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Constraints Perceived by Farmers in Commercial Goat Farming System in Tamil Nadu, India

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ABSTRACT

A study was undertaken to analyze the constraints perceived by commercial goat farmers of Tamil Nadu. A sample of 120 commercial goat farmers (20 farmers from each selected districts) from 6 districts of Tamil Nadu was selected randomly for the study. The results of study revealed that marketing (71.02%) was the main significant constraint followed by socio-economic (62.63%), management (62.04%), technological (60.33%) and institutional (58.99%) constraints as perceived by commercial goat farmers. The important socio economic constraints were high cost involved in construction of slatted floor housing (70.58%) and higher capital investment (70.25%). With regard to technological constraints, the vital constraints were non-availability of high-yielding breeding stock (66.33%) and non-availability of balanced feed (64.95). In respect of institutional constraints, limited veterinary infrastructure and services (68.67%) and lack of training on scientific goat farming (59.79%) were the significant constraints. The major management constraints were inadequate feed and fodder resources (68.85%) and insufficient knowledge about scientific goat production and management (65.87%). With respect to marketing constraints, lack of organised goat market (79.00%) and price regulating agency (78.10%) were major significant constraints in commercialization of goat production.

Keywords: Constraints, commercial goat farming, marketing

INTRODUCTION

Goat farming is an extremely demanding activity, especially for the economically developing countries like India. The goat sector has received significantly less support than other animal production sectors, such as the dairy, poultry or pig sectors. Despite the acknowledgement of the qualities and potential of goats, this species appears to obtain less favour economically and commercially (Boyazoglu, 2005). India, with 135.2 million goats, is one of the largest goats owning country in the world playing a significant role in livelihood and nutritional security as well as providing supplementary income to farmers. Asia has the largest population of goats with 55% of world's goat population, mostly in India (35.2%), China (29.3%) and Pakistan (12%). China has the highest consumption of goat meat, followed by India and Pakistan (Food and Agriculture Organisation, 2009). In India, 95% of goat meat produced is consumed locally. There is a considerable potential for developing goat production not only for meat for internal consumption but also for export (Devi *et al.,* 2014). Goat is very important species of livestock in India, mainly on account of their short generation intervals, higher rates of prolificacy and the ease with which the live goats and their products can be marketed.

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They provide a stable source of income and nutrition for large number of rural people in the arid and semi-arid regions. Therefore this sector assumes critical importance in arid, semi-arid and rain-fed areas. Commercial goat farming in India revealed that several large and progressive farmers, businessman and industrialists have adopted commercial goat farming. The entry of large farmers, who have better access to technical knowledge, resources and market, into this activity would help in realizing the potential of goat enterprise. Majority of commercial goat farms have been found operating with positive net returns. Goat rearing has been found equally rewarding under both intensive and semi-intensive systems of management. Intensification and commercialization of goat enterprise has been recorded important because of shrinking of resources for extensive grazing. Commercialization would help in increasing the goat productivity and bridging the demand-supply gap (Kumar, 2007). The lack of documented research in goat production, general knowledge on issues (Iniguez, 2004); lack of training of goat farmers and lack of extension services are the significant constraining factors in the goat sector (Boyazoglu, 2005). Commercial goat farmers are confronted with various constraints in rearing goats which varies from production to marketing constraints. Production constraints include the socio-economical, managemental, infrastructural and technological constraints. Keeping this in view, the present study was undertaken with the objective to identify the constraints perceived by the farmers in commercial goat farming in Tamil Nadu.

METHODOLOGY

Commercial goat farmers were selected from Salem, Namakkal and Dharmapuri districts from North Western Zone (NWZ) and Thiruchirapalli, Nagapattinam & Thanjavur districts from Cauvery Delta Zone (CDZ) of Tamil Nadu. The agro-climatic zones and districts were selected purposively based on the density & highest population of goats and preliminary information collected regarding commercial goat farming practices, availability of commercial goat farms etc. From each district, 20 commercial goat farmers were chosen randomly and a total of 120 respondents were selected for the present research. The selected commercial goat farmers were post-stratified according to the flock size *viz.,* small (< 50 goats), medium (51-100 goats) and large category (>100 goats) with their average flock sizes of 37.92, 77.30 and 192.45, respectively.

Constraints in the present study referred to the obstacles or problems perceived by the goat farmers in commercial goat rearing. The constraint analysis has been a crucial component of extension research, to recommend suitable technologies so as to the constraints perceived by the farmers. On the basis of available literature, consultation with extension scientists and progressive commercial goat farmers of non-sampling area, an exhaustive list of constraints were prepared under the following major areas.

1. Socio-economic constraints
2. Technological constraints
3. Institutional constraints
4. Management constraints
5. Marketing constraints

The Garret's ranking technique was deployed for the relative assessment of above constraints. The respondents were asked to rank their constraints. The individual's ranks were converted into per cent position for each of the assigned ranks by using the formula given below (Garret and Woodworth, 1971).

$$\text{Percent position} = \frac{100\,(R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = rank given for i^{th} constraint by j^{th} individual

N_j = number of constraint ranked by j^{th} individual

- The percentage position of each rank was converted into scores, referring to the table given by Garrett.
- For each constraint, the scores of individual

respondents were added together and divided by the total number of respondents.

- These mean scores for all the constraints were arranged in descending order; the constraints were accordingly ranked.

RESULTS AND DISCUSSION

Constraints are inevitable in any livestock enterprise which should be envisioned in advance and appropriate action should be taken to address them. The knowledge about constraints in commercial goat farming might help the farmers and veterinarian / extension agencies, policy makers to undertake remedial and corrective measures, so as to overcome adversities and achieve success. The constraints were identified which are discussed as below:

Socio-economic constraints

Socio-economic constraints perceived by the farmers in commercial goat farming are presented in table 1. It reveals that high cost involved in establishing slatted floor housing was the most important constraint with a mean score of 70.58 (Rank-I), followed by higher capital investment (70.25)-II, higher feed cost (67.25)-III, unorganized goat entrepreneurs (63.58)-IV, high cost of medicine and treatment (61.33)-V, lack of credit and insurance facilities (54.61)-VI and low prestige with goat rearing (50.79)-VII. This finding implies that there should be a concerted effort and steps to be taken by the state and central government grant-in-aid economic assistance to existing and new goat entrepreneurs to ensure sustainability of commercial goat farming.

Technological constraints

Table 2 enlightens the technological constraints perceived by the farmers. It indicates that the non-availability of high yielding breeding stock was the most serious constraints with a mean score of 66.33 (Rank-I), followed by non-availability of balanced feed at low cost (64.95)-II, difficult in adopting scientific breeding practices in goats (60.21)-III, lack of awareness about existing improved technologies on scientific goat farming (58.69)-IV, non-availability of vaccines (58.17)-V, non-availability of mineral blocks (57.23)-VI and non-availability of Artificial Insemination

Table 1: Socio-economic constraints as perceived by commercial goat farmers

Constraint factors	Total score	Mean score	Rank
Socio-economic constraints			
Unorganized goat entrepreneurs	7630	63.58	IV
Low prestige with goat rearing	6095	50.79	VII
Lack of credit and insurance facilities	6553	54.61	VI
Higher capital investment	8430	70.25	II
Higher feed cost	8070	67.25	III
High cost of medicine and treatment	7360	61.33	V
High cost involved in establishing slatted floor housing	8470	70.58	I

Table 2: Technological constraints as perceived by commercial goat farmers

Constraint factors	Total score	Mean score	Rank
Technological constraints			
Non-availability of high-yielding breeding stock	7960	66.33	I
Lack of knowledge to adopt scientific breeding practices in goats	7225	60.21	III
Non availability of vaccines	6980	58.17	V
Non availability of mineral blocks	6868	57.23	VI
Non-availability of balanced feed	7795	64.95	II
Lack of awareness about existing improved technologies on scientific goat farming	7043	58.69	IV
Non availability of AI facilities	6810	56.75	VII

facilities (56.75)-VII. The finding explores there should be provision of availability of improved breeding stock suitable in the study area, educate them about balanced feeding through training, digital tools, etc. and demonstration of latest innovative techniques through on farm testing. Also, the finding highlights the need of ensuring adequate facility of vaccination against contagious diseases of goats, availability of mineral blocks and Artificial Insemination (AI). These findings are in line with the findings of Vimal & Kavithaa (2014) and Tanwar (2011).

Institutional constraints

As evident from table 3 that the most important institutional constraints prevailing in the study area was, 'limited veterinary infrastructure & services' with a mean score of 68.67 (Rank-I), followed by lack of training on scientific goat farming (59.79)-II, lack of extension support and services (57.75)-III, lack of government subsidy (54.29)-IV and distant location of veterinary hospitals / dispensary (54.00)-V. This finding reflects the existing and most crucial need of the provision of timely availability of veterinary doctors at the veterinary hospitals /dispensary as well as in door steps with required infrastructure and organizing periodical training programmes on modern commercial goat farming practices by the extension agencies like KVKs / SDAH / VUTRCs of TANUVAS to improve and update their knowledge in goat husbandry. The findings are accordance with the study reported by Ravikumar and Kumaravel (2017) & Vimal and Kavithaa (2014).

Management constraints

It is clearly visualized from the table 4 that, the most important management constraints perceived by the commercial goat farmers was insufficient technical knowledge about goat production and management practices with a mean score of 68.85 (Rank-I), followed by shortfall of feed and fodder resources (65.87)-II, high mortality due to diseases (64.92)-III, shrinkage of grazing land (63.50)-IV, difficulty in maintaining records (59.21)-V, labour demand (58.68)-VI and maintaining shed hygiene (53.25)-VII. Based on the findings, the study implies that there should be measures to be taken to ensure feed & fodder resources availability round the year, attempts should be made to convert waste land and range land to common grazing land and to establish fodder banks. Also the study insists that preventive measures to be taken to

Table 3: Institutional constraints as perceived by commercial goat farmers

Constraint factors	Total score	Mean score	Rank
Institutional constraints			
Lack of extension support and services	6930	57.75	III
Lack of training on scientific goat farming	7175	59.79	II
Limited veterinary infrastructure & services	8240	68.67	I
Lack of government subsidy	6615	54.29	IV
Distant location of veterinary hospitals / dispensary	6480	54.00	V

Table 4: Management constraints as perceived by commercial goat farmers

Constraint factors	Total score	Mean score	Rank
Management constraints			
Inadequate feed and fodder resources	8262	68.85	I
Lack of availability of labour	7042	58.68	VI
Insufficient technical knowledge about goat production and management practices	7904	65.87	II
High mortality due to diseases	7620	63.50	IV
Difficulties in maintaining records	7105	59.21	V
Shrinkage of grazing field	7791	64.92	III
Disposal of dung and shed wastes / Maintaining shed hygiene	6390	53.25	VII

avoid outbreak of diseases and mortality well in time by competing agencies in the study areas.

Marketing constraints

Table 5 enlightens that, a maximum proportion commercial goat farmers perceived lack of organised goat market as most serious constraint (79.00-I), followed by lack of price regulating agency (78.10-II), poor infrastructure for marketing (76.81-III) and long distance to market (72.38-IV). The data furthermore reveals exploitation by the middle man (70.65-V), non-remunerative price (69.37-VI), followed by poor access to market information (66.41-VII), logistic issues (65.02-VIII) and seasonal price variation (61.49-IX). These findings are in agreement with the findings of Ravikumar and Kumaravel (2017) and Kumar (2007).

Overall constraints perceived by the commercial goat farmers

The overall constraints perceived by the commercial goat farmers presented in Table 6. It reveals, the most serious constraints perceived by farmers were marketing constraints (71.02) and assigned rank-I in constraint hierarchy, followed by socio-economic constraints (62.63), management constraints (62.04), technological constraints (60.33) and institutional constraints (58.99) and rank was given based on mean percentage score to these constraints as II, III, IV and V, respectively. These findings were commensurate with the findings of Kumar (2007) and Sabapara *et. al.* (2014).

Table 6: Overall constraints perceived by the farmers in commercial goat farming

Constraint factors	Mean percentage score	Rank
Socio-economic constraints	62.63	II
Technological constraints	60.33	IV
Institutional constraints	58.99	V
Management constraints	62.04	III
Marketing constraints	71.02	I

CONCLUSION

It can be summarized that high cost involved in construction for slatted floor housing, non-availability of high-yielding breeding stock, limited veterinary infrastructure and services, lack of training on scientific goat farming, inadequate feed and fodder resources, lack of organised goat market and price regulating agency were major significant constraints in commercialization of goat production. The study also revealed that higher capital investment, non-availability of balanced feed, insufficient knowledge about scientific goat management and breeding practices were the major constraints especially among small and medium farmers engaged in commercial goat rearing in un-organized ways.

Hence for availing lucrative business in goat enterprise, there is a need to establish organised goat market and effective marketing network along with price regulating agency and to establish a research and management division by central/state/private entities; enabling via-media for identification of goat marketing

Table 5: Marketing constraints as perceived by commercial goat farmers

Constraint factors	Total score	Mean score	Rank
Marketing constraints			
Non remunerative price	8325	69.37	VI
Lack of price regulating agency	9372	78.10	II
Exploitation by the middle man	8478	70.65	V
Logistic issues	7802	65.02	VIII
Poor access to market information	7970	66.41	VII
Lack of organised goat market	9480	79.00	I
Long distance to market	8686	72.38	IV
Poor infrastructure for marketing	9218	76.81	III
Seasonal price variation	7379	61.49	IX

and its persisting demands with timely market information. The study recommend that provision of improved good quality breeding stock through establishment of goat breeding farms in the study areas. Feed production unit should be established at district level to ensure availability of good quality balanced feed at low cost by the govt. and private feed producing company in partnership mode. In order to organize the commercial goat farmers, they need to be encouraged to act in groups' viz., Commercial goat farmers' societies; Farmers Interest Groups (FIGs), Goat Farmers Producer Organizations (FPOs) etc., and they should be trained on scientific breeding and goat husbandry practices with frontline technical support from KVKs, research institutes and other extension agencies.

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REFERENCES

Boyazoglu, J., Hatziminaoglou, I. and Morand F.P. (2005). The role of the goat in society: Past, present and perspectives for the future. *Small Ruminant Research,* 60, 13-23.

Devi, S. M., Balachander, V., Lee, S. I. and Kim, I. H. (2014). An outline of meat consumption in the Indian population – A pilot review. *Korean J. Food Sci. An.,* 34(4): 507-515.

Food and Agriculture Organization (FAO). (2009). Agriculture production domain. Retrieved from http://faostat.fao.org/site/339/default.aspx.

Iniguez, L., (2004). Goats in resource-poor systems in the dry environments of West India. Central Asia and the inter-Andean valleys. *Small Ruminant Research,* 51, 137-144.

Kumar, S. (2007). Commercial goat farming in India: An emerging agri-business opportunity. *Agricultural Economics Research Review,* 20, 503-520.

Ravikumar, R. and Kumaravel, P. (2017). Constraints analysis of goat farmers in Tamil Nadu, India. *International Journal of Current Microbiology and Applied Sciences,* 6(7), 594-599.

Sabapara, G. P., Sorthiya, L. M. and Kharadi, V. B. (2014). Constraints in goat husbandry practices by goat owners in Navsari district of Gujarat. *International Journal of Agricultural Sciences and Veterinary Medicine,* 2(3), 31-36.

Tanwar, P. S. (2011). Constraints perceived by goat keepers in adoption of goat husbandry practices in semi-arid Rajasthan. *Journal of Community Mobilization and Sustainable Development,* 6(1), 108-111.

Vimal, R. and Kavithaa, N. V. (2014). Constraints in goat farming perceived by farm women in erode district of Tamil Nadu. *International Journal of Science, Environment and Technology,* 3(1), 116 - 122.