ABSTRACT

A study was conducted to analyse the goat farming practices adopted by farmers under field conditions in southern agro-climatic region of Tamil Nadu. A total of 180 goat farmers were utilised for this study in 20 villages each in Tirunelveli, Thoothukudi and Virudhunagar districts. Based on the agricultural land holding the goat farmers were categorised as landless, marginal, small and large land holders and they were 48.89, 33.89, 10.56 and 6.66 per cent, respectively with the mean land holding size of 1.50 ± 0.17 acres. Goat farmers preferred to live in nuclear family (78.33 per cent) than joint family (21.67 per cent). Majority of goat farmers in the study area were Hindus (91.11 per cent) and Christians (8.89 per cent) and they belonged to the backward class, scheduled class and most backward communities comprising 37.23, 34.44 and 28.33 per cent, respectively. The average annual income generated by the goat farmers in the study area was Rs. 53,160.16.

The overall mean flock size maintained by the goat farmers in the study area was 35.58 ± 0.74 goats. Majority of the goat farmers maintaining non-
descript goats (71.67 per cent) in their herds and in Thoothukudi and Virudhunagar districts, Kodi adu goats (15 per cent) and Kanni adu (13.33 per cent) were predominantly reared by the goat farmers. Farmers had an average of 10.41 ± 0.46 years of experience in goat farming. Semi-intensive system (63.33 per cent) of rearing was mostly practiced by the goat farmers followed by extensive (33.33 per cent) and intensive system (3.34 per cent). Majority of the goat sheds were mainly as open type (41.11 per cent) followed by closed (31.11 per cent) and half-open (27.78 per cent) types. Distance of grazing allowed for goats was around 5 km with duration of grazing of 7 h daily. Common property resources (51.67 per cent), harvested fields (20.56 per cent), forest or road sides (24.44 per cent) were the major grazing areas for goats.

Among the tree fodders, *Moringa oleifera*, *Leucaena leucocephala* and *Phyllanthus reticulates* are identified as superior in terms of better crude protein content. Locally available foliages contain more nutrient content as DM (27.99 per cent) and DCP (14.07 per cent) and among the foliages *Digeria agvensis*, *Corchorus olitorius* and *Merremia emerginata* were identified better for their crude protein content. The average nutrient content of various supplements (dry fodders and homemade concentrate) in terms of dry matter and crude protein were 90.36 and 15.20 per cent, respectively.

Highly significant difference ($P<0.01$) was observed in 3, 9, 12 months body weight (kg) of goats in three districts. Highly significant difference ($P<0.01$) was observed between the breeds (Kanni adu, Kodi adu and non-descript goats) in their body weight (kg) at birth, 3 months and 6 months. Non-descript breeds of goats at 4 teeth, 6 teeth and full mouth stage had significant difference in body weight ($P<0.01$). Sex wise differences ($P<0.01$) for goats in body weights at birth and 3 months were observed under extensive system of management, whereas under semi-intensive system a significant difference ($P<0.01$) was observed in body weight at 3, 6, 9 and 12 months. Under intensive system of management, there were no significant differences found in between sexes in body weight at birth, 3 and 6 months. Body weight in between sexes at 6 and 12 months age groups had significant ($P<0.05$) difference.
The male : female ratios observed were 1:20 (37.22 per cent), 1: 25-30 (42.78 per cent), 1: above 30 (20 per cent) in the study area. The age at first mating in Kanni adu, Kodi adu and non-descript breeds of goats were 10.00 ± 0.23, 10.07 ± 0.16 and 10.18 ± 0.09 months, respectively and kidding interval for the above three breeds were 7.50 ± 0.16, 7.35 ± 0.16 and 7.44 ± 0.06 months, respectively.

The mortality observed in young age group from birth to one month (19.10 per cent) was high in all the districts of the study area. The specific clinical manifestations which caused mortality in goats were peste-des-petits ruminants, enterotoxaemia, contagious exanthyma, foot and mouth disease, goat pox and anthrax. The gross returns from goat farming in study area were maximum from the sale of surplus animals (83.53 per cent) followed by culled animals (11.31 per cent) and manure (5.16 per cent). The annual net profit calculated per doe was Rs.802.54, Rs.1073.02 and Rs. 1066.08 in small, medium and large flocks, respectively. Organised marketing of goats was lacking in the study area.

Non-availability of adequate grazing (41.67 per cent), inadequate water availability (35.00 per cent) and non-availability of breeding stock (23.33 per cent) were observed as managemental constraints in the study area. Semi-intensive system of rearing is found better in terms of optimum nutrient intake, optimum body weight gain, early age at first mating, early age at first kidding, less service period, optimum kidding interval and optimum kidding percentage. The reason might be due to the availability of nutrients in terms of DCP (79.78 per cent) and TDN (24.50 per cent) both in grazing and supplement feeding. Semi-intensive system of rearing is commonly followed and found better rather than extensive and intensive systems in the agrarian community not only in the southern agro-climatic region but also in other parts of state.