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Correlates of level of knowledge of tribal livestock farmers regarding improved animal husbandry practices

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Abstract

This study was conducted on 120 tribal farmers and livestock owners selected from 12 villages of Banaskantha district of Gujarat state during the year 2012 to ascertain their knowledge level of improved animal husbandry practices and factors influencing it. The study revealed that majority (68.33 percent) of the respondents had medium level of knowledge of improved animal husbandry practices while the respondents with high and low level of knowledge were of similar magnitude (15.83 percent). The average knowledge score was 49.36. Out of the 13 variables examined, the correlation coefficient of twelve variables viz., age, education, dairy farming experience, social participation, occupation, attitude, herd size, milk production, size of land holding, annual income, economic motivation and scientific orientation was positive and significant, which influenced their knowledge and only one variable the size of family was negative and non-significant.

Keywords: Dairy farmers, knowledge, improved animal husbandry practices, attitude, economic motivation, scientific orientation

Introduction

India has a major share of the global population of the livestock with rich and vast genetic resources. Livestock industry plays an important role in national economy and socio-economic development of our country. Out of this industry, dairying is a valuable treasure and source of poverty eradication, employment generation and an instrument of social corner stone of development in rural India. The economic life of majority of her rural people is related to agriculture and animal husbandry enterprises. It is also true that socio-economic growth belonging of a nation depends on the development of the people belonging to different sections of the society.

Use of modern inputs and adoption of new agricultural technology are undoubtedly more important in increasing farm productivity are influenced by the knowledge of the farmers' regarding these technologies. This is true particularly in the developing countries like India, where prosperity of the rural people in country is mainly dependent on agriculture and livestock. In India, considerable changes have been brought about in traditional animal husbandry during last four decades, through various programmes involving use of modern inputs and new technologies. However, the progress is not yet to the desired level of satisfaction because whatever progress that has been achieved so far, differ from one region to another. There are certain regions where the progress in animal husbandry is as per the expectations. At the same time, there are regions showing backwardness, particularly tribal areas of the country, which are scattered all over the country and are mostly located in small pockets in various states and even within the state. The progress in such areas is not uniform and the tribal areas of Gujarat is no exception. Tribals mainly inhabitate in ten districts of the state, ranging from Banaskantha in the North to Dang in the South. In Banaskantha also, one can see two extremes of the dairy business. The Palanpur, Deesa, Dhanera and other talukas, where the dairy development is very good but at the same time, the tribal area like Amirgadh and Danta has yet to make a dent in the dairy development, dairy co-operative sector. Apart from physical constraints, the Amirgadh and Danta are conspicuous of having poor socio economic framework. Literacy rate is very poor. The productivity of the animal is very poor with poor agriculture resources. Thus, the employment opportunities are also very feeble culminating in low income per capita.

The talukas are quite backward and people have poor mindset to accept innovations. The factors in poor development of dairy sector, one of the major occupations of Banaskantha District need to be explored in these regions.

Tribal region shows backwardness in dairy and livestock sectors. It is, therefore, necessary not only to find out the level of farmers' knowledge of improved animal husbandry practices but also the factors associated with it. Hence, the study was undertaken to find out the knowledge level of tribal farmers of Banaskantha area regarding improved animal husbandry practices and their socio-economic characteristics associated with it.

Methodology

The research study was focused upon two major aspects, measuring the extent of knowledge of improved animal husbandry practices possessed by tribal livestock farmers and its relationship with their selected attributes.

Ex-post facto research design was used for the study, multistage random sampling technique was used for selection of districts, talukas, villages and the respondents. From North Gujarat Banaskantha district was purposely selected based on scale of milk production. From above district, two talukas Amirgadh and Danta included purposively being only talukas with tribal population. From each taluka, six villages were included at random, thus making a total of 12 villages for survey. Ten respondents from each village were selected at random making a list of total 120 respondents for final interview schedule.

To measure the knowledge level of the tribal livestock farmers regarding improved animal husbandry practices, a

teacher made test based on the scale was used. The knowledge index was calculated with the help of the following formula:

$$Ki = \frac{X_1+X_2+X_3+\dots+X_n}{N} \times 100$$

Where,

Ki=Knowledge index

$X_1+X_2+X_3+\dots+X_n$ = Total number of correct answers

N = Total number of items in the test

The respondents were grouped into three levels of knowledge as follows:

Category	Scores
1) Low level of knowledge	<mean - S.D.
2) Medium level of knowledge	mean \pm S.D.
3) High level of knowledge	>mean + S.D.

The respondents were contacted in individual and information was collected with the help of well-structured and pre-tested interview schedule. The data were analyzed to determine mean, standard deviation and correlation coefficient for meaningful interpretation and conclusion. The salient findings of the study are presented here as under:

Results and discussion

Overall level of knowledge of tribal livestock farmers about improved animal husbandry practices

Table 1: Distribution of tribal livestock farmers according to their overall level of knowledge of improved animal husbandry practices n = 120

Sr. No.	Category	Frequency	Percent
1.	Low level of Knowledge	19	15.83
2.	Medium level of Knowledge	82	68.33
3.	High level of Knowledge	19	15.83
Total		120	100.00

Mean = 49.36 S.D. = 11.22

Data presented in above Table-1 depict that majority(68.33 percent) of the respondents had medium level of knowledge of improved animal husbandry practices while the respondents with high and low level of knowledge were of similar magnitude (15.83 percent). The average knowledge score was 49.36, very low.

It can be concluded that majority of the tribal livestock farmers had medium level of knowledge of improved animal husbandry practices. However, it is very unsatisfactory to note that more than 82 percent of tribal livestock farmers showed less than 53 score out of 85 with their average score of only 49.36 out of 85. It clearly indicated that there is a need to motivate tribal livestock farmers to become more familiar with improved animal husbandry practices in their own interest. There is great need for strengthening of the animal husbandry extension services, need to involve animal husbandry extension functionaries with Agricultural Technology Management Agency, R. K. V. Y. and other extension agencies.

Gajera, (1991) [4], Meena and Chauhan (1999) [10], Temkar (2000) [15], Kumar, *et al.*(2001) [7], Maity *et al.*(2002) [9], George and Subhadra (2002) [5], Parashar (2004), Ashwar (2005) [1], Toppo (2005) [16], Bhatt (2006) [2], Rani (2009) [12], Patel (2011) [11], and Lohakare *et.al.* (2015) [8] reported similar

findings that majority of the dairy farmers had medium level of knowledge of improved animal husbandry practices.

Relation between characteristic of tribal livestock farmers and their level of knowledge of improved animal husbandry Practices

Table 2: Relation between characteristic of respondents and their extent of knowledge of improved animal husbandry practices

Sr. No.	Independent Variable	Correlation with Knowledge
1	Age	0.1995*
2	Education	0.2175*
3	Dairy farming experience	0.2198*
4	Size of family	-0.1375 ^{NS}
5	Social participation	0.2555**
6	Occupation	0.2918**
7	Attitude	0.2450*
8	Herd size	0.2179*
9	Milk production	0.3267**
10	Size of land holding	0.2337*
11	Annual income	0.2407*
12	Economic motivation	0.2168*
13	Scientific Orientation	0.3261**

**Significant at 1.00 percent level of probability,

*Significant at 5.00 percent level of probability. NS=Non-significant.

It is evident from the Table-2 that out of the 13 variables examined, the correlation coefficient of twelve variables viz., age, education, dairy farming experience, social participation, occupation, attitude, herd size, milk production, size of land holding, annual income, economic motivation and scientific orientation were found to be positive and significant and only size of family was found negative and non-significant.

Age and knowledge

Age of tribal livestock farmers was positively and significantly correlated with knowledge of improved animal husbandry practices.

In fact the majority of tribal livestock farmers were middle-aged. This might be the reason that age was differentiating attribute in their knowledge level of improved animal husbandry practices. The tribal livestock farmers with more age usually have more exposure to knowledge imparting agencies and have more chances for knowledge seeking behavioural changes. This might be reason that the more the age of tribal livestock farmers more was their knowledge of improved animal husbandry practices.

This finding disagreed with the findings of Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13].

Education and knowledge

Education of tribal livestock farmers was positively and significantly correlated with knowledge of improved animal husbandry practices.

It is well conventional that education is universal remedy to all community maladies. Education widens the horizons of observation of a person to the socio-economic circumstances. Well educated person understands the utility of innovations and try to acquire more and more knowledge of relevant technologies resulting in more knowledge of improved animal husbandry practices in more educated tribal livestock farmers. The present finding elucidated that education has positive and significant correlation with knowledge is in agreement with that of Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13].

Dairy farming experience and knowledge

Education of tribal livestock farmers was positively and significantly correlated with dairy farming experience of improved animal husbandry practices.

It is well conventional that education is universal remedy to all community maladies. Education widens the horizons of observation of a person to the socio-economic circumstances. Well-educated person understands the utility of innovations and try to acquire more and more dairy farming experience of relevant technologies resulting in more dairy farming experience of improved animal husbandry practices in more educated tribal livestock farmers.

Dairy farming experience was having significant relationship with knowledge of improved animal husbandry practices depict that formal dairy farming experience improves the rates of knowledge of improved animal husbandry practices.

In fact, in rural Gujarat dairying is not only familiar and ancestral occupation but also deemed an art pursued with emotional involvement. The tribal livestock farmers often evolve their own package of practices and homemade remedies with their experience, vision and the knowledge they inheritate from their parents and grandparents, so longer the time of exposure to livestock keeping better was the knowledge of improved animal husbandry practices.

Size of family and knowledge

Size of family was negatively and non-significantly correlated with the improved animal husbandry practices of tribal livestock farmers.

It indicates that size of family of the tribal livestock farmers did not play any significant role in extent of knowledge in animal husbandry practices.

In tribal area most of the families are joint families and didnot differ significantly in their size leading a nonsignificant role in knowledgeimprovement.

Social participation and knowledge

Social participation was positively and significantly correlated with knowledge of improved animal husbandry practices.

It study revealed that the farmers have social participation in village panchayat and village milk co-operative societies where they might induce themselves more in getting more information of innovations, its advantages and related matter.

The present finding indicates that social participation has positive and significant correlation with knowledge is in agreement with that of Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13].

Occupation and knowledge

Occupation of tribal livestock farmers was positively and significantly correlated with the knowledge of improved animal husbandry practices.

The majority of tribal livestock farmers though had agriculture and animal keeping as their main occupations but a small fraction was also engaged in service or independent occupations where they would have an opportunity to get exposure to modern animal husbandry practices and its importance leading to a positive and significant correlation.

Attitude and knowledge

Attitude was positively and significantly associated with knowledge of improved animal husbandry practices.

It was interesting to note that most tribal livestock farmers were in category of medium attitude but attitude score was 68.85 a quite high.

The personal interview with tribal livestock farmers revealed that they have started keeping dairy animal in recent past only with help from BANAS dairy and the assistance from state government. This added to their family income and they concentrated on better management, feeding and other dairy farming practices otherwise was of very poor standards resulting in more knowledge seeking behaviour on their part. This all have created a feeling of somewhat dedication towards dairy animal resulting in significant association with knowledge.

Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13] reported similar findings.

Herd size and knowledge

The herd size was positively and significantly correlated with the knowledge of improved animal husbandry practices.

The tribal livestock farmers have small to medium number of animals. With more number of animals the milk production would also be more and more return from the livestock resulting in better economic condition and more access to information sources resulting in better knowledge of improved animal husbandry practices.

This observation agreed with the findings of Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13].

Milk production and knowledge

Milk production has positive and highly significant associated with knowledge of improved animal husbandry practices i.e. the farmers with the higher quantities of milk produced at their home had better knowledge. With more knowledge and its application, more was the milk production, better return and somewhat improved capacity to spend on improved animal husbandry practices. The rewarding experience would have boosted the tribal livestock farmer's willingness to seek more knowledge to adopt latest improved animal husbandry practices.

Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13] reported similar findings.

Size of land holding and knowledge

Size of land holding was positively and significantly correlated with knowledge of improved animal husbandry practices.

This reveal that tribal livestock farmer with more hectare of land holding have better knowledge of improved animal husbandry practices.

Land is one of the most fundamental but one of the scarcest resources and considered as an important socio-economic indicator in agricultural sector and rural development. Tribal livestock farmers with more land were able to enjoy better economic status as well as all resources required for knowledge acquisition with regards to improved animal husbandry practices.

The positive influence of land holding upon knowledge was also documented by Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13].

Annual income and knowledge

Annual income of tribal livestock farmers was positively and significantly correlated with the knowledge of improved animal husbandry practices.

Tribal livestock farmers obtaining higher returns were prepared to devote more on dairy farming, which enables them to timely procurement of inputs, proper utilization of professional resources, technology and guidance, which play an important role in inspiring them to equip with better knowledge for more adoption of modern animal husbandry practices.

Singh and Godara (2002)^[14] and Deepak (2004)^[3], Kuhar and Singh (2006)^[6], Sharma *et al.* (2009)^[13], have also reported similar findings.

Economic motivation and knowledge

Economic motivation was positively and significantly associated with knowledge of improved animal husbandry practices.

Economically motivated tribal livestock farmers were naturally oriented towards maximization of returns from the dairy farming. They might have accepted dairy farming as a business enterprise. Thus, they could have established better linkages with media and extension agencies to seek latest information on improved animal husbandry practices for update of knowledge resulting in positive association of economic motivation and knowledge.

The findings are in line with that of Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13].

Scientific orientation and knowledge

Scientific orientation of tribal livestock farmers was positively and highly significantly associated with the knowledge of improved animal husbandry practices.

It is a fact that scientifically oriented individuals are disposed towards application of scientific techniques in their business and for that they should have understanding and foresight of business so as the better knowledge of improved animal husbandry practices. They comprise a favourable perception towards new developments and prepared to acquire informations from all kind of sources for its adoption and tribal livestock farmers are no exception.

The finding supports to those of Singh and Godara (2002)^[14], Deepak (2004)^[3], Kuhar and Singh (2006)^[6] and Sharma *et al.* (2009)^[13].

Summary and Conclusion

On the basis of findings of the study it is concluded that the tribal farmers had medium level of knowledge of improved animal husbandry practices but the average knowledge score was only 49.36, very low. Hence attempts should be made by animal husbandry extension agencies to augment the knowledge level of tribal livestock farmer about improved animal husbandry practices. Intensive efforts should be made by all possible ways to improve their knowledge on improved animal husbandry practices and the variables had positive and significant effect should be exploited for this noble cause.

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