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Potential impacts of urbanisation processes on dairy cattle health in greater Bengaluru, India

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Abstract

In the Greater Bengaluru metropolitan area, feeding of dairy cattle still depends to a considerable extent on vegetation available on public land such as roadsides, lakeshores and designated construction areas. Due to rapid urbanisation, these lands are declining, forcing animals and farmers to cover longer distances to reach alternative forage sites. This may reduce feed supply, higher risk of accidents and solar radiation while walking along roadsides and heat back-radiated from the tarmac. To learn more about the impact of accelerated urbanisation on the well-being of dairy cattle in Bengaluru, 151 farmers, located in different parts of the megacity, were individually interviewed during January to March 2020. Questions addressed feed sources and feeding practices, daily walked distances, drinking water supply at home, housing conditions and medical care. The results indicated that 58% of the farmers kept crossbreds of exotic *Bos taurus* dairy breeds with local *Bos indicus* cattle, and 42% kept crossbreds of dairy zebu breeds with local cattle. More than half of the farmers (63%) walked their cattle to grazing areas each day, and 46% collected forages on public grounds, with 9% combining both practices. In addition, cows were supplemented with concentrate (99% of farmers). However, only 60% of the farmers thought that their animals were supplied with sufficient amounts of feed, and only 20% acknowledged sufficient access to drinking water. While most farmers (94%) kept their animals in confined sheds at nighttime, only 72% considered shed space as adequate and 10% complained about high ambient temperatures inside the shed. In consequence, only 60% of the interviewed farmers judged that their cows were in good health, although 95% of the interviewees were regularly vaccinating them against foot-and-mouth disease. Results of a logit model showed that exotic cattle genetics (Holstein Friesian and Jersey crossbreds) and amount of feed affected cattle well-being in a positive way ($p < 0.05$), while the grazing or collection of lakeshore fodder ($p < 0.01$) and low quantity of drinking water ($p < 0.05$) had an adverse impact on cattle well-being. Farmers and farm advisors need to address these challenges of urbanisation for health and productivity of dairy cattle in Greater Bengaluru.

Keywords: Cattle health, Lake fodder, Logit model, Pooled resources, Survey

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