

Housing Management Practices of Dairy Animals in Coastal Karnataka

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ABSTRACT: Housing of dairy animals according to the respective agro-climatic zone will enhance productivity and ensure welfare of the animal. A field survey in Mangalore taluk of Dakshina Kannada district of Karnataka ascertained the housing practices followed by dairy animal owners. Data was collected from randomly selected 180 dairy farmers through personal interview using a pre-tested structural interview schedule. The present study revealed that majority of the respondents (77.78 %) had close type of animal house and 87.22 percent of farmers had katcha type of house. 90.00 percent of the dairy farmers kept their animals inside the shelter only in the night and about 92.22 percent of cattle sheds were attached to human dwelling. Most of the farmers (63.89 %) were using manger for feeding their cattle. Most of them provided levelled floor (72.78 %) with pucca type (55.56 %) of drain. From the study, it can be inferred that a majority of dairy farmers adopted better animal husbandry techniques. However, further improvements need to be brought to maximize the production and provide comfort to the dairy animals.

Keywords: Dairy, housing, kutch, pucca, coastal, roof.

INTRODUCTION

India has the largest dairy industry in the world, producing 23% of the world's milk. The sector supports more than 8 crore farmers directly and makes nearly 5% of the country's GDP. From 2014–15 and 2020–21, the country's milk output increased at a CAGR of 6.2%, from 146.31 million tonnes (MT) to 209.96 MT (PIB, 2022). In India, there is a huge traditional smallholder production system comprising more than 70 million farmers maintaining 2–5 heads of cattle each (Rajpoot *et al.*, 2022).

The district of Dakshina Kannada (South Kanara), which has a total area of 4866 square kilometres, is situated in the southern most region of Karnataka. Dairying is an important alternative source of livelihood for the coastal farmers. Most of the dairy farmers are small-scale, landless, illiterate, and ignorant of the economics of milk production. The dairy farming provides self-employment, beneficiary income and a nutritious health to the society in rural as well as urban areas (Kotresh *et al.*, 2017; Singh *et al.*, 2021). The status and farming practices of dairy animals vary from region to region in Karnataka. The productive and reproductive

performances of livestock depend on their care and management in different stages of life span (Ahirwar *et al.*, 2018). The total cattle buffalo population in Dakshina Kannada district of Karnataka is 2,50,569 and 1832, respectively (BAHS, 2019). The district shares a wide range of climate with other west coast districts of India. It has high humidity (78%) during most of the year and the annual rainfall recorded is 3912 mm. Maintaining a thermoneutral zone, proper housing lowers stress in animals and lowers the likelihood of disease especially in high humid areas (Patil and Patil 2016). The heat stress reduces feed intake of animals and changes physiological functions like increase in the rectal temperature, respiration and pulse rate. It also alters the hormonal regulation, sweating and antioxidant status of the animals (Kotresh *et al.*, 2020; Kotresh *et al.*, 2022). Excellent housing is built with the intention of changing the microclimate just around animals (Chauhan *et al.*, 2012). Housing along with feeding management plays a very crucial role in exploiting the potential of dairy animals which constitute approximately 75% of total cost of milk production (Chowdhary *et al.*, 2014). The good housing

management practices is concern of animal welfare and positively influence on production of the animals. Thus, the present study was conducted to learn about the current housing management techniques used by the Dakshina Kannada district's dairy animal owners.

MATERIALS AND METHODS

In order to learn more regarding the current housing management practices used by dairy animal owners in the Dakshina Kannada district South Karnataka, a field survey was carried out in six villages of Mangalore taluk. The district Dakshina Kannada is spread over five talukas. Among the five talukas, Mangalore taluk is more closely located and nearer to the coast. Mangalore is located on the western coast of India at 12.87°N 74.88°E in Dakshina Kannada district, Karnataka state. It has an average elevation of 22 m (72 ft) above mean sea level. The city's topography consists of a plain that stretches up to 30 km (18.64 mi) from the coast and undulating, hilly terrain towards the east near the Western Ghats. Hence, six villages were selected randomly from Mangalore taluk and were considered in the present study. Thirty dairy animal owners from each selected village were randomly chosen which constituted a total of 180 respondents. Respondents were personally interviewed

using a detailed questionnaire on housing practices in order to get the required data. While choosing respondents, effort was taken to make sure they were evenly dispersed across the village and accurately reflected the methods used to manage animal housing in the region. Data was collected and frequencies of responses were calculated and then analysed using required standard statistical tools.

RESULTS AND DISCUSSION

Almost all the farmers of the area protected their animals from inclement weather with shelter for the animals; they did not keep their animals at same place throughout the year or even for round the clock. The assessment regarding the type of house, location of shed, type of roof, floor, manger and protection from squally weather are listed in Table 1. Most of the respondents (77.78 %) had close type of animal house, moreover 87.22 per cent of farmers had kutcha type while remaining (12.78 %) had pucca type house for their animals. The reason may be due to the economic status of the farmers or these dairy farmers were either marginal or small farmers. These houses are made up of locally available material like bamboo, woods and leaves.

Table 1: Housing management followed by dairy farmers of Mangalore (N=180).

Housing management practices	Practices followed	Frequency	Per cent
Provision of Housing	(a) Open	40	22.22
	(b) Close	140	77.78
Placement of animals	Only during night	162	90.00
	Both day and night	18	10.00
Housing Type	(i) Kutcha	157	87.22
	(ii) Pucca	23	12.78
Location of shed	(a) Attached to human dwelling	166	92.22
	(b) Nearby their dwelling	14	7.78
Roof Type	(a) Asbestos sheets	15	8.33
	b) Galvanized iron sheets	7	3.89
	(c) Thatched	35	19.44
	(d) Aluminium sheets	5	2.78
	(e) Plastic sheets	8	4.44
	(f) Tiles	110	61.11
Floor Type	(a) Pucca (cement concrete)	35	19.44
	(b) Earthen floor	20	11.11
	(c) Muddy	80	44.44
	(d) Brick paved	18	10.00
	(e) Stone paved	27	15.00
Provision of manger	(a) Yes	115	63.89
	(b) No	65	36.11
Manger Type	(a) Wooden assisted temporary manger	40	22.22
	(b) Pucca manger	55	30.56
	(c) Temporary vessel feeding	20	11.11
Provision of water trough	(a) Yes	155	86.11
	(b) No	25	13.89
Provision & practice to protect animal from extreme weather	(a) Yes	101	56.11
	(b) No	79	43.89
Provision of manure pit	(a) Yes	140	77.78
	(b) No	40	22.22
Provision of urine drain	(a) Pucca drain	100	55.56
	(b) Soaked at earthen floor	80	44.44
Floor levelling	(a) Levelled	131	72.78
	(b) Unlevelled	49	27.22

Locally available material like paddy straw, coconut leaves, palm tree leaves, bamboo, woods and leaves were used which is in agreement with Kalyankar (2008); Sabapara *et al.* (2010). But, in Wayanad district of Kerala about 78 per cent of the animal houses were built pucca and 22 per cent of animal houses were kutcha (Kotresh *et al.*, 2017).

Generally most of the farmers (90.00 %) kept their animals inside the shelter only in the night. During the day, animals would be taken out for grazing or tethered outside in the fields and the results were in agreement with Singh *et al.* (2007). Out of two type of houses observed; 92.22 per cent of cattle sheds were attached to human dwelling just like backyard system and 7.78 per cent of the farmers had animal sheds nearby their dwelling. Animals dwelling was attached to human house just like backyard system and similar literature was also reported by Kushwaha *et al.*, (2007); Sabapara *et al.* (2010). This type of housing aids the owner to cater to the animals needs during emergencies and also prevents from theft. Dairy sheds attached close to the owners house helps the women counterparts to assist in feeding the animals.

Majority of animals shelter had Muddy floor (80.00 %) followed by pucca and stone paved. Asbestos sheet, galvanized iron, thatched type, aluminium sheets, plastic sheets and tiles were used in 8.33, 3.89, 19.44, 2.78, 4.44 and 61.11 per cent of the animal sheds as roof material, respectively. This area experiences moderate to heavy rainfall with high humidity hence as a result they preferred tiles for roofing. Most of the farmers (63.89 %) were using manger for feeding their cattle and buffaloes. Out of those who provided manger, majority of respondent (30.56%) used pucca manger that was constructed with varying shape and size while 22.22 per cent made wooden assisted temporary manger construction and about 11% of the respondents fed their cattle individually in temporary vessels. Whereas, the type of flooring used for dairy cattle in Kerala was mainly of concrete (82 %) followed by mud (18 %). The roofing material of majority of the animal houses was concrete roof (66 %), followed by asbestos sheets (24 %) and plastic sheet roofs (Kotresh *et al.*, 2017). These results also in contradictory to the results of Singh *et al.* (2007).

The water troughs were provided in the sheds by 86 per cent of the respondents which indicates the humid nature of that region has made the farmers to construct pucca waterers. Most of them provided levelled floor (72.78 %) with pucca type (55.56 %) of drain. Urine drain facility was adequate in animal shed as dairy farmers of the area were more particular of housing hygiene and about 100 respondents had pucca drains. It was found that the farmers were having knowledge of good housing management practise. The results were similar to Chowdhary *et al.* (2006). Most of the respondents (78.00 %) knew the importance of composting and followed waste accumulation in maintained manure pits slightly far away from their dwelling places.

CONCLUSION AND FUTURE SCOPE

From the study, it can be inferred that a majority of dairy farmers adopted better animal husbandry techniques. However, further improvements need to be brought to maximize the production and to provide comfort to the dairy animals. The economic situation and staffing of positivism in terms of change agency interaction, scientific orientation, risk orientation, knowledge, and exposure to Information and Communication Technologies (ICT) up to required level may be the probable causes of the aforementioned finding. Therefore, it is necessary to educate people through numerous workshops and hands-on exhibits both on and off the campuses of different organisations.

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Conflict of Interest. None.

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