovine has a complementary, supplementary and sustainable relationship with crops and mixed farming system prevalent in our country. Majority of families engaged in agriculture get employment only during the time of ploughing, sowing, harvesting, and threshing. Under such conditions it is customary to rear livestock as a source of some extra income.

Although the economic contribution of goat husbandry seems to be quite substantial in the agricultural economy as well as in the national economy, the farmers who raise goats are yet ignorant of scientific management practices.

If, feeding, breeding and other management practices fit in the proper operation, it would be possible to reach the desired level of milk and meat production. Considering the vitality of above stated facts, the present study was carried out with specific object to determine the extent of adoption of goat keepers about improved goat production practices.

METHODOLOGY

The study was conducted in arid zone of Rajasthan, India. The districts falling under this zone are Jodhpur, Pali, Barmer, and Jalore, out of these only Pali and Barmer districts were selected purposely, because these districts had highest number of goats as well as maximum milk production. Three panchayat samities were selected from each district and three villages from each of the selected panchayat samiti were selected randomly. Hence, eighteen villages in all were taken up for study. The respondents from each selected village were divided into three categories of small, medium and large flock owners, respectively. Respondents possessing 1-50 goats were termed as small flock owners, those possessing 51-100 goats, as medium flock owners and those possessing more than 100 goats as large flock owners. From each identified category, 5 respondents were selected on random basis. Thus from each of selected villages, fifteen goat owners were identified for the study. Thus in all, there were 270 goat owners. The whole adoption weightage of 66 of which 15, 20 and 31 scores were assigned for these aspects, respectively.

RESULTS AND DISCUSSION

Adoption level for the improved goat production practices : It is obvious from the data in Table 1 about adoption level of small goat keepers that 51.11 per cent of goat keepers possessed medium adoption level about improved goat production practices. About 36.67 per cent respondents had low adoption whereas; only 12.22 per cent goat keepers had high adoption about improved goat production practices.

Further, in case of medium goat keepers it was revealed that 58.89 per cent goat keepers had medium adoption, about 22.22 per cent respondents had low adoption and only 18.89 per cent goat keepers had high adoption about improved production practices.

With regard to large goat keepers it was revealed that 60.00 per cent of respondents had medium adoption, about 23.33 per cent of respondents had high adoption and only 16.67 per cent of goat keepers had low adoption about improved goat production practices. Similar findings were reported by *Sharma (1990)* who concluded that the majority of respondents were in medium adoption group with regard to livestock rearing practices.

Table 1. Adoption level about improved goat production practices (N=270)

S.No.	Adoption level categories	No.	%
A	Adoption level of small goat keepers		
1.	Low Adoption level (<21.84)	33	36.67
2.	Medium Adoption level (21.84 to 27.10)	46	51.11
3.	High Adoption level (>27.10)	11	12.22
	Overall	90	100.0
	σ	2.63	
	\bar{X}	24.47	
B	Adoption level of medium goat keepers		
1.	Low Adoption level (<25.92)	20	22.22
2.	Medium Adoption level (25.92. to 34.80)	53	58.89
3.	High Adoption level (>34.80)	17	18.89
	Overall	90	100.0
	σ	4.44	
	\bar{X}	30.3	
C	Adoption level of large goat keepers		
1.	Low Adoption level (<31.72)	15	16.67
2.	Medium Adoption level (31.72 to 41.90)	54	60.00
3.	High Adoption level (>41.90)	21	23.33
	Overall	90	100.0
	σ	5.09	
	\bar{X}	36.81	

σ = Standard deviation, \bar{X} = Mean of respondents

Adoption levels of different categories of respondents with respect to breeds and breeding: Table 2 depicts that the calculated 'F' value (53.50) is greater than the tabulated value at 1 per cent level of significance. Hence, conclusion could be drawn that there was significant difference extent of adoption between different categories of small, medium and large flock owners with regard to breeds and breeding practice. Comparative look to data revealed that the large flock size goat keepers had higher mean per cent

score of adoption (42.37) as compared to the medium (33.78%) and small (24.26%) category goat keepers.

Table 2. Adoption levels of different categories of respondents with respect to breeds and breeding (N= 270)

Category	No.	MPS
Small goat keepers	90	24.26
Medium goat keepers	90	33.78
Large goat keepers	90	42.37
SEm±	0.16	
F cal	53.59	
CD at 5%	0.45	
CD at 1%	0.58	
CV %	24.73	

MPS = Mean per cent score

Extent of adoption of improved feeding practices: It is evident from Table 3 that calculated 'F' value (67.81) was greater than the tabulated value at 1 per cent level of significance which means that there was significant difference between different categories of adoption of improved feeding practices. This led to rejection of null hypothesis (H0.4) and acceptance of research hypothesis (H1.4). The respondents belonging to large category had higher mean per cent score of adoption (56.83 MPS) as compared to the medium (MPS 45.78) and small category (MPS 34.50), respectively. The CV for the observation is 28.00 per cent. This Finding is in conformity with finding of Denial (1999) who reported that trained farmers adopted scientific feeding practices of goat.

Table 3. Adoption levels of different respondents with respect to feeding practices. (N= 270)

Category	No.	MPS
Small goat keepers	90	34.50
Medium goat keepers	90	45.78
Large goat keepers	90	56.83
SEm±	0.27	
F cal	67.81	
CD at 5%	0.75	
CD at 1%	0.99	
CV %	28.00	

MPS = Mean per cent score

An in depth analysis of practices followed under feeding aspect revealed that all the respondents fed green and dry fodder and majority (78.89 %) gave concentrate to the goat however, majority did not supply

the green fodder and concentrate in required quantity. This could be attributed to lack of green fodder and poor economic condition of the respondents.

It was a common practice in the area that they used to give concentrate only to those animals that were in the pregnant stage. It was further found that around 51.39 per cent respondents chaffed the long stover and provided top feeds leaf of *khejari*, *babool*, neem and *Jharbarry (pala)* as these were available in that area. Use of mineral mixture and salt for goat feeding was not common practice as only some of large goat keepers (5.90%) were giving it on regular basis. Similarly, majority of the respondents did not adopt the practice of treatment of dry fodder (*guar falkati*, *moth and moong*) with urea molasses to improve its nutritive value. This was due to lack of adequate knowledge among goat keepers regarding this aspect.

Regarding feeding of pregnant goat it was encouraging to not that all the respondents were feeding special ration viz., *gur sarbat*, barley chokar and sesame (*Tilli* oil) after calving to the goat. On the basis of findings it could be concluded that the respondents specially the medium and small category of goat keepers did not adopt the scientific method of feeding of goat.

Similar findings have been reported by Sharma (1997) and Intodia (2001) who indicated that the sheep keepers were not following the scientific practices in case of feeding the sheep.

Table 4. Adoption levels of different respondents with respect to goat management practices. (N=270)

Category	No.	MPS
Small goat keepers	90	39.89
Medium goat keepers	90	48.60
Large goat keepers	90	57.24
SEm±	0.22	
F cal	149.25	
CD at 5%	0.61	
CD at 1%	0.81	
CV %	13.88	

MPS = Mean per cent score

Extent of adoption regarding improved goat management practices : Data presented in Table 4 clearly reveal that the calculated value of 'F' (149.25) is greater than the tabulated value (4.66) at 1 per cent level of significance which means that there was

significant difference between different categories of respondents with respect to adoption of improved sheep management practices. Critical examination of the data revealed that the large goat keepers had comparatively better adoption score (57.24 MPS) as compared to the medium and small goat keepers whose mean adoption score was only 48.60 and 39.89 per cent, respectively.

The higher adoption by large goat keepers in all the practices of management viz., housing, health care and clean milk production was due to their better knowledge regarding these practices. The finding confirm with the finding of *Suresh et al. (2008)* they found highest adoption about sheep management practices in the study area.

Overall adoption of improved sheep production practices by goat keepers: From Table 5 it is evident that calculated value 'F' (214.92) is greater than the tabulated value (4.66) at 1 per cent level of significance in case of overall adoption in the three areas, namely breeds and breeding, feeding and management (housing, health care and wool production). This calls for the acceptance of research hypothesis i.e. there is significant difference in adoption of improved goat production practices between the identified categories of the respondents.

Table 5. Overall adoption of improved goat production practices by goat keepers (N= 270)

Category	No.	MPS
Small goat keepers	90	34.80
Medium goat keepers	90	45.70
Large goat keepers	90	55.54
SEm±	0.42	
F cal	214.92	
CD at 5%	1.16	
CD at 1%	1.54	
CV %	12.94	

MPS = Mean per cent score

The mean value further indicates that the goat keepers possessing higher number of goat had higher adoption score than the goat keepers with medium and small flock size in all the three areas.

Regarding the practice of breeds and breeding the adoption percentage was found to be low because the goat keepers usually possessed local non-descript breeds followed by natural service to their goat with local buck.

The goat keepers lacked knowledge about exact time of removal of placenta. Due to lack of veterinary facilities they were not in a position to approach any trained person or veterinarian for the problem of anoestrus. The results are in conformity with that of *Mathur (2001)* who found that there was poor adoption of improved practices by the cattle keepers.

Results further showed that in feeding practice, the small, medium and large categories of goat keepers had 34.80 per cent, 45.70 per cent and 55.54 per cent level of adoption which was comparatively higher than the breeding practices. Results also showed that majority of goat keepers did not feed mineral mixture and salt to their goat. However, colostrums feeding to new born kids were common practice. Regarding extent of adoption of management practices it was found that respondents had poor adoption of practices like castration, weaning, deworming and vaccination against common diseases like F.M.D., Pestedes petits Ruminants (PPR) and Oedematous swelling. Only 22.22 per cent goat keepers adopted the scientific practice of meat processing. Majority of the respondents had also not adopted the correct practice of disposal of animal waste. On the basis of findings it could be concluded that the respondents scored highest in management (48.58 MPS) followed by feeding (46.70 MPS) and breeds and breeding (34.80 MPS) aspect. Similar results were also reported by *Mohan et al. (2007)* who observed that maximum adoption was found in management practices followed by feeding, health care and least in breeding.

CONCLUSION

Results indicated that more than half of the respondents possessed medium level of adoption. They had higher adoption about clean milk production followed by management, feeding, breeds and breeding practices. There was significant difference in adoption levels between different categories of respondents with regard to breeds and breeding, feeding and management practices of goat production technology. The overall extent of adoption was found to be highest in large flock owners followed by medium and small having mean per cent scores of 55.54, 45.70 and 34.80, respectively.

Paper received on : October 10, 2010

Paper accepted on : December 08, 2010

REFERENCES

1. Anonymous (2003-04). Government of Rajasthan, Livestock Census. Directorate of Animal Husbandry, Jaipur. **20**: 20-21.
2. Denial, A. (1999). Extent Adoption of Improved Goat Rearing Practices in Bikaner district. *Raj. J. Ext. Edu.*, **3** (2&3): 26-30.
3. Intodia, S.L. (2001). Documentation of farming system in operational area (Udaipur district): A brief survey and analysis. Agricultural perspective of Udaipur district; 103-104.
4. Mathur, P. (2001). Problem and prospects of improved cattle management in Arid Western Plain Zone of Rajasthan. Ph.D. Thesis, MPUAT, Udaipur, campus: R.C.A., Udaipur, Rajasthan, India.
5. Mohan, B., Sagar, R.L., Singh, K., Tripathi, P. and Vihan, V.S. (2007). Present status of goat rearing under rural condition. *Indian Res. J. Ext. Edu.*, **7** (1) : 43-45.
6. Sharma, F.L. (1990). Problems and prospects of livestock development in tribal area of Rajasthan. Ph.D. Thesis, R.A.U., Bikaner, Campus, R.C.A., Udaipur.
7. Sharma, R.K. (1997). A study into the impediments in contagious bovine disease control work in Hisar district of Haryana. M.Sc. (Ag.) Thesis, Punjab Agriculture University, Ludhiana.
8. Suresh, A.; Gupta, D.C. and Mann, J.S. (2008). Adoption of improved management practices of sheep in the semi-arid region of Rajasthan. *Indian Res. J. Ext. Edu.*, **44** (1&2): 100-105.