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Impact of targeted training programmes on awareness and knowledge enhancement of goat farmers in western arid zone of Rajasthan

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Abstract

The present study was undertaken to evaluate the impact of targeted training programmes on improving awareness and knowledge levels among goat farmers in the western arid zone of Rajasthan. Many farmers in this region have adopted goat rearing as a primary livelihood option; however, lack of scientific knowledge about goat farming practices limits the productivity and returns. To address this gap, structured training programmes were organized in the year 2024-25 at Kisan Kaushal Vikas Kendra, Agriculture University, Jodhpur with the objective of enhancing scientific understanding of goat husbandry practices. A pre-tested questionnaire was administered before and after the training to assess changes in farmers' knowledge levels across key areas. The findings revealed that prior to the training, farmers demonstrated limited understanding in aspects like knowledge regarding indian and exotic breeds of goat (10.00%), knowledge about puberty stage of a kid (11.50%), gestation period of a doe (8.50%), breeding management in buck and doe (7.50%), care and management of new born kid (14.00%), housing management (12.50%), feeding management (15%), knowledge about diseases (6.50%), deworming and vaccination schedule (8.00%) and knowledge about different government sponsored subsidy schemes (15.50%). Post-training assessments showed significant improvement, with knowledge gains recorded at approximately 85.50%, 79.50%, 80.00%, 78.50%, 75.50%, 78.00%, 81.00%, 88.50%, 85.50% and 75.50% respectively in the above domains. The results clearly indicate that targeted training interventions significantly enhance the knowledge and awareness of goat farmers, which is vital for improving farm productivity and economic return in the arid region of Rajasthan.

Keywords: Awareness, farm productivity, goat farming, knowledge enhancement, scientific training

Introduction

The western arid zone of Rajasthan, characterized by harsh climatic conditions and scarce water resources, has long relied on livestock rearing as a key livelihood strategy. Among the various livestock species, goats hold a vital place due to their adaptability, low maintenance requirements and economic significance. Goat farming serves as a major source of income, nutrition and livelihood security for small and marginal farmers in the region. However, traditional goat-rearing practices often passed down through generations, are marked by limited scientific knowledge and suboptimal productivity. Inadequate awareness about modern breeding techniques, disease management, nutrition and housing practices poses significant challenges to maximizing the potential of goat farming in the region.

Recognizing this gap, targeted training programmes have emerged as a strategic intervention to build the capacity of goat farmers. These programmes are designed to disseminate relevant, location-specific and practical knowledge that can lead to improved farm management practices, enhanced productivity and increased income levels. The recent increase in goat farming is primarily due to a combination of favorable factors. These include a relatively low requirement for initial investment, the presence of forested landscapes that offer a consistent

supply of tree leaves for goat fodder, limited land demands, enhanced efficiency in feed conversion, greater profitability and a significantly lower need for fodder than that required in cattle and buffalo farming (Singh *et al.*, 2019) ^[6].

The Kisan Kaushal Vikas Kendra, Agriculture University, Jodhpur, organizes need-oriented, skill-based vocational training programmes for farmers, farm women and rural youth in different aspects of livestock and poultry management, production, processing and marketing. These training initiatives are designed to improve farm productivity and enhance the income of the farming community with particular focus on empowering rural youth.

However, the level of knowledge acquired by trainees, is not uniform and is shaped by a range of influencing factors. These include the personal and socio-economic attributes of the trainees as well as external elements such as the effectiveness of trainers, adequacy of physical facilities, and availability of audio-visual teaching aids (Sarma *et al.*, 2014) ^[3]. Consequently, regular assessment of training programmes is necessary to measure learning outcomes and identify areas requiring improvement. Such evaluations facilitate appropriate modifications, thereby strengthening the overall effectiveness of future training programmes. Accordingly, the present study was undertaken to examine the socio-personal characteristics of the trainees and to

evaluate the impact of training on the awareness and knowledge enhancement of goat farmers in western arid zone of Rajasthan.

Materials and Methods

The study was undertaken to assess the extent of knowledge acquisition among trainees from western arid zone of Rajasthan who participated in various training programmes on scientific goat farming organized by the Kisan Kaushal Vikas Kendra, Agriculture University, Jodhpur, during the year 2024-25. For this purpose, 200 trainees who had attended these programmes were purposively selected. The respondents included farmers, farm women and rural youth. A structured questionnaire was developed in consultation with subject matter specialists, departmental officers, experts and based on a review of relevant literature. The questionnaire comprised 10 distinct categories covering various components of scientific goat farming. The same questionnaire was administered to the trainees both prior to the commencement of the training (pre-training evaluation) and immediately after the completion of the training (post-training evaluation). For assessing knowledge level and knowledge gain, a score of '1' was assigned for each correct answer and '0' for each incorrect answer. Percentage analysis was employed to study the socio-personal characteristics of the respondents, their knowledge level and the extent of knowledge gain achieved through the training programme.

The following formulae were used for evaluation:

$$\text{Knowledge (\%)} = \frac{\text{Score obtained}}{\text{Maximum possible score}} \times 100$$

$$\text{Knowledge gain (\%)} = \frac{\text{Post-training score} - \text{Pre-training score}}{\text{Maximum possible score}} \times 100$$

$$\text{Overall knowledge (\%)} = \frac{\text{Total score obtained for all aspects}}{\text{Total possible obtainable score for all aspects}} \times 100$$

Results and Discussion

Socio-personal profile of the trainees

The socio-personal characteristics of the goat farming trainees presented in Table 1 indicate that more than half of the respondents (60.50%) belonged to the middle-aged group (30-50 years), followed by the young age group (23.00%) of <30 years, while 16.50 per cent were from the older age (>50 years) category. The higher participation of middle age group trainees reflects a growing interest among rural youth in adopting goat farming as a viable income-generating enterprise. Regarding educational status, one-fourth of the trainees (24.50%) had attained an intermediate level of education. These findings are in agreement with those reported by Singh *et al.* (2020) [7] and Shyam *et al.* (2024) [5].

In terms of social category, the highest proportion of trainees belonged to the General category (40.00%) followed by Other Backward Classes (34.00%), Scheduled Castes community (23.00%) and Scheduled Tribe (03.00%). A similar distribution pattern was observed by Tariq *et al.* (2025) [9] while assessing the socio-economic and management profile of goat farmers in the Kandi area of Hoshiarpur district conducted by Regional Research and Training Center, Talwara, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab, India.

Table 1: Socio-personal profile of the trainees

Socio-personal profile of the trainees (n=200)			
Variables	Category	Frequency	Percentage
Age	Young (<30)	46	23.00
	Middle (30-50)	121	60.50
	Old (>50)	33	16.50
Education	Illiterate	12	6.00
	Primary	22	11.00
	Upper Primary	36	18.00
	High School	43	21.50
	Intermediate	49	24.50
	Graduate	38	19.00
Caste	General	80	40.00
	Other Backward Class (OBC)	68	34.00
	Schedule Caste (SC)	46	23.00
	Schedule Tribe (ST)	6	3.00

Knowledge gain of trainees on scientific goat farming

An examination of Table 2 reveals that the overall knowledge level of trainees regarding selected scientific goat practices prior to the training programme was very low (10.90%). However, after completion of the training, the knowledge level increased substantially to 91.65 per cent resulting in an overall knowledge gain of 80.75 per cent across various aspects of scientific goat farming.

At the beginning of the training, trainees possessed limited knowledge, which varied from 6.50 to 15.50 per cent across different practices. Following the training, a remarkable improvement in knowledge was recorded with post-training scores ranging from 86.00 to 96.00 per cent. These findings

are consistent with earlier studies conducted by Sasikala *et al.* (2024) [4], Shyam *et al.* (2024) [5], Chakraborty *et al.* (2021) [1], Singh *et al.* (2020) [7] and Tanwar *et al.* (2018) [8], all of whom reported a significant enhancement in knowledge levels after participation in scientific livestock training programmes.

The highest knowledge gain was observed in the area of knowledge about diseases (88.50%). This was followed by deworming and vaccination schedule (85.50%) and knowledge regarding Indian and exotic goat breeds (85.50%). These findings are similar to studies conducted by Mahesh *et al.* (2020) [2]. Other major areas of improvement included feeding management (81.00%),

gestation period of a doe (80.00%) and knowledge about puberty stage of a kid (79.50%). Further gains were recorded in understanding breeding management in buck and doe (78.50%), housing management (78.00%), care and management of new born kid (75.50%) and knowledge about different government schemes (75.50%). Overall, the

findings clearly demonstrate that the training programme on scientific goat farming was highly effective in significantly improving the knowledge of trainees, which is expected to enhance their adoption of improved goat rearing practices and contribute positively to their livelihood in the near future.

Table 2: Knowledge gain of trainees about scientific goat farming

Knowledge gain of trainees about scientific goat farming (n=200)						
S. No.	Particulars	Score obtained		Knowledge%		Knowledge Gain%
		Pre-training evaluation (PTE)	Post training evaluation (PoTE)	Pre-training evaluation (PTE)	Post training evaluation (PoTE)	
1	Knowledge regarding Indian and exotic breeds of goat	20	191	10.00	95.50	85.50
2	Knowledge about puberty stage of a kid	23	182	11.50	91.00	79.50
3	Gestation period of a doe	17	177	8.50	88.50	80.00
4	Breeding management in buck and doe	15	172	7.50	86.00	78.50
5	Care and management of new born kid	28	179	14.00	89.50	75.50
6	Housing Management	25	181	12.50	90.50	78.00
7	Feeding Management	30	192	15.00	96.00	81.00
8	Knowledge about diseases	13	190	6.50	95.00	88.50
9	Deworming and vaccination schedule	16	187	8.00	93.50	85.50
10	Knowledge about different government sponsored subsidy schemes	31	182	15.50	91.00	75.50
	Overall	218	1833	10.90	91.65	80.75

Conclusion

The extent of knowledge enhancement among trainees is influenced by multiple factors including their motivation to learn, the competency and experience of trainers, effective planning and execution of training programmes and the relevance of subject matter to the actual needs of participants. Additionally, a conducive training environment and the use of appropriate teaching aids such as PowerPoint presentations, posters and printed instructional materials play a vital role in improving learning outcomes. In view of these findings, it may be concluded that organizing more such need-based training programmes would be highly beneficial for practicing farmers, farm women and rural youth. These programmes not only contribute to improved knowledge and skill development but also help in boosting the confidence of trainees, thereby supporting their capacity to adopt scientific practices and improve their livelihoods.

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