



## Housing and Health Care Management Practices of Dairy Farmers in Urban and Peri-urban areas of Telangana

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### ABSTRACT

An investigation was carried out to study the housing and health care management practices of urban and peri urban dairy farmers in and around Hyderabad city of Telangana. A total of 100 dairy farmers from both areas were purposively selected for the study by following three stage stratified random sampling technique. The data were collected by using a pretested structured interview schedule through personal contact. In this study, majority of farmers provided loose housing with pucca floor, manger and drainage in the sheds. Majority (64.0%) of peri-urban dairy farmers used asbestos sheets as roofing material compared to the urban dairy farmers who have used cement concrete roofing (48.0%). A significant ( $P<0.01$ ) association was observed between housing system, type of house, roofing material, space provided and study area, respectively. Majority of the dairy farmers in urban and peri urban areas didn't follow the vaccination schedule. Majority dairy farmers consulted the veterinarian for treatment of sick animals and had the knowledge of common diseases in the study area. More than half (59.0%) of dairy farmers dewormed their calves within 14 days of birth. The practice of de-ticking of animals was significantly ( $P<0.01$ ) higher in peri urban (74.0%) area than urban area. Isolation of sick animals was practiced by majority of peri urban farmers (50.0%) than urban farmers (16.0%).

**Keywords:** Urban, peri urban, dairy farmers, housing, health management, Telangana

India is predominately an agricultural country. About 70 percent of the population still lives in villages and depend upon agriculture as the source of livelihood. About 29 Lakh families in Telangana State are engaged in livestock sector for their livelihood. The value of livestock produce is estimated to be ₹ 30584 crores at current prices and livestock contributes 7.1% to the Gross State Domestic Product and formed 39.69% of the Agriculture sector in 2014-15. Understanding the livestock management practices followed by farmers is necessary to identify the strengths and weaknesses of the rearing systems and to formulate suitable intervention policies (Gupta *et al.*, 2008). Sheltering of dairy animals, not only protects animals from extreme environmental hazards, but also eases some other husbandry practices while adoption of proper health care management practices improves the

returns from the enterprise. Hence, the present study was carried out to investigate the housing and health care management practices followed by the peri urban and urban dairy farmers in and around Hyderabad city of Telangana.

### MATERIALS AND METHODS

The present study was conducted in and around Hyderabad city of Telangana. Villages surrounding Hyderabad city were taken as peri urban areas.

#### Selection of dairy farmers and collection of data

Five mandals each from urban and peri urban areas were selected randomly for the investigation. From each mandal ten dairy farmers were selected by simple random

sampling method, thus a total of hundred dairy farmers were selected for the study covering urban and peri urban areas of Hyderabad. The pre-tested interview schedule was used to collect the information of housing and health care management practices from the dairy farmers through personal contact, while collecting the data sufficient time was given to the farmer to arrive at values by memory recall method. The family members of the farmers were also involved in eliciting accurate information as far as possible.

### Statistical analysis

The data collected were scrutinized, tabulated and analysed by following the methods suggested by Snedecor and Cochran (1994) while the significant differences between parameters and frequencies were analysed by Chi-square test using SPSS, version 22.0.1 (Statistical package for social sciences).

## RESULTS AND DISCUSSION

### Housing management practices

Housing management practices by urban and periurban dairy farmers in the study area is presented in Table 1.

On perusal of Table 1, it was observed that majority (70.0%) of dairy farmers provided loose housing system followed by conventional type housing system (23.0%) and 7.0 per cent dairy farmers didn't provided shed to their dairy animals. Significant ( $P<0.01$ ) association was observed between housing system and area. This specifies that housing type is mostly based on type of weather and locality. It is similar to the findings of Modi *et al.* (2010) who reported that 63.0 per cent of farmers kept dairy animals in loose house, in contrast to this Munish *et al.* (2005); Arif *et al.* (2013) and Sabapara *et al.* (2015) reported that majority of farmers preferred conventional type of housing in the study area. Majority of dairy farmers provided pucca type of housing to their dairy animals followed by kutchra type (10.0%). Significant ( $P<0.01$ ) association was observed between type of houses and area. Pucca type of floor was provided by majority of urban (96.0%) and peri urban (84.0%) dairy farm owners in the study area. These findings were in agreement with the observations of Ahirwar *et al.* (2010). Significantly ( $P<0.01$ ) higher

(64.0%) number of peri-urban dairy farmers used asbestos sheets as roofing material compared to the urban dairy farmers who have used cement concrete roofing (48.0%). Similar findings were reported by Sabapara *et al.* (2015) whereas Mahendra *et al.* (2007) and Modi *et al.* (2010) reported that 57.5 and 34.0 per cent of farmers used thatched material and iron sheets, respectively as roofing materials in their studies. Pucca type of manger was provided by majority of urban (90.0%) and peri urban (88.0%) dairy farmers followed by kutchra type of manger (10.0%) both in urban and peri urban areas. These results were comparable with the observations of Rathore and Kachwaha (2009); Modi *et al.* (2010) and Sabapara *et al.* (2015) who reported that majority of farmers provided pucca manger.

Significantly ( $P<0.01$ ) more (84.0%) number of urban dairy farmers didn't provide sufficient space to dairy animals than peri urban dairy farmers (48.0%). This was due to the scarcity of land in urban areas.

These findings were corroborated with Sabapara *et al.* (2015) who reported that majority of dairy farmers not provided sufficient space to the animals in Surat district of Gujarat state. Pucca type of drainage was provided by majority of urban (88.0%) and peri urban (66.0%) dairy farmers. Significant ( $P<0.05$ ) association was observed between drainage type and area. This could be due to lack of awareness about scientific housing systems among the farmers in both areas. These findings were similar to the observations of Vij and Tantia (2005).

Significantly ( $P<0.01$ ) majority of urban (92.0%) dairy farmers sold the manure to others, whereas majority (92.0%) of peri urban areas dairy farmers applied in their own agriculture lands. Manure disposal in the urban production system is one of the major problems of dairy producers in the study area. The problem of land scarcity is aggravated by the absence of appropriate place to dispose or to utilize animal dung as a fertilizer in urban areas. Majority of urban dairy farmers (90.0%) and peri urban (98.0%) farmers cleaned their animal sheds daily. Kishore *et al.* (2013) observed that majority of the manure disposal was by directly applying to fields whereas majority (89.0%) of dairy farmers were cleaned the sheds occasionally in the study area.

Majority (79.0%) of the dairy farmers were rarely used disinfectants followed by occasionally (19.0%) and

**Table 1:** Distribution of farmers according to their housing management practices

| Sl. No. | Housing Practices            | Urban (N=50)          | Peri urban (N=50) | Total (N=100) | Chi square value |                     |
|---------|------------------------------|-----------------------|-------------------|---------------|------------------|---------------------|
| 1       | Housing System               | No Shed               | 2 (4%)            | 5 (10%)       | 7 (7%)           | 25.088**            |
|         |                              | Loose                 | 26 (52%)          | 44 (88%)      | 70 (70%)         |                     |
|         |                              | Conventional          | 22 (44%)          | 1 (2%)        | 23 (23%)         |                     |
| 2       | Type of House                | No shed               | 2 (4%)            | 5 (10%)       | 7 (7%)           | 12.018**            |
|         |                              | Pucca                 | 41 (82%)          | 42 (84%)      | 83 (83%)         |                     |
|         |                              | Kutchcha              | 7 (14%)           | 3 (6%)        | 10 (10%)         |                     |
| 3       | Floor                        | Kutchcha              | 2 (4%)            | 8 (16%)       | 10 (10%)         | 5.146 <sup>NS</sup> |
|         |                              | Pucca                 | 48 (96%)          | 42 (84%)      | 90 (90%)         |                     |
| 4       | Roof of Shed                 | No shed               | 2 (4%)            | 5 (10%)       | 7 (7%)           | 20.023**            |
|         |                              | Thatched              | 5 (10%)           | 9 (18%)       | 14 (14%)         |                     |
|         |                              | Asbestos              | 19 (38%)          | 32 (64%)      | 51 (51%)         |                     |
| 5       | Manger                       | Concrete              | 24 (48%)          | 4 (8%)        | 28 (28%)         | 1.011 <sup>NS</sup> |
|         |                              | No Manger             | 0 (0%)            | 1 (2%)        | 1 (1%)           |                     |
|         |                              | Kutchcha              | 5 (10%)           | 5 (10%)       | 10 (10%)         |                     |
| 6       | Space Provided to animals    | Pucca                 | 45 (90%)          | 44 (88%)      | 89 (89%)         | 14.439**            |
|         |                              | Satisfactory          | 8 (16%)           | 26 (52%)      | 34 (34%)         |                     |
| 7       | Type of Drainage system      | Unsatisfactory        | 42 (84%)          | 24 (48%)      | 66 (66%)         | 7.117*              |
|         |                              | No Drainage           | 0 (0%)            | 1 (2%)        | 1 (1%)           |                     |
| 8       | Manure Disposal              | Kutchcha              | 6 (12%)           | 16 (32%)      | 22 (22%)         | 89.667**            |
|         |                              | Pucca                 | 44 (88%)          | 33 (66%)      | 77 (77%)         |                     |
|         |                              | Pit method            | 0 (0%)            | 0 (0%)        | 0 (0%)           |                     |
|         |                              | Dung cakes            | 1 (2%)            | 2 (4%)        | 3 (3%)           |                     |
|         |                              | Application to fields | 0 (0%)            | 46 (92%)      | 46 (46%)         |                     |
|         |                              | Selling to others     | 46 (92%)          | 2 (4%)        | 48 (48%)         |                     |
| 9       | Interval of Cleaning of shed | Others                | 3 (6%)            | 0 (0%)        | 3 (3%)           | 3.504 <sup>NS</sup> |
|         |                              | Occasionally          | 3 (6%)            | 0 (0%)        | 3 (3%)           |                     |
|         |                              | Monthly               | 2 (4%)            | 1 (2%)        | 3 (3%)           |                     |
| 10      | Use of Disinfectants         | Daily                 | 45 (90%)          | 49 (98%)      | 94 (94%)         | 23.570**            |
|         |                              | Once in year          | 0 (0%)            | 0 (0%)        | 0 (0%)           |                     |
|         |                              | Regularly             | 1 (2%)            | 1 (2%)        | 2 (2%)           |                     |
|         |                              | Occasionally          | 0 (0%)            | 19 (38%)      | 19 (19%)         |                     |
|         |                              | Rarely                | 49 (98%)          | 30 (60%)      | 79 (79%)         |                     |

Parenthesis indicates percentages; NS- Non -significant; \*\*Significant (<0.01); \*Significant (<0.05).

regularly (2.0%) for cleaning of sheds. Significant (P<0.01) association was observed between provision of cooling devices in the shed, use of disinfectants and area. These results were in contrast to Kishore *et al.* (2013).

### Health care management practices

All most all urban and peri urban dairy farmers have adopted the practice of immunization of their animals to protect from infectious diseases. This might be due to regular and free immunization programmes being taken up by the state Animal Husbandry department. Similar

findings were reported by Varaprasad *et al.* (2013), Sabaparaet *et al.* (2015). As per as vaccination schedule is concerned the majority (90.0%) of the dairy farmers were not following the vaccination schedule in the study area. Significant (P<0.05) association was observed between following of vaccination schedule and area.

It was observed that 74.0 and 72.0 percent of dairy farmers in urban and peri urban areas, respectively have consulted the veterinarian for the treatment of sick animals. These observations were mostly similar to the findings of Sinha *et al.* (2010b) who reported that the farmers availed the

**Table 2:** Distribution of farmers according to their health care management practices

| Sl. No. | Health Care Practices                         |                       | Urban<br>(N=50) | Peri urban<br>(N=50) | Total<br>(N=100) | Chi square<br>value |
|---------|---|-----------------------|-----------------|----------------------|------------------|---------------------|
| 1       | Vaccination of animals                        | Practiced             | 50 (100%)       | 50 (100%)            | 100 (100%)       | 4.000*              |
|         |   | Not Practiced         | 0 (00%)         | 0 (00%)              | 0 (00%)          |                     |
| 2       | Vaccination Schedule                          | Followed              | 2 (4%)          | 8 (16%)              | 10 (10%)         | 0.51 <sup>NS</sup>  |
|         |   | Not Followed          | 48 (96%)        | 42 (84%)             | 90 (90%)         |                     |
| 3       | Veterinarian Consultation when animal is sick | Yes                   | 37 (74%)        | 36 (72%)             | 73 (73%)         | 2.041 <sup>NS</sup> |
|         |   | No                    | 13 (26%)        | 14 (28%)             | 27 (27%)         |                     |
| 4       | Knowledge of common animal Disease            | Yes                   | 50 (100%)       | 48 (96%)             | 98 (98%)         | 3.099 <sup>NS</sup> |
|         |   | No                    | 0 (0%)          | 2 (4%)               | 2 (2%)           |                     |
| 5       | Disease incidence                             | FMD                   | 2 (4%)          | 6 (12%)              | 8 (8%)           | 4.480 <sup>NS</sup> |
|         |   | HS                    | 0 (0%)          | 0 (00%)              | 0 (00%)          |                     |
|         |   | BQ                    | 0 (0%)          | 0 (00%)              | 0 (00%)          |                     |
|         |   | Brucella              | 1 (2%)          | 0 (00%)              | 1 (1%)           |                     |
|         |   | Others                | 47 (94%)        | 44 (88%)             | 91 (91%)         |                     |
| 6       | Reproductive disorders                        | Still birth           | 0 (00%)         | 0 (00%)              | 0 (00%)          | 88.320**            |
|         |   | Abortion              | 0 (00%)         | 2 (4%)               | 2 (2%)           |                     |
|         |   | Retained Placenta     | 6 (12%)         | 2 (4%)               | 8 (8%)           |                     |
|         |   | Repeat Breeder        | 26 (52%)        | 24 (48%)             | 50 (50%)         |                     |
| 7       | Disposal of carcass of dead animals           | Anoestrus             | 18 (36%)        | 22 (44%)             | 40 (40%)         | 1.010 <sup>NS</sup> |
|         |   | Thrown in open fields | 0 (00%)         | 2 (4%)               | 2 (2%)           |                     |
|         |   | Buried                | 2 (4%)          | 46 (92%)             | 48 (48%)         |                     |
|         |   | Burnt                 | 0 (0%)          | 0 (00%)              | 0 (00%)          |                     |
| 8       | Calf deworming practiced                      | Other methods         | 48 (96%)        | 2 (4%)               | 50 (50%)         | 2.000 <sup>NS</sup> |
|         |   | Yes                   | 50 (100%)       | 49 (98%)             | 99 (99%)         |                     |
| 9       | Deworming of calves first done at             | No                    | 0 (0%)          | 1 (2%)               | 1 (1%)           | 33.980**            |
|         |   | Below 14 Days         | 19 (38%)        | 40 (80%)             | 59 (59%)         |                     |
|         |   | 15-32 Days            | 28 (56%)        | 9 (18%)              | 37 (37%)         |                     |
| 10      | Deticking practiced                           | Above 33 days         | 3 (6%)          | 1 (2%)               | 4 (4%)           | 13.071**            |
|         |   | Yes                   | 8 (16%)         | 37 (74%)             | 45 (45%)         |                     |
| 11      | Isolation of sick animal                      | No                    | 42 (84%)        | 13 (26%)             | 55 (55%)         | 0.558 <sup>NS</sup> |
|         |   | Practiced             | 8 (16%)         | 25 (50%)             | 33 (33%)         |                     |
| 12      | Veterinary facilities                         | Not Practiced         | 42 (84%)        | 25 (50%)             | 67 (67%)         | 12.148**            |
|         |   | Good                  | 7 (14%)         | 5 (10%)              | 12 (12%)         |                     |
|         |   | Satisfactory          | 38 (76%)        | 41 (82%)             | 79 (79%)         |                     |
| 13      | Deworming of Adult animals                    | Unsatisfactory        | 5 (10%)         | 4 (8%)               | 9 (9%)           |                     |
|         |   | Practiced             | 11 (22%)        | 28 (56%)             | 39 (39%)         |                     |
|         |   | Not Practiced         | 39 (78%)        | 22 (44%)             | 61 (61%)         |                     |

Parenthesis in the table indicates percentages; NS- Non -significant; \*\*Significant (<0.01); \*Significant (<0.05).

advice from veterinary doctor in urban (77.1%), semi-urban (58.9%) and rural (44.4%) areas in Bariely district of Utter Pradesh.

It was observed that majority of dairy farmers had a good knowledge of common animal diseases in urban (100.0%) and peri urban areas (96.0%). About 91.0 percent of the dairy farmers reported that their animals were suffered

with diseases like mastitis, indigestion, pyrexia and other common diseases followed by FMD (8.0%) and Brucella (1.0%). It indicated that infectious diseases occurrence was very less due to mass immunization programme being adopted by the farmers. Varaprasad *et al.* (2013) reported that mastitis was the major health problem faced by farmers followed by theileriosis and FMD. It was observed

that dairy farmers used to face different reproductive problems in dairy animals which cause economic loss due to prolonged non-productive period. Among which the major (50.0%) reproductive disorder was repeat breeding in animals followed by anoestrus (40.0%), retention of placenta (8.0%) and abortions (2.0%). Similar findings were reported by Rashid *et al.* (2009). Majority (98.0%) of the dairy farmers in urban area disposed the carcass by other methods i.e. handing over to municipalities. In peri urban areas 96.0 per cent of the dairy farmers disposed of the carcass by burying. Contrary to this Sandip Kumar *et al.* (2014) reported that disposal pattern of carcass was not proper farmers were throwing their animals at common open place in Shahdol district of Madhya Pradesh.

It was observed that the dairy farmers practiced regular deworming for calves in urban (100.0%) and peri urban (98.0%) areas with varied time interval in the study area. This was in contrary to the findings of Ahmad *et al.* (2009) and Munish Kumar (2015). Majority (59.0%) of dairy farmers dewormed their calves below 14 days followed by between 15-32 days (37.0 %) and above 33 days (4.0%). Control of external parasites by deticking in dairy animals was practiced by urban (16.0%) and peri urban (74.0%) areas in the study area. Significant ( $P < 0.01$ ) association was observed between practicing of deticking and area of study. It indicated that the incidence of lice and tick's infestation might be lower in urban area than peri urban areas. Sunil *et al.* (2011) and Manish Kumar (2015) reported the similar results. Isolation of sick animals was not followed by majority of urban dairy farmers (84.0%) and peri urban (50.0%) dairy farmers. A Significant ( $P < 0.01$ ) association was observed between isolation of sick animals and area. This might be due to non-availability of adequate space to isolate the sick animals and lack of awareness about the mode of transmission of diseases among the farmers in the study area. These findings are corroborated with the observations of Sabapara *et al.* (2015) reported that 88.67 per cent of respondents kept diseased animals together with healthy ones while remaining 11.33 per cent of the respondents kept these two categories of animals separately in Surat district of Gujarat. In contrary to this, Rathore and Kachwaha (2009) reported that 59.75 per cent of the dairy farmers isolated their sick buffalo from healthy animals.

Majority of dairy farmers rated the veterinary facilities as satisfactory in urban (76.0%) and peri urban (82.0%)

areas, whereas very few dairy farmers rated as good in urban (14.0%) and peri urban (10.0%) areas in the study area. It was mostly similar to the observations of Sunil *et al.* (2011) who reported that the percentage of dairy farmers rating veterinary facilities as good, satisfactory and poor were 8.33, 25.67 and 66.67 per cent, respectively in mid hills of Uttarakhand.

It was observed that the only 22.0 percent of urban dairy farmers dewormed their adult cattle than peri urban dairy farmers (56.0%). It indicated that the adult dairy animals were dewormed as and when required but not as a preventive measure in the study area. It was mostly nearer to the observations of Sinha *et al.* (2010) and Manish Kumar (2015).

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