

# ADOPTION OF IMPROVED SCIENTIFIC GOAT REARING PRACTICES AND CONSTRAINTS PERCEIVED BY GOAT FARMERS

P. Eyazhini\*<sup>1</sup>, N. Vimalraj Kumar<sup>2</sup>, A. Elamaran<sup>3</sup> and R. K. R. Sangamitra<sup>4</sup>

*Department of Veterinary and Animal Husbandry Extension Education*

*Madras Veterinary College*

*Tamil Nadu Veterinary and Animal Sciences University*

*Chennai, Tamil Nadu, India*

## ABSTRACT

*The study was undertaken to assess the adoption level and constraints perceived by goat farmers about improved scientific goat rearing practices. The data was collected through personal interview method with the help of well-structured interview schedule from 60 goat farmers randomly selected in Irumbulikulurichi village, Ariyalur district of Tamilnadu. The recommended practices were categorized in to three areas i.e., breeding, feeding and health care management. Overall adoption index of improved goat husbandry practices by the farmers revealed that, feeding practices obtained highest adoption index (52.33%) followed by health care practices (48.83%), breeding practices (42.83%) and also the overall adoption index of goat rearing practices among the farmers is 48 per cent. Likewise, the major constraints perceived by goat farmers were lack of grazing land (88.33%), lack of knowledge on scientific farming practices (80%) followed by lack of credit facility (75%). Hence, the study recommends that innovations in technological interventions on scientific goat farming shall be imparted through vocational training, demonstration of efficient technologies, optimizing the flock size and motivating the goat farmers with extension support and services might help them to adopt recommended improved technologies for sustainable goat production thereby enhancing the farmers' livelihood.*

**Keywords:** Adoption index, Adoption level, Goat farmers

Received : 2.06.2021

Revised : 20.09.2021

Accepted : 18.10.2021

## INTRODUCTION

Goats are also famously known as poor man's cow. Goat rearing is the traditional means of sustaining income, employment and family health among rural poorers. Nowadays goat rearing is

---

\* Corresponding author; email: pyazhini@gmail.com

<sup>1</sup> Postgraduate Scholar

<sup>2</sup> Assistant Professor

<sup>3</sup> Assistant Professor, Education Cell, Veterinary College and Research Institute, TANUVAS, Orathanadu, Tamil Nadu, India

<sup>4</sup> Ph.D Scholar, Department of Veterinary Physiology

emerging as a beneficial business among farmers (Narain and Rawat, 2015). Among all livestock species goat occupies an important place in Indian economy since it contributes effectively in nutrition, employment and livelihood security to the subsistence small, marginal farmers and landless poor. Less capital investment, external inputs, high adaptability to variable feeds, low risk – quick return and easy integration with crops and livestock has made it animal of choice (Singh *et al.*, 2014).

India has enormous population of goats with rich diversity and suitability for each region. According to 20<sup>th</sup> livestock census, India's goat population is 148.88 million and it ranks second in terms of total goat population of the world. Among the states of India, Rajasthan holds the first position and Tamil Nadu holds the seventh position in terms total goat population. (BAHS, 2019). Goat provide income, employment, nutrition and supporting crop production by providing cash for the purchase of critical inputs (Singh *et al.*, 2014).

The productivity of goats under the traditional production system is very low owing to their maintenance under extensive system on natural vegetation and shrinking common grazing lands and tree lopping. With the introduction of improved goat keeping practices, it has now become possible to increase the

production potential of goats. The goat rearers should adopt feeding, breeding, diseases and other management practices in scientific manner to get maximum benefits. It is widely accepted fact that, the innovations in goat farming are neither rapid nor smooth to adopt (Mohan *et al.*, 2009). Under these circumstances, proposed research work was designed to find out the extent of adoption level in goat farming practices among the respondents of Irumbulikulurichi village of Ariyalur district of Tamil Nadu.

## METHODOLOGY

The study was carried out in Ariyalur district of Tamil Nadu state which was purposively selected on the basis of significant goat population, better utility profile and familiarity of the researcher with the local dialect and socio cultural aspects of the area. Out of 4 taluks in Ariyalur district, Sendurai taluk was randomly selected and out of 28 villages in Sendurai taluk, Irumbulikulurichi was randomly selected for this study. The data was collected through personal interview method with the help of well structured interview schedule from randomly selected 60 goat farmers in Irumbulikulurichi village of Ariyalur district, Tamil Nadu. The recommended practices were categorized in three topics based on the previous available literature and expert opinion *i.e.*, breeding, feeding and healthcare management. The respondents

were asked to give their opinion about adoption of improved practices on three point continuum *i.e.*, full adopter (FA) = 2, partial adopter (PA) = 1 and non-adopter (NA) = 0 allotted respectively. The adoption level of the respondents was measured by making use of adoption index developed by Karthikeyan (1994).

Adoption index was calculated from mean score obtained divided by maximum obtainable score multiplied by 100.

$$\text{Adoption index} = \frac{\text{Mean score obtained}}{\text{Maximum obtainable score}} \times 100$$

## RESULTS AND DISCUSSION

The adoption level of each practice-wise among the improved scientific goat rearing practices are listed in Table 1.

Breeding management is the foremost important aspect in goat farming and the income generation of goat farmers mainly depends on reproduction aspect. It is evident from the Table. 1, among listed breeding management practices, the adoption index of routine change of buck ranked highest (69.17%) followed by pregnancy diagnosis (62.50%), identification of heat symptom (55.83%), castration (26.67%) and artificial insemination (0%). From the above findings it could be noted that, goat farmers were not at all aware of artificial insemination and also not interested to adopt because of

its complicated procedure. These findings are supported by the findings of Bihari and Singh (2016) and Koli and Koli (2016).

Among feeding management practices (Table 1), it could be noted that adoption index of colostrum to kids ranked first (100%) followed by steaming up (55.83%), mineral mixture (43.33%), concentrate feeding (37.50%) and least adoption index was found for green fodder feeding (25.00%) among the goat farmers. Hence, we could understand that the goat farmers were aware of the benefits of colostrum feeding to kids and able to reduce the early kids mortality and the adoption level of steaming up process could enhance the chance of twinning in goats. The above findings are similar with the findings reported by Narmatha *et al.* (2013).

Health care management in goat farming is a key factor to safe guards the goats for success. Among the management aspects of healthcare (Table 1), the adoption level of treatment of sick animal by veterinarian ranked first (72.50%) followed by deworming (52.50%), disinfection of sheds (50.00%), isolation of sick animals (35.83%) and vaccination (33.33%). This is in agreement with the findings of Singh *et al.* (2017).

The extent of overall adoption level for the goat farming practices are presented in Table 2. It is noted that overall adoption index of feeding management ranked first (52.33%), followed by health

**Table 1. Practice wise adoption index of improved scientific goat rearing practices**

S. No.	Practices	Adoption level (n=60)			Total score	Adoption index	Rank order
		Full adoption	Partial adoption	Non adoption			
<b>I</b>	<b>Breeding management</b>						
1.	Artificial insemination	0	0	60	0	0	V
2.	Identification of heat symptoms	25	17	18	67	55.83	III
3.	Routine change of buck	33	17	10	83	69.17	I
4.	Pregnancy diagnosis	30	15	15	75	62.50	II
5.	Castration	9	14	37	32	26.67	IV
<b>II</b>	<b>Feeding management</b>						
1.	Colostrum to kids	60	0	0	120	100	I
2.	Mineral mixture	20	12	28	52	43.33	III
3.	Concentrate feed	17	11	32	45	37.50	IV
4.	Green fodder	9	12	39	30	25.00	V
5.	Steaming up	25	17	18	67	55.83	II
<b>III</b>	<b>Healthcare management</b>						
1.	Treatment of sick animals by veterinarian	35	17	8	87	72.50	I
2.	Vaccination	12	16	32	40	33.33	V
3.	Deworming	22	19	19	63	52.50	II
4.	Isolation of sick animal	14	15	31	43	35.83	IV
5.	Disinfection of shed	19	22	19	60	50.00	III

**Table 2. Overall adoption index of improved scientific goat rearing practices**

S. No.	Goat husbandry practices	Total possible score	Obtained score	Adoption index (%)	Rank order
1.	Breeding management	600	257	42.83	III
2.	Feeding management	600	314	52.33	I
3.	Healthcare management	600	293	48.83	II

care practices (48.83%) and breeding management (42.83%). It is also evident that, the sum of overall adoption index of all goat rearing practices among the respondents is 48 per cent in this study. These findings are in accordance with the results of Roy and Tiwari (2017) and Gunaseelan *et al.* (2018).

From Table 3, among the constraints as perceived by goat farmers in adopting scientific practices, lack of grazing land ranked first (88.33%) followed by lack of knowledge in scientific method of rearing (80.00%), lack of credit facility (75.00%), Exploitation by middleman (53.33%) and Increased fodder rate (40.00%). These

**Table 3. Constraints perceived by goat farmers in adoption of improved scientific goat rearing practices**

S. No	Constraints perceived	Frequency (n=60)	Percentage	Rank order
1.	Lack of credit facility	45	75.00	III
2.	Increased fodder rate	24	40.00	V
3.	Lack of grazing land	53	88.33	I
4.	Lack of knowledge in scientific method of rearing	48	80.00	II
5.	Exploitation by middleman	32	53.33	IV

results get the support and are linear with the findings of Narmatha *et al.* (2013).

### CONCLUSION

The study shows that the farmers adopted breeding practices, feeding practices and health care practices and the overall adoption index of goat rearing practices is 48.00%. The major constraints perceived by goat farmers were lack of grazing land, lack of knowledge on scientific farming practices followed by lack of credit facility. Thus to improve the adoption of goat rearing practices in study area, extension agencies have to arrange training and demonstration programs of improved practices to goat farmers. The study also recommends that innovations in technological interventions on scientific goat farming shall be supported with vocational training, demonstration of efficient technologies and motivating the goat farmers with help of extension support and services from the line departments.

Thus it might help them to adopt recommended improved technologies and sustainable goat production thereby enhancing the farmers livelihood.

### REFERENCES

- BAHS (2019). Basic Animal Husbandry Statistics, Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India.
- Bihari, S. and Singh, N. (2016). Adoption of goat farming technologies by the farmers in Udaipur district of Rajasthan. *Research Journal of Animal Husbandry & Dairy Science*, 7(2): 75-79.
- Gunaseelan, M., Singh, B.P., Verma, M.R. and Pachaiyappan, K. (2018). Adoption level of improved goat farming technologies by commercial goat farmers in Tamil

- Nadu, India. *International Journal of Current Microbiology and Applied Sciences*, **7**(5): 3293-3300.
- Karthikeyan, C. (1994). Sugar factory registered growers: an analysis of their involvement and impact, M.Sc thesis submitted to Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India.
- Koli, R.T. and Koli, S.R. (2016). Extent of adoption of goat farming technologies and problems faced by goat keepers in adoption of goat farming technology. *Research Journal of Animal Husbandry & Dairy Science*, **7**(1): 35-38.
- Mohan, B., Sagar, R.L. and Singh, K. (2009). Factors related to promotion of scientific goat rearing. *Indian Research Journal of Extension Education*, **9**(3): 47-50.
- Narain. S. and Rawat, S.K. (2015). Adoption of Improved Goat keeping Practices in Jalaun District of U.P. *An International Journal of Agro Economist*, **2**(1): 7-10.
- Narmatha, N., Sakthivel, K.M., Uma, V. and Akila, N. (2013). Adoption and constraints in improved goat rearing practices. *Indian Journal of Animal Research*, **47**(6): 547-550.
- Roy, R. and Tiwari, R. (2017). Farmers' knowledge and adoption level on goat healthcare management practices in selected areas of India. *Bangladesh Journal of Animal Science*, **46**(2): 95-101.
- Singh, M.K., Dixit, A.K., Kumar, N., Ramachandran N., Singh, S.K., Singh, S.V., Roy, A.K., Yadav, J.S., Singh, A.K., Singh R. and Singh, P. (2014). Goat for nutritional and livelihood security in Bundelkhand region. *Indian farming*, **63**(10): 50-54.
- Singh, S.K., Singh, R., Kushram, P. and Viswkarma, R. (2017). Adoption level of scientific goat farming practices among goat farmers. *Asian Journal of Agricultural Extension, Economics & Sociology*, **21**(4): 1-6.