An Analysis of the Attitude of Farmers of Three Districts of Tamil Nadu, India towards Sheep Farming

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Summary

This study explored and described the farmers' attitudes towards sheep farming in three districts of Tamil Nadu state in India, namely, Coimbatore, Dindigul and Tiruchirappalli. It examined the farmers' personal characteristics, determined their overall attitude towards sheep farming and how this attitude varied based on their personal characteristics. One hundred and fifty farmers formed the sample. The study revealed that majority of the farmers were middle aged, illiterate, had 5- 15 years of experience in sheep farming and had a sheep flock size of 50 – 100. A majority of the respondents were found to have a favourable attitude towards sheep farming. Education was found to have a negative and significant association with attitude. In comparison, the farmers of Tiruchirappalli district were found to have a less favourable attitude towards sheep farming. Introducing basic scientific concepts in sheep farming is advised to enhance productivity in the state of Tamil Nadu.

Résumé

Une analyse de l'attitude des fermiers de trois zones de Tamil Nadu, Inde envers l'élevage des moutons

L'étude a étudié l'attitude des fermiers envers l'élevage de moutons dans trois districts de Tamil Nadu (Inde): Coïmbatore, Dindigul et Tiruchirappalli. Elle a examiné les caractéristiques personnelles des fermiers, déterminé leur attitude globale envers l'élevage des moutons et l'interaction entre ces paramètres. Cent cinquante fermiers ont constitué l'échantillon. L'étude a indiqué que la majorité des fermiers étaient d'âge moyen, illettrés, avec de 5 à 15 ans d'expérience dans l'élevage des moutons et possédaient des troupeaux de 50 – 100 animaux. Une majorité des personnes enquêtées ont une attitude favorable envers l'élevage des moutons. Plus la personne est diplômée, moins elle est intéressée par cette activité. Les fermiers du district de Tiruchirappalli sont nettement moins favorables envers l'élevage des moutons. Introduire une formation de base auprès des éleveurs de mouton de l'état de Tamil Nadu pourrait entraîner une amélioration de la production des troupeaux

Introduction

Tamil Nadu is one of the premier states of India in terms of economic and social development. Agriculture, including livestock rearing has been the mainstay of its economy. Of the 40 distinct sheep breeds of India, the state has eight of them, namely, *Mecheri* (or *Mailambadi)*, *Kilakarisal*, *Vembur* (or *Karandhai)*, *Coimbatore kurumbai*, *Nilgiri*, *Ramnad White*, *Madras Red* and *Tiruchy Black (*8). Sheep has a special place among the livestock of Tamil Nadu. The state's share in the all India Sheep population is about 11.6%, which is the highest percent-share among all the livestock of the state to the all India Livestock population. The state possesses about 5 593 000 sheep (3) with a population density of around 43 sheep per sq.km and the major purpose of sheep farming is for mutton and manure. Skin is another important byproduct with a large number of tanneries located in the state. Sheep farmers of the state also derive income from penning, which is a very common practice followed to enrich the crop fields. Sheep comprises about 41% of the total ovines in the state and among the sheep, crossbred and indigenous sheep account for 14% and 86% respectively. The association of sheep with the farmers of the country is pre-historic, but management of sheep has remained primitive even up to the recent past. Constraints such as inefficient use of potentially important breeds, inefficient and inappropriate production systems, poor strategies for improved natural resource management, weak marketing systems and inadequate official support have led to low productivity of sheep (11). Further, of late, there has been a growing concern among scientists about the farmer losing faith in sheep / goat rearing, and opting for other ventures in the urban areas. The levels of adoption of breeding, feed and nutrition and health-related technologies are dismally low (6) and the productivity of Indian sheep breeds in general is low, comparatively. Change agents claim that unfavourable perception is one of the major reasons for low technology utilization in sheep farming, leading to low productivity. Though the total livestock population of the state has marginally increased by 3.22% in the last five decades, there has been a sharp decline of about 34.41% in the sheep population (2). These statistics have made the policy makers to lament on the unfavourable attitude of farmers towards sheep farming and this belief is often reflected in the livestock planning policies both at macro and micro levels. A farm enterprise, usually finds favour among the farmers due to several factors like technology benefits, feed or input availability, marketing potential etc... Such factors play a role in attitude formation and thereby adopting a farm enterprise (1, 7). Attitude of a farmer towards sheep farming, therefore, could influence his or her decision either to accept or reject sheep farming enterprise. Whether the intended objective of improving the sheep productivity and meeting the meat demands of the country will be achieved, depends greatly on the attitude of the present day farmers towards sheep farming. A better understanding of the attitude of sheep farmers is therefore urgently required to guide policy decisions regarding development programmes in sheep.

Keeping this in view, an attempt has been made to assess the attitude of farmers of three select districts of Tamil Nadu, India towards sheep rearing. Three objectives guided the study. 1) To assess the attitude of farmers towards sheep farming, 2) To ascertain the correlates of farmers attitudes and their individual characteristics and 3) To compare the farmers of the three districts of Tamil Nadu in terms of their attitude scores.

Materials & methods

The study area chosen was the three districts of Tamil Nadu, India (LN 8^0 04', LE 78^0 0'), namely, Coimbatore,

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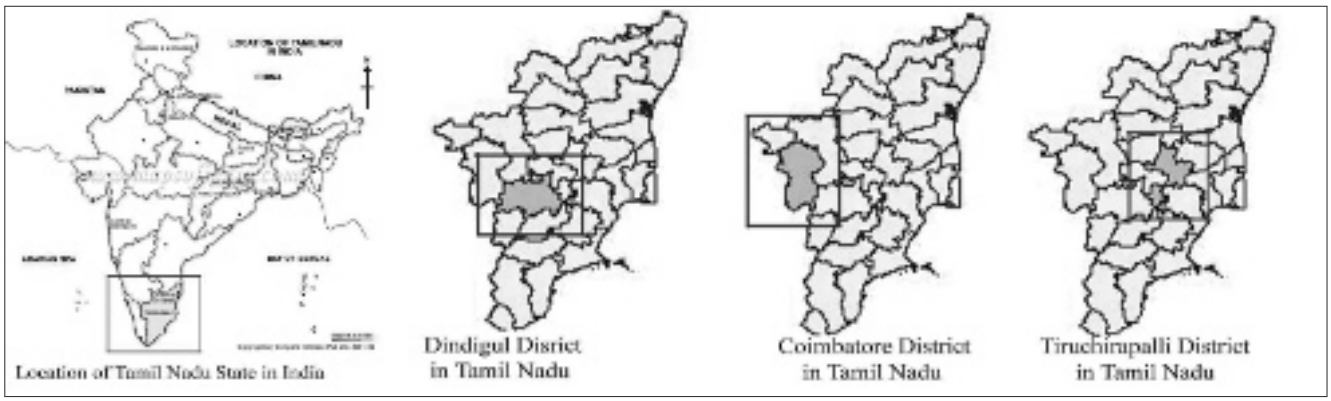

Figure 1: Map of study area.

Tiruchirappalli and Dindigul (Figure 1). These were selected at random from a list of districts with high sheep population based on the 1997- Livestock census. Three community development blocks, namely, Udumalpet, Manapparai and Dindigul were selected respectively from each district, at random. Fifty farmers from each block were selected at random and altogether 150 farmers formed the sample. Data were collected through personal interviews with the help of a structured schedule. The interview schedule for collecting data from the respondents on their attitude towards sheep farming consisted of two parts.

The first part collected information on the demographics of the respondents (a few independent variables, namely, age, educational status, farming experience and flock size were selected for the sake of brevity) and the second part elicited their responses towards the attitude scale. To measure the attitude of farmers, a 3-point scale developed by Rajkamal & Kunzru (12) for goat farmers was utilized with slight modifications (Table 1).

The scale that was constructed using Thurstone's Equal Appearing Interval method, consisted of 9 items. The scale consisted of five favourable items (statements) and four unfavourable items. The negative and positive items were placed randomly in the scale in order to avoid the respondents' bias. The scoring procedure adopted was as follows.

Nature of statement	Continuum		
	Agree	Undecided	Disagree
Favourable	3	2	1
Unfavourable	1	2	3

The total score of each respondent was obtained by summing up his/her scores for the individual items. High scores indicated favourable attitude and low scores indicated unfavourable attitude towards sheep rearing.

Statistical techniques employed in this study included, simple percentage, confidence interval, correlation analysis and data analysis was carried out using SPSS version 10.0.

Results and discussion

i) Profiling sheep farmers

Descriptive statistics were used to profile the respondents and the results are presented in table 2.

It is evident from the table that majority of the respondents were middle aged. Similar to the findings of Misra (9), majority of them were illiterates. Majority of them had a farming experience of 5–15 years and had a sheep flock size of 50–100 in number. The flock size of the sample is appreciable since previous studies had put the number at 5-15 for the southern parts of the country (10).

Table 1
Attitude scale

Please tell whether you agree or disagree with each of the statements

No.	Statements	Agree	Undecided	Disagree
1	I feel that young farmers should take up sheep farming as a self employment project (EMPLOY)			
2	Sheep rearing is labour intensive (LABOUR)			
3	Rearing of sheep makes their meat readily available for consumption (MEAT)			
4	Using scientific methods in sheep rearing cannot generate higher profits (SCIENTIFIC)			
5	Farmers should keep sheep to meet emergency financial needs by selling them (EMERGENCY)			
6	Sheep rearing is a risky enterprise for anyone as sheep easily get infected by diseases. (RISKY)			
7	Sheep farming is a way to prosperity for poor farmers (PROSPERITY)			
8	Sheep's efficiency to convert otherwise useless crop by products into meat is a plus point for sheep rearing (CONVERSION)			
9	One should abstain from sheep rearing as grazing lands are dwindling (GRAZINGLAND)			

Table 2
Profile of sheep farmers

S. No.	Name of variable	Category	Number of respondents			Percentage
			Coimbatore	Dindigul	Tiruchirappalli	
1.	Age	Young (Up to 35 years)	24	19	10	35.0
		Middle (36 – 45 years)	11	23	35	46.0
		Old (> 45 years)	15	8	5	19.0
		TOTAL	50	50	50	100.0
2.	Educational status	Illiterate	42	28	20	60.0
		Primary education (Studied up to 5th standard)	4	10	25	26.0
		Middle education (6th standard to 8th standard)	2	9	5	10.7
		Secondary education (9th standard to 12th standard)	1	3	0	2.7
		Collegiate education	1	0	0	0.6
		TOTAL	50	50	50	100.0
3.	Farming experience	Less than 5 years	10	10	16	24.0
		5 - 15 years	16	20	29	43.0
		> 15 years	24	20	5	33.0
		TOTAL	50	50	50	100.0
4.	Flock size	Less than 50	18	8	6	21.3
		50 – 100	24	29	36	59.4
		> 100	8	13	8	19.3
		TOTAL				100.0

ii) Overall attitude of farmers

The respondents were asked to register their responses to the statements in the scale and were distributed based on their frequency of responses. The results are presented in table 3.

The distribution presented in table 3 reveals that majority of the farmers belonged to the "highly favourable" category followed by the "favourable" category. Only 8% of the respondents belonged to the "highly unfavourable" category which clearly indicates the favourable perception of the farmers towards sheep farming. This finding contradicts the popular view that sheep farming does not find favour among the sheep farmers.

iii) Correlates of farmers' attitude and their individual characteristics

The correlates of the personal characteristics of the sheep farmers and their attitude were assessed since attitude formation is dependent on the individual's personality characteristics (13). The results are presented in table 4.

Table 3
Distribution of respondents based on their attitude scores

Category	Number of respondents	Percentage (%)
Highly unfavourable (Very Low)	12	8
Unfavourable (Low)	2	1.3
Neutral	26	17.3
Favourable (High)	52	34.6
Highly favourable (Very high)	58	38.6

The findings reveal that educational status had a negative and significant association with attitude. This would suggest that the less educated might be more positive towards sheep farming. This may be explained by the lack of conviction on sheep production technologies or the perception that there is nothing innovative in sheep farming practices worthy of learning by the educated; and therefore, sheep farming is not worthy of pursuing by the educated farmers. The sample had only 40% of literates who might have been disillusioned by low productivity levels in sheep farming. This problem therefore needs to be rectified immediately by convincing the literate farmers about the relevance of sheep farming in today's context, and on improving the productivity levels of sheep by adopting scientific sheep farming technologies. This finding contradicts that of Rogers & Havens (13) who had reported that education is a precondition for forming positive attitudes.

iv) An analysis of the attitude of sheep farmers belonging to the three districts

Analysis of Variance test (ANOVA) was used to examine whether there are differences among the mean attitude

Table 4
Correlates of farmers' attitude and their individual characteristics

S.No.	Variable Name	"r" value
1.	Age	-.090
2.	Education	-.231**
3.	Farming experience	-.077
4.	Flock size	-.052

** Significant at 0.01 level.

Table 5
Duncan's Post Hoc test for comparison of differences among districts

District/Statement	Means for Groups	
	Subset 1	Subset 2
LABOUR (Statement No.2)		
Coimbatore		2.56
Dindigul		2.48
Tiruchirappalli	2.20	
MEAT (Statement No.3)		
Coimbatore		2.42
Dindigul		2.30
Tiruchirappalli	2.00	
EMERGENCY (Statement No.5)		
Coimbatore		2.96
Dindigul		2.84
Tiruchirappalli	2.48	
PROSPERITY (Statement No.7)		
Coimbatore	2.02	
Dindigul		2.36
Tiruchirappalli		2.36

scores of farmers belonging to the three districts.
The 'F' value that was significant ($p < 0.001$) for the statements, 2, 3, 5 & 7 indicated group differences i.e., there existed significant differences among the farmers belonging to the three districts. Hence, it could be inferred that at least one of the district differs from the others in its responses to these items on the attitude scale. In order to determine which groups differ, Duncan's Post Hoc Test was performed and the results are presented in table 5.
Duncan's test has identified two subsets i.e., subset 1 and subset 2, within each of which, differences were not significant. The districts of Coimbatore and Dindigul were homogenous in nature (subset 2) in the case of responses to statements, 2, 3 and 5. The farmers of Tiruchirappalli district (subset 1) however differed from the other two. This would indicate that in terms of the favourableness of perception towards statements that indicate labour – intensiveness of sheep farming, availability of meat and scope for emergency selling of sheep, the Tiruchirappalli farmers had differed significantly from the other two districts. The low group means of Tiruchirappalli district (2.20 for statement No 2; 2.00 for statement No 3 and 2.48 for statement No 5) indicate that those farmers had a less favourable attitude towards these statements. As for statement no 7, the farmers of Tiruchirappalli and Dindigul had similar perceptions (Subset 2). The farmers of Coimbatore district on the other hand, had a less favourable attitude (with a mean of 2.02) towards the statement, 'Sheep farming is a way to prosperity for poor farmers'.
These findings help us to infer that the farmers of Dindigul district are almost convinced of all the aspects of sheep farming. This district with a sheep population of 214 000 heads (3) has a full-fledged Animal husbandry Department which has a Regional Joint Director at its helm of affairs; the department has been distributing sheep units among the farmers under various development programmes. The density of sheep in the district is high in the taluks of Dindigul, Palani and Vedasandur with the predominant sheep breed of the district being *Mecheri* (4).The influence of these might have had an effect on the positive attitude of the farmers of the district.
The favourable attitude of the farmers of Coimbatore district is also evidenced through the results, except for statement no 7. This district, with a sheep population of 206000 heads (3), has the Tamil Nadu Agricultural University, two Training and Research centres of the Tamil Nadu Veterinary and Animal Sciences University and about 172 veterinary units of the state department of Animal husbandry involved in dissemination of sheep production technologies. On the other hand, the farmers of Tiruchirappalli district still need to be convinced on the various positive aspects of sheep farming. This unfavourable attitude would possibly lead to low adoption of sheep production technologies, therefore leading to low productivity. This aspect assumes greater importance in the case of Tiruchirappalli district since it has the highest number of sheep (260 000) among the three districts (3) and has a good population of breeds such as *Kilakarisal* and *Tiruchy Black.* The attitude of farmers of the district could be improved by strengthening the research-extension-farmer linkages with the help of line departments in the district which includes the 59 veterinary institutions of the Department of Animal husbandry and the Training and Research Centre of the Tamil Nadu Veterinary and Animal Sciences University. These institutions should campaign effectively for strengthening the convictions of the farmers on the benefits of sheep farming.

Conclusion and recommendations

The following implications could be drawn based on the results of the study.

The extension agents could use the favourable attitude of farmers in launching action programmes for introducing scientific concepts in sheep farming in order to enhance the productivity.

Since a significant number of the respondents were illiterate, extension methods such as farm and home contacts by extension personnel, radio, TV etc., which do not require reading ability, should be used to promote scientific sheep farming among these farmers.

The correlation analysis had showed the association of years of schooling with attitude. Hence, it is suggested that the educated farmers should be targeted and approached to inculcate the worthiness of continuing with sheep farming. Print media is a worthy option and the daily newspapers and farm magazines could be utilized for motivating them, as around 40% of the farmers had primary and above level of schooling.

The study showed that the farmers of Tiruchirappalli and Coimbatore districts of Tamil Nadu had an unfavourable attitude towards certain aspects of sheep farming. Establishing a separate directorate for sheep and goat development for promotion of this enterprise on scientific lines in Tamil Nadu similar to the states of Rajasthan and Jammu and Kashmir (5) and conducting holistic campaigns across the state could possibly help in orienting these farmers positively towards sheep farming.

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