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Knowledge of Beneficiaries and Non-Beneficiaries about Recommended Goat Farming Practices under Attracting and Retaining Youth in Agriculture (ARYA) Project

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ABSTRACT: Krishi Vigyan Kendra, Banswara was locale of the study because initially Attracting and Retaining Youth in Agriculture (ARYA) project was implemented through KVKs in 25 states of the country. In Rajasthan, Banswara is the only district in which this project was initiated. Under, ARYA project, Goat farming is the major aspect chosen for the present study. Total 120 respondents were taken for the study. With this context, the present study has been carried out to know the Knowledge of beneficiaries and non-beneficiaries about recommended goat farming practices under ARYA project. Results show that 75.00 per cent of beneficiaries and 68.33 per cent of non-beneficiaries had medium knowledge level followed by low level and high level of knowledge category. Among recommended goat farming practices, farmers had more knowledge in breeding practices with first rank with MPS 79.44 and MPS 77.04 by beneficiary and non-beneficiary followed by feeding practices (MPS 76.11 and MPS 72.78 by beneficiaries and non-beneficiaries) and housing practices (MPS 75.00 and MPS 69.44 by beneficiaries and non-beneficiaries).

Keywords: Attracting, Retaining, Youth, Goat farming, knowledge.

INTRODUCTION

Agriculture and related industries are at the heart of our country's socioeconomic development. It is vital since it supplies livestock for the majority of our population and contributes significantly to national income and provides good jobs. Hence, there is great dependence of tribal communities on animal husbandry practices (Meganathan *et al.* 2010). Goats are the poor man's cow, and they provide a valuable source of income and employment for rural residents. Cattle are used by the rural inhabitants of Rajasthan's desert zone to supply their milk and meat demands. The majority of the hamlet's small ruminants were fed natural, easily accessible feed sources such tree leaves, grasses, vegetable crop wastes, and food grain crops. Our country's crops and mixed farming system have a complimentary, supplementary, and long-term relationship with livestock, especially bovine and ovine. During the ploughing, planting, harvesting, and threshing seasons, the majority of agricultural households are only employed. Animals are commonly raised as a source of supplemental income in such situations. Despite the fact that goat farming looks to contribute significantly to the agricultural and national economies, farmers who raise goats are still unfamiliar with scientific management techniques. If feeding, breeding, and other management methods were linked into the correct operation, the required amount of milk and meat output could be achieved. Many agricultural institutions and research institutes are constantly working to increase the acceptance of various technologies in the agricultural sector, but there is still a large gap in adoption. This large disparity could be attributable to a variety of social and economic variables, as well as farmers' strong commitment to the traditional technologies that they have followed for numerous years. George *et al*. (2010) observed that very few women had correct knowledge about breeding, housing and health practices of goat. Joshi *et*

al. (2011) tribal women beneficiaries exhibited higher knowledge than non-beneficiaries in all the components of goat farming practices. Senthikumar *et al.* (2013) observed that majority of the trainees had high level of knowledge in management practices, marketing practices, breeding and feeding practices in goat farming technologies. Luthra *et al.* (2019) also revealed that goat farmers possessed high knowledge in goat farming practices like feeding, housing and marketing practices. Bar (2015) found that tribal farmers have affinity for animal component and traditional habit of keeping goat in backyard system. For increasing adoption, there must be more focus on enhancing knowledge of goat farmers about these improved practices. As a result, a determination of the degree of knowledge of beneficiaries and non-beneficiaries about recommended goat farming practices under ARYA project has been made.

RESEARCH METHODOLOGY

Total of 120 respondents were included in the study from the list obtained from Krishi Vigyan Kendra, out of which 60 beneficiaries from goat farming were selected purposively who have obtained training on goat farming under ARYA project and 60 non-beneficiaries were selected randomly in same number from the same villages of beneficiaries of the study area. An interview schedule was formed to find out the knowledge of beneficiaries and non-beneficiaries of ARYA project about recommended practices of goat farming. The knowledge of respondents about selected improved practices of goat farming including housing, feeding, breeding, health and marketing practices was assessed by alternative and dichotomous type of questions. Each selected major practice was further divided into several sub-questions. The schedule was then thoroughly discussed with the experts of Animal Husbandry and Extension Education Department for necessary suggestions and modification. This part of schedule finally consisted of 30 questions of goat farming.

A. Measurement of knowledge

To measure the extent of knowledge of the respondents about different aspects of goat management practices, a knowledge test was developed for the study purpose. The items included in knowledge test were discussed with specialists to ensure that no important aspect had been left out. The knowledge of respondents about selected improved practices of goat farming was assessed by alternative and dichotomous type of questions. Therefore, a respondent could obtain a maximum possible score of 45.

The total score of the individual member for all items was calculated. The mean and standard deviation of all respondents score were computed for classifying the knowledge level into different categories. Accordingly, the members were categorized into low, medium and high level group based on the knowledge score of the individual respondents.

(i) Low level of knowledge = < $(\bar{X}$ - S.D.)

(ii) Medium level of knowledge = $(\bar{X}$- S.D. to $(\bar{X}$ + S.D.)

(iii) High level of knowledge = > $(\bar{X}$ + S.D.)

Frequency and percentage of respondents in each category i.e. low, medium and high were calculated. The knowledge index for each respondent was calculated by using the following formula:

$$K.I. = \frac{K \times 100}{P}$$

Where:

K.I. = Knowledge Index

K= Knowledge score obtained

P = Possible maximum score

To determine the extent of knowledge, mean per cent score for each sub-aspect was worked out and ranked accordingly. In order to find out significant difference in knowledge level between beneficiaries and non-beneficiaries of goat farming under ARYA project, Standard normal deviate test ('Z' test) was applied and then inferences were drawn accordingly.

Mean per cent score (MPS)

Mean percent score were obtained by multiplying total obtained score of the respondents by hundred and divided by the maximum obtainable score under each practice. Formula of MPS is given as under:

$$MPS = \frac{\text{Total score obtained by the respondent}}{\text{Maximum obtainable score}} \times 100$$

'Z' test (Standard Normal Deviate test)

This test was used to observe significance of difference between two sample mean for large sample (i.e. n>30). Formula for 'Z' test is as under:

$$Z = \frac{\left|\overline{X_1} - \overline{X_2}\right|}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_1^2}{n_2}}}$$

Where,

$\overline{X_1}$ = Mean of first sample

X_2 = Mean of second sample

S_1 = Standard deviation of first sample

S_2 = Standard deviation of second sample

n_1 = Size of first sample

n_1 = Size of first sample

RESULTS AND DISCUSSION

This section of dissertation deals with existing status of knowledge possessed by beneficiaries and non-beneficiaries about recommended goat farming practices. Knowledge, as a body of information possessed by an individual is one of the significant components of behavioural aspects and plays a prominent role in adoption of recommended goat practices. On this ground, it is important to know the

extent of knowledge possessed by the beneficiaries and non-beneficiaries of goat farming. Hence, keeping this in view, efforts have been made in this part to report the existing knowledge of beneficiaries and non-beneficiaries towards different goat farming practices. The findings of this section have been presented under the following heads:

(a) Distribution of beneficiaries and non-beneficiaries on the basis of their existing knowledge about recommended goat farming practices

Knowledge possessed by beneficiaries and non-beneficiaries of ARYA project about recommended practices of goat farming was recorded during investigation. Three categories *i.e.* low (<30.41), medium (30.41 to 35.80) and high level of knowledge (>35.80) were made by using mean and standard deviation of the total obtained score by the beneficiaries and non-beneficiaries.

The data presented in Table 1 reveal that out of 120 goat respondents, majority of respondents (71.67%) had a medium level of knowledge followed by 20.00 per cent of respondents fell in low level of knowledge category. Remaining 8.33 per cent of respondents possessed high level of knowledge about recommended goat rearing practices.

Further exploration of Table 1 clearly shows that 75.00 per cent of beneficiaries and 68.33 per cent of non-beneficiaries possessed medium level of knowledge, whereas 13.33 per cent of beneficiaries and 26.67 per cent of non-beneficiaries had low level of knowledge about improved practices of goat farming. On the other hand, 11.67 per cent of beneficiaries and 5.00 per cent of non-beneficiaries were found to have high level of knowledge about improved practices of goat farming.

On the basis of following data, it was concluded that majority of respondents in beneficiaries (75.00%) and non-beneficiaries (68.33%) category of farmers possessed medium level of knowledge regarding recommended practices of goat farming under ARYA project. It was further inferred that the existing knowledge of beneficiaries was comparatively higher than non-beneficiaries of ARYA project.

This might be due to the fact that respondents under ARYA project were young, highly educated, have more mass media exposure and possessed cosmopolitan nature which helps them in understanding the importance of goat farming practices therefore they might have attended all trainings under project for acquiring as much knowledge as needed to be a successful goat farmer.

Table 1: Distribution of beneficiaries and non-beneficiaries according to their existing knowledge about recommended goat farming practices n = 120.

Sr. No.	Knowledge level	Beneficiary respondents		Non-beneficiary respondents		Total	
		f	%	f	%	f	%
1.	Low (<30.41)	8	13.33	16	26.67	24	20.00
2.	Medium (30.41 to 35.80)	45	75.00	41	68.33	86	71.67
3.	High (>35.80)	7	11.67	3	5.00	10	8.33
Total		**60**	**100**	**60**	**100**	**120**	**100**

f = frequency, % = percentage

The present findings are in accordance with the findings of Kavithaa *et al.* (2014); Chethan *et al.* (2015) who also concluded that most of the goat farmers possessed medium level of knowledge regarding goat farming.

(b) Aspect-wise knowledge of beneficiary and non-beneficiary respondents about recommended goat farming practices

The data presented in the Table 2 exhibits that extent of knowledge possessed by the beneficiaries and non-beneficiaries regarding breeding practices were 79.44 MPS and 77.04 MPS respectively. In case of the extent of knowledge possessed by the beneficiaries and non-beneficiaries regarding feeding practices were 76.11 MPS and 72.78 MPS accordingly. Whereas, beneficiaries with 75.00 MPS and non-beneficiaries with 69.44 MPS possessed knowledge regarding housing practices. While in case of health practices, knowledge possessed by the beneficiaries and non-beneficiaries were 72.78 MPS and 71.11 MPS respectively. Extent of knowledge possessed by the beneficiaries and non-beneficiaries regarding marketing were 70.00 MPS and 72.22 MPS respectively. In case of breeding, feeding, housing and health practice beneficiaries of ARYA project possessed comparatively high knowledge than non-beneficiaries whereas, in case of marketing practices beneficiaries possessed comparatively less knowledge than non-beneficiaries.

The maximum knowledge about breeding, feeding and housing may be due to their long goat farming experience in these aspects of goat farming. Regular training exposure under this project might be one of the main reasons of acquiring more knowledge about these practices. Goat farmers were not much aware about health practices may be due to fact that they were highly dependent on veterinary experts for all health related problems. In case of unawareness about marketing aspect, goat farmers might have lack of availability of organized market or distant locations of markets. It also may be due to rearing local breeds for their household consumption and showing less interest in marketing related technologies.

Similar results have also been noticed by Kumar *et al.* (2011); Chethan *et al*. (2015); Pal *et al.* (2018) who found that farmers possessed more knowledge about recommended breeding and feeding practices of goat farming.

Table 2: Extent of knowledge of beneficiary and non-beneficiary respondents about recommended goat farming practices n = 120.

Sr. No.	Knowledge level	Beneficiary respondents (n=60)		Non-beneficiary respondents (n=60)	
		MPS	Rank	MPS	Rank
1.	Housing practices	75.00	III	69.44	III
2.	Feeding practices	76.11	II	72.78	II
3.	Breeding practices	79.44	I	77.04	I
4.	Health practices	72.78	IV	71.11	V
5.	Marketing practices	70.00	V	72.22	IV

MPS = Mean Per Cent Score

(c) Comparison of knowledge between beneficiaries and non-beneficiaries about recommended goat farming practices

In relation to the extent of knowledge of respondents about improved goat farming practices, it was also felt necessary to study the difference between beneficiary respondent and non-beneficiary respondent. To find out the variation in the knowledge of the respondents, 'Z' test was applied. The results are presented in the Table 3.

Hypotheses:

NH_{01}: There is no significant difference between beneficiary and non-beneficiary respondent with respect to their knowledge about recommended practices of goat farming**.**

RH_1: There is significant difference between beneficiary and non-beneficiary respondent with respect to their knowledge about recommended practices of goat farming**.**

Table 3: Comparison of knowledge between beneficiaries and non-beneficiaries about recommended goat farming practices.

Sr. No.	Category of sample	Mean	S.D.	'Z' value
1.	Beneficiary respondent	33.80	2.95	2.978**
2.	Non-beneficiary respondent	32.46	2.18	

**Significant at 1 per cent level of significance

The data exhibited in the Table 3 depict that calculated 'Z' value was found to be greater than its tabulated value at 1 per cent level of significance. Thus, null hypothesis (NH_{01}) was rejected and alternate hypothesis (RH_1) was accepted, which leads to the conclusion that there was significant difference regarding knowledge between beneficiary and non-beneficiary respondent about recommended goat farming practices.

The mean value further indicates that beneficiary respondent had higher knowledge mean than non-beneficiary respondents. This reveals that beneficiary respondent possessed more knowledge than non-beneficiary respondents about recommended goat farming practices. This may be due to the fact that beneficiary respondents as compared to non-beneficiary respondent had more mass media exposure, more extension contact and high participation in training programmes conducted under ARYA project.

Similar results were reported by Joshi *et al.* (2011) who found that tribal women as the beneficiaries exhibited higher knowledge than non-beneficiaries in all the components of improved goat rearing practices.

CONCLUSION

Extension agencies involved in livestock development should focus their efforts on educating goat keepers about recommended practices of goat rearing and management by providing training, organizing field excursions, and holding demonstrations. A large proportion of goat owners were unaware of improved and prolific breeds released and recommended by state agricultural universities. As a result, the study recommends that extension workers should make concerted efforts to raise awareness and distribute knowledge about the advances among goat farmers.

FUTURE SCOPE

1. Successful case studies of goat farmers can be documented.
2. Comparative studies between all areas of agriculture and allied sectors under ARYA project can be carried out for knowing the current status of knowledge of goat farmers.

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Conflict of Interest. None.

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