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Impact of scientific method of goat management training on knowledge gain and adoption of technologies in arid region

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Abstract
Present study was designed with an objective to assess the Impact of scientific method of goat management training on Knowledge Gain and Adoption of Technologies in arid region. This study was conducted in seven villages adjoining Pokaran region of Jaisalmer district of Rajasthan among rural goat farmers were participated in KVK's training programme. Collection of data regarding gain in knowledge, adopted level about improved livestock technologies in scientific goat rearing, supplementation of minerals mixture and their various aspects of feeding management were recorded before and after training. Result revealed that the rural goat owners had gained highest knowledge in goat protection measures during heat wave 60.71%, 58.57% in protection of goat from cold wave, 56.42% in care and management during pregnancy, 52.14% in government sponsored schemes for subsidy, 47.14% in scientific feeding management, 45.71 % in vaccination schedule, 44.28 % in endo and external parasite of goat, % 42.85 in stall feeding, 41.42 % in goat farm construction and space requirement, 39.28% in disease symptoms, 38.92% in improved breeds, 37.14 % in mineral mixture, 36.42% in online goat business, 34.28% in Steaming Up, 32.14% in flushing and 22.85% in goat farm registration in MSME respectively. Study showed that none of the farmers were adopted online goat business, steaming up, flushing, goat farm registration in MSME and very few farmers were known the scientific method of goat rearing and feeding before acquiring training whereas, after attending training programme they were highest adopted about 35.30% in goat protection measures during heat wave followed by 31.0 % in protection of goat from cold wave, 20.5 % in government sponsored schemes for subsidy, 18.30% in edible Planting materials as green fodder, 18.20 % in endo and external parasite of goat, 11.50 % in care and management practices during pregnancy, 10.30 % in disease symptoms, 8.40% in vaccination schedule, 7.50% in scientific feeding management, 6.10% in steaming up, 5.50 % in flushing, 5.50% in goat farm construction and space requirement, 4.70% in deworming and 1.1 % in goat farm registration in MSME respectively. The overall adoption percentage by the farmers which indicated that training had a significant impact in uptake of improved technologies. It may be concluded that trainees succeeded in acquiring knowledge after exposure to training and also adopting technologies on scientific methods of goat rearing.

Keywords: technology, heat wave, cold wave, stall feeding, goat farm

Introduction
Animal husbandry plays an important role in the economic development and a regular source of income of the rural people in India. Our country presently faced challenges in securing the food as well as nutritional security to fast growing population and needed an integrated approach for livestock farming. Among the various livestock species, goat is one of the most potential sources of meat production and efficient feed converters. Goats can efficiently survive on available shrubs and trees in stressful environments. Landless, small and marginal farmers can earn incomes and generating gainful employment through Goat farming. Goat rearing has distinct economic and managerial importance over other livestock because of its less initial investment, low input requirement, higher prolificacy, early sexual maturity and ease in marketing. Sheep and goat rearing is a source of livelihood in the drought-prone rural areas of India (Belakeri *et al.*, 2017) [1]. Small ruminants especially goat has a tremendous potential to be projected as 'future animal' for both rural and urban India. This capacity building may be in agriculture, animal husbandry, fisheries or any other field for bringing out desirable changes in human behaviour (Singh *et al.*, 2018 and Biswas *et al.*, 2008) [9, 2]. Training acts as a basic platform for acquisition of knowledge, skills and competencies

in the respective field. Training had positive impact to the farmers' knowledge level, perception and performance (Senthilkumar *et al.*, 2014) [8].

Training program had an impact in terms of knowledge gain and adaption on scientific practices of sheep and goat rearing (Mahesh *et al.*, 2020) [5]. Animal based enterprises along with farming in arid and extreme arid regions like Jaisalmer, Barmer, Bikaner and Nagaur, Pali and Jodhpur District of Rajasthan (India) require a significant amount of livelihood for every farmer, in which goat husbandry is a profitable and good business. It is often seen that many of our young farmers raise goat for livelihood but due to lack of proper knowledge and proper dietary management, they are unable to earn expected profits.

Rajasthan state having the first rank in goat population accounting 20.84 million and in Jaisalmer district the current Goat population is 1.97 lakhs (20th Livestock census, India). The majority of the goats are non descriptive and native Marwari breeds also. Most of the farmers are rearing goat under traditional pattern and lack of scientific knowledge. The main problems faced by the farmers of Jaisalmer district in goat rearing are low gain in body weight, fodder scarcity, disease outbreak due to lack of knowledge on proper vaccination, infertility problems and kids mortality. To make goat farming more commercially viable option, there is a need to educate the farmers about modern and scientific methods of goat rearing through trainings. Therefore, an effort has been made to study the knowledge and adoption level of farmers towards KVK Trainings on scientific method of goat rearing.

Materials and Methods

The present study was carried out in seven villages i.e. Gomat, Dudhiya, Biliya, Morani, Didaniya, Badli Manda and Badli Nathusar adjoining area of Pokaran region of Jaisalmer district of Rajasthan. Out of 280 trainees, only 140 farmers were randomly selected from those seven villages who attended the specialized trainings on goat farming organized by Krishi Vigyan Kendra, Pokaran (Jaisalmer) Rajasthan during the year 2018-19 and 2019-20. These blocks were selected because of large number of rural goat farmers were participated in KVK's training programme. The selection of respondents based on goat rearing trainees of KVK during preceding two years (2018-2019) was prepared. Hands on training in scientific feeding management and improved breed management in goat rearing were the major portion of training programme where the participants are eagerly participated.

One day off-campus training programme on various aspect of scientific goat rearing were also carried out for Community Interest Groups (CIGs) to visit their farm and confirm their adoption level at farm level. During study, finding undertaken on various parameters such as Scientific feeding methods, importance of stall feeding, goat rearing and protection during cold weather, care and management of goat during heat wave, improved breeds, online goat business, diseases and vaccination, deworming, goat farm construction and management of Ecto parasites etc. Trainings Information was given through mobile and newspapers. The training programs were focused on farmers, farm women and rural youth for those who have interested in self-employment.

Collection and analyses of data

Data were collected through personal contacts with the help of well-structured interview schedule. Pretest was conducted to know the level of knowledge of participants through issuing pre determined questionnaire related to feeding methods, legume and non-legume green Similarly, after completion of the training course, post evaluation was performed in order to assess the knowledge gained by the trainees and effectiveness of training. Hence, gain in knowledge was calculated from the difference of scores obtained in pre and post knowledge test of the trainees. Adoption rate was calculated by contacting the trainees after three months of completion on adoption of various skills learnt from starting or expanding existing sheep and goat enterprise. The gathered data were processed, tabulated, classified and analyzed in terms of percentage in the light of objectives of the study. Total practices were selected to find out the extent of knowledge and adoption of scientific method of goat rearing and feeding management.

Result and Discussion

Knowledge gain

The improvement in knowledge gain of the selected village goat owners 'before' and 'after' scientific goat rearing training is presented in Table 01. A cursory look at Table 1 indicates that before imparting training majority of the respondents had lower knowledge whereas, after training (i.e. awareness camps, animal health camps and farmers' exposure visits) majority of the respondents had higher gain in knowledge. Further the beneficiary farmers of goat rearing training programmes were gained highest knowledge about protection of goat during heat wave (60.71%), followed by Protection of goat from cold wave (58.57%), care and management during pregnancy (56.42%), government sponsored schemes for subsidy (52.14%), scientific feeding management (47.14 %), Vaccination schedule (45.71 %), Endo and external parasite of goat (44.28%), stall feeding (42.85%), Goat farm construction and Space requirement (41.42 %), Disease symptoms (39.28%), improved breeds (38.92%), Mineral mixture (37.14%), Online goat business (36.42%), Steaming Up (34.28%), Flushing (32.14%) and Goat farm registration in MSME(22.85%) respectively. The findings of the study revealed that they had gained knowledge ranging from 22.85 per cent to 60.71 per cent. The findings were in agreement with Senthilkumar *et al.* (2014) [8], Sandeep *et al.* (2018) [7]. Mahesh *et al.* (2020) [5] also reported that improvement in knowledge about goat farming due to extension services. Belakeri *et al.* (2017) [1] also concluded that the farmers' attitude and interest towards learning also might be contributed to higher knowledge gain. Results showed that the training program had a tremendous impact in terms of knowledge gain on scientific practices goat rearing. The reason for higher knowledge of the trained respondents might be due to appropriateness of the covered subject matter and practical training about scientific method of goat rearing which were designed to import latest knowledge through work experience and to goat farms. Higher interest of trainees, exposure visit and availing of opportunity to discuss their doubts with subject matter specialists may be another possible reason for their improved knowledge level.

Table 1: Impact of training on knowledge level of farmers regarding goat farming in arid region Total number of respondents = 140 nos

S. No.	Parameters	Gain in knowledge (In Numbers.)		Gain in knowledge (In %)	
		Before training	After training	Before training	After training
1	Improved breeds	20	54.50	14.28	38.92
2	Scientific Feeding management	32	66	22.85	47.14
3	Stall feeding	20	60	14.28	42.85
4	Protection measures during Heat wave	31	85	22.14	60.71
5	Protection measures from cold wave	36	82	25.71	58.57
6	Endo and external parasite of goat	21	62	15	44.28
7	Flushing	00	45	00	32.14
8	Steaming up	00	48	00	34.28
9	Online goat business	5	51	2.77	36.42
10	Care and management during pregnancy	15	79	8.33	56.42
11	Goat farm construction and Space requirement	12	58	8.57	41.42
12	Edible Planting materials as green fodder	31	73	22.14	52.14
13	Disease symptoms	18	55	12.85	39.28
14	Vaccination schedule	17	64	12.14	45.71
15	Mineral mixture	11	52	7.85	37.14
16	Deworming	15	57	10.71	40.71
17	Government sponsored schemes for subsidy	05	73	3.57	52.14
18	Goat farm registration in MSME	00	32	00	22.85

Extent of adoption

The adoption level of respondent was change 'before' and 'after' scientific goat rearing training is presented in Table 02 which indicates that before imparting the training majority of the respondents had lower percentage of adoption but after the trainig majority of the respondents had higher percentage of adoption. Revealed that very few farmers were adopted the Scientific method of goat rearing, like Mineral mixture (1.0 %), Deworming (1.5%), Goat farm construction and Space requirement (1.5 %), stall feeding (2.0 %), Vaccination schedule (2.3%), Improved breeds (3.32%), Disease symptoms (3.5%), Care and management practices during pregnancy (5.50%), Edible Planting materials as green fodder (10%), Endo and external parasite of goat (11.30%), Protection of goat from cold wave (12%), Protection of goat during heat wave (21%) and none of the farmers were adopted online goat business, steaming up, flushing and Goat farm registration in MSME before acquiring training whereas, after attending training programme they were highest adopted about goat protection measures during heat wave (35.30%) followed by protection of goat from cold wave (31.0%), government sponsored schemes for subsidy (20.5%), edible planting materials as green fodder (18.30%), endo and external parasite of goat (18.20%), care and management practices during pregnancy (11.50%), disease symptoms (10.30%), Vaccination schedule (8.40 %), Scientific Feeding management (7.50%), Steaming up (6.10%), Flushing (5.50%), Goat farm construction and Space requirement (5.50%), Deworming (4.70%) and Goat farm registration in MSME (1.1 %) respectively. Senthil *et al.* (2014) and Hundal *et al.* (2016) [3] revealed that the overall adoption percentage by the farmers which indicated that training had a significant impact in uptake of new technologies. These findings were in agreement with Noor and Dola (2011) [6] concluded that training had positive impact to the farmers perception and performance. The results were in agreement with Tripathi and Mohanasundarraj (2012) [10] also reported that improvement in knowledge about goat farming due to extension services.

Table 2: Adoption level of technology at farmer's field of Pokaran region

S. No.	Parameters	Level of Adoption (in %)		% gained
		Before training	after training	
1	Improved breeds	3.32	7.81	4.49
2	Scientific Feeding management	2.5	7.50	5.0
3	stall feeding	2.10	10.5	8.40
4	Protection measures during Heat wave	21	35.30	14.30
5	Protection measures during cold wave	12	31.0	19.0
6	Endo and external parasite of goat	11.30	18.20	6.90
7	Flushing	00	5.50	5.50
8	Steaming up	00	6.10	6.10
9	Online goat business	00	2.20	2.20
10	Care and management practices during pregnancy	5.50	11.50	6.0
11	Goat farm construction and Space requirement	1.50	5.5	4.0
12	Edible Panting materials as green fodder	10	18.30	8.30
13	Disease symptoms	3.5	10.30	6.80
14	Vaccination schedule	2.3	8.40	6.10
15	Mineral mixture	1.0	5.20	4.20
16	Deworming	1.50	4.70	3.20
17	Government sponsored schemes for subsidy	10.50	20.5	10
18	Goat farm registration in MSME	00	1.1	1.10

Conclusion

Rural goat owners of arid areas had sound knowledge about the protection measures of goat during extreme heat and cold environment after training whereas they had poor knowledge about scientific feeding, breeding management, improved breed, healthcare and online marketing practices. Various parameter on scientific goat rearing adopted in terms of higher percentage value after imparting continuous training programme. Therefore, the present study showed that the training program had an impact in terms of knowledge gain and adaption on scientific method of goat rearing. Thus, it can be concluded that proper extension interventions on goat farming are profitable.

References

1. Belakeri P, Mohankumar S, Bhajantri S, Nishath C. Effectiveness of Sheep and Goat Training Programme in terms of Knowledge Gain among Livestock Farmers of Karnataka. Int. J Pure App. Biosci 2017;5(1):31-34.
2. Biswas S, Sarkar A, Goswami A. Impact of KVK training on Advance Dairy Farming Practices (AFDPS) in changing knowledge and attitude of Prani-Bandhu. J Dairying Foods Home Sci 2008;27(1):43-46.
3. Hundal JS, Udeybir Singh, Navdeep Singh, Kansal SK, Bhatti JS. Impact of training on knowledge level of goat farmers in Punjab. Haryana Vet 2016;55(1):47-49.
4. Livestock Census 20th published in Government of India 2017.
5. Mahesh Kadagi, Kammar MR, Arjun RS, Ashoka P. Impact of Sheep and Goat Rearing Skill Training on Knowledge Gain and Adoption of Technologies. Int. J Curr. Microbiol. App. Sci 2020;9(04):2144-2151.
6. Noor KBN, Doha K. Investigating training impact on farmer's perception and performance. International J Humanities Social Sci 2011;1(6):145-152.
7. Sandeep Kumar Singh, Ruchi Singh, Jayant Goyal, Rashmi Viswkarma. Impact of extension intervention on knowledge and adoption level of goat farming in adopted village of Jabalpur. International Journal of Chemical Studies 2018;6(4):308-309.
8. Senthil kumar K, Daisy M, Kumaravel V, Mohan B. impact of KVK training on scientific method of goat rearing and feeding management of azolla. International Journal of Science, Environment and Technology 2014;3(6):2287-2292.
9. Singh K, Kasrija R, Singh B, Sharma Manoj, Singh R, Verma Harish. Impact of specialized goat training programme on knowledge level and adoption. Indian Veterinary Journal 2018;95:30-32.
10. Tripathi H, Mohanasundarraj GB. Knowledge level of the goat farmers and effectiveness of special livestock production scheme in Erode district of Tamil Nadu. Indian Journal of Small Ruminants 2012;18(2):244-249.