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Housing management practices of dairy buffaloes in Thiruvallur district of Tamil Nadu

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Abstract
A study was carried out to assess the housing management practices of buffaloes in Thiruvallur district of Tamil Nadu. A total of 60 buffalo units were interviewed by oral appraisal and observation. The study revealed that 88.7 per cent of farmers housed buffaloes in pucca shed with 80.19 percent floored with cement concrete, 22.3 per cent of the farmers followed dried *Vitex Negundo* leaf fumigation once in a week, majority of the sheds possessed aluminium tin roofing. But none of the farmers followed proper manure management. The study suggested that capacity building among the farmers would aid in better management leading to considerable monetary sustenance.

Keywords: Buffalo, floor, roofing and housing management

Introduction
Buffalo farming is a very common enterprise in most parts of India. Since then they occupy a prominent place in the social, economic and cultural life of Indian rural communities. Dairying with buffaloes in India is a closely interwoven integral part of agriculture. In India, contribution of buffalo in total livestock population is 21.23% which increased at the rate of 3.19% during the last inter-censual period. According to the 19th livestock census the buffalo population is around 660224 in total numbers. Because of its higher milk fat contents, buffalo milk is preferred over cow milk and it fetches better price in the market [4]. However, currently the buffalo population showed rapidly decreasing trend in Tamil Nadu. The Annual Compound Growth Rate (ACGR) of buffalo population was -17.23 per cent during the last inter-census period (2007-12) [10] in Tamil Nadu. According to 19th livestock census, the state has 0.78 million buffaloes (0.72 per cent of the country) which yields 0.38 million tonnes of milk (0.46 per cent of buffalo milk production of the country). In North Eastern zone, Thiruvallur district had a drastic reduction in growth rate (ACGR -21.94%) of buffalo population than in other district and the population is reduced from 194532 numbers in 2007 to 56397 numbers in 2012 census [10]. Hence, the present study was conducted to explore the different housing and feeding practices for buffaloes in Thiruvallur district of Tamil Nadu.

Materials and Methods
An interview schedule was designed to obtain parameters of the study. Interview was based on oral appraisal and observation. A total of 60 buffalo farmers were interviewed with exploratory research design and multistage random sampling technique was used for selection of respondents. The interview schedule for the livestock farmers was developed and pre tested before administering in the main sample area. Data was collected through informal and friendly visits to the farmers' homes in the early hours of the day. The data collected were subjected to statistical analyses to know the distribution of respondents according to selected variable of the study. The data on orientation, type of housing, type of floor, number of animals housed, manger, feeding system, type of feed given, grazing time, source of feed were recorded and interpreted.

Results and Discussion
It was observed that 88.7 per cent of dairy farmers are housing the buffaloes and the buffalo calves in the housing as shown in Figure 1. However, 11.3 per cent of the farmers are housing the buffaloes under tree shade and temporary structures. The pucca housing was constructed adjacent to the farmers living quarters. It was mentioned by the farmers that the housing sheds were constructed by the Government at free of cost (Figure 1). The females were housed in the

shed whereas the calves were housed separately. The she buffaloes were tied in the standing stanchion where feeding, milking and other activities were carried out in the same shed. No separate area for calving pen was provided. The buffaloes were housed in single row system (100 per cent) with no double row system of housing. Author [9] reported that 48 per cent of farmers maintained dairy animals in thatched sheds, 19 per cent in kutcha sheds and remaining did not provide any shelter in Chennai. Also author [7] found that in Gujarat 98 per cent of tribal dairy farmers had closed type of animal house and among these, 90 per cent had kutcha type housing and the remaining 10 per cent had pucca type house for their animals. But on contrary, author [2] found that majority of the cattle owners (94 per cent) did not provide shed to their animals and kept them in open in Gujarat. The majority of the farmers (62.5%) maintained cleanliness in the shed, and the floor space available to the animals of almost all (98.24%) was adequate. The dung collected was kept separately in a bucket and a small quantity was used for making briquettes whereas major portion of the dung is disposed of in nearby vacant lands. Disinfection of the shed was carried out with 22.3 per cent of the farmers with dried *Vitex negundo* leaf fumigation once in a week. Majority of the farmers (77.7 per cent) where not following any disinfection protocol. The shed was thoroughly washed twice a day with splashing water by (64.3 per cent farmers), whereas 35.7 per cent farmers either washed once a day or twice a week or whenever it is convenient to the farmers. During summer, 82.8 per cent of the farmers splashed water during noon hours as a part of summer management, whereas 17.2 per cent of the farmers allowed the buffaloes to wallow in nearby ponds and available water bodies. The present study is in agreement with the reports of author [3], who reported that 60% provided thatched roof sheds, 36.66% provided asbestos roof sheds and 3.34% provided no housing.

This observation is contrast with the findings of author [2] who found that majority of the cattle owners (94 per cent) did not provide shed to their animals and kept them in open in Gujarat. However author [6] who found that among selected farmers 91.6% farmers provided housing and the remaining 8.4% did not provide sheds.

Orientation

Most of the pucca sheds (88.7 per cent) were constructed based on scientific norms all most all the sheds faced east west orientation. Also this type of orientation protected the animals from heat stress in the tropics [8]. This is in accordance with the findings of [5] who found that 68.96 per cent of farmers followed east west orientation and 31.03 per cent of farmers followed north south orientation in Tamil Nadu.

Floor

In observed buffalo units 80.19 percent had cement concrete floor and the remaining 19.81 per cent were mud floored units. This is in contrary with the observations of author [5] who found that 41.7 per cent of animal houses made up mud floor, 29.31 per cent made up of RCC floor and 29.31 per cent made up of stone floor.

Roofing

Most of the shed were constructed with aluminium tin roof (80.19 per cent) in a single slope model, remaining 12.11 per cent had asbestos sheet, and 7.7 per cent had thatch roof. This is in agreement with author [6] who mentioned that 72.2 per cent of the dairy shed were made of asbestos and 27.8 per cent of the sheds were made with thatch roofs.

Ventilation

Since all the sheds were constructed with open side wall, sufficient ventilation facilities were observed in all sheds. This was in agreement with findings of author [2] who reported, 100 percent of the farmers provided adequate floor space and ventilation for their dairy animals in rural areas. The ventilation provided in buffalo shed is sufficient 75 per cent, not sufficient 25 per cent in Tamil Nadu [5].

Manger

The oral appraisal revealed that although there was provision of manger in the pucca sheds, the farmers preferred to feed concentrate mixture in separate aluminium drum for the ease of cleaning. The wet animals were fed with both green fodder and concentrate feed twice a day, whereas the dry animals were let out for grazing in most of the cases. Among the buffalo sheds 80.19 per cent were equipped with cement manger while the remaining 19.81 per cent were temporary sheds with plastic buckets. Only 36 per cent farmers in Gujarat provided manger [7]. Out of 36 per cent majority (86.11 per cent) of them were wooden manger of varying size and shape, while 13.89 per cent of them were pucca manger.

Watering Practices

All the animals are watered during feeding time, although fresh water is replaced during feeding hours.

Conclusion

The study concludes that housing management is significant for expediting the performance of dairy buffaloes. The farmers must be trained on novel and scientific buffalo management was full exploitation of production potential of the animal and for monetary sustenance.

Fig 1: Aluminium tin roofing shed showing floor, roof and management practices

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