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Socio - economic profile of dairy farmers in southern Telangana zone

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Abstract
Six mandals from each district of Mahabubnagar and Nalgonda of southern telangana zone were selected purposively and two villages from each mandal were selected by simple random sampling technique. Based on the available dairy farmers' population in the selected villages, 10 percent of the sample size (254 respondents) from 24 villages in 12 mandals of Southern Telangana zone was selected for the study. Majority (47.64%) of the respondents belonged to middle age group of 36-50 years, illiterates (40.15%), medium family size with 4-6 members (68.5%), more than three-fourth of the farmers (77.16%) belonged to medium herd size, majority (58.66%) of the respondents possessed 4-9 dairy animals. The farm size of the respondents revealed that 47.25 percent were small farmers, nearly cent percent (98.82%) of farmers practiced integrated farming system, with most of them (66.92%) practiced crop plus dairy farming and 1.18 percent had only dairy. Based on total income generated from various sources, majority of the respondents (67.72%) were had medium income category with 75,000 – 1, 50,000 and income generated from dairy animals showed that majority of the farmers (52.76%) were under medium income category of Rs.40,000 to Rs.80,000. Majority (45.28%) of the dairy farmers had medium experience of 12-24 years, medium information seeking behaviour (74.41%), among the formal sources majority (47.24%) of the dairy farmers were consulting the veterinarian occasionally for information, where as among the informal sources all the respondents were consulting the family members frequently. Television was mostly (84.65%) assessed among the mass media sources, followed by mobile phones (29.53%) by the dairy farmers in southern telangana zone.

Keywords: Dairy farmers, middle age, integrated farming system, information seeing behaviour, Southern Telangana zone

Introduction
Indian agriculture is an economic symbiosis of crop and dairy population. Millions of rural smallholder milk producers dominate India's dairy industry. Dairy farming is a profitable enterprise as well as a promising livelihood maker for most of the farming community. It is providing livelihood to 60 million rural households in India. Further dairying provides a support system to milk producers without disturbing their agro-economic systems. Dairying is closely interwoven with the socio-economic fabric of rural people in India. Moreover milk is a cash crop for smallholders, converting low-value agriculture by-products and crop residues, and using family labour as a value-added market commodity. Keeping in view of all these, a research study was undertaken on socio-economic profile of dairy farmers in southern telangana zone.

Methodology
"Telangana" state of India was selected purposively for the present study because it is a semi-arid area and has a predominantly hot and dry climate. The severe drought in Telangana has caused acute shortage of water which worsened the agriculture and animal husbandry. As per the data collected from Telangana State Development Planning Society, In between 2010 to 2015, 8 out of 64 mandals in Mahabubnagar district and 7 out of 59 mandals in Nalgonda district were drought declared continuously for three times out of six spells of drought. Among these drought hit mandals, six mandals from each district were selected by simple random sampling method by using lottery method, thus a total of twelve mandals, namely Keshampet, Madgul, Uppununthala, Kodangal, Waddepalle, and Aiza in Mahabubnagar district and Yadagirigutta, Munugode, Narayanapur, Chandur, Chinthapalle and Devarakonda in Nalgonda district were selected for the study.

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Based on the available dairy farmers' population in the selected villages, 10% of the sample size (254 respondents) from 24 villages in 12 mandals of Southern Telangana zone was selected for the study. The collected data was tabulated and analyzed by using suitable statistical tools and the results were presented in percentages and frequency.

Results and Discussion
1. Age
The age wise distribution of dairy farmers was presented in table 1. It indicated that among the selected dairy farmers, majority (47.64%) belonged to middle age group of 36 to 50 years, followed by young age (<35 years) with 28.35 percent and old age (>50 years) were 24.01 percent.

Table 1: Distribution of respondents according to their age (n=254)

S.No.	Category	Frequency	Percentage (%)
1.	Young age (<35 years)	72	28.35
2.	Middle age (36-50 years)	121	47.64
3.	Old age (>50 years)	61	24.01

The dairy farming was taken up as a traditional occupation from their elders in the sample area might be the reason for above trend. These results are in line with the observation of Krishnaiah (2016) [1], Anjum (2015) [2], Rathod et al. (2014) [3] and Rajput et al. (2012) [4].

2. Education
The results in table 2 depicted the educational status of the respondents. Majority of the respondents (40.15%) were illiterates followed by education up to middle school (21.26%), up to primary education (16.93%), up to high school (13.38%), intermediate (5.52%), graduate (2.76%) and post graduate (0.00%).

Table 2: Distribution of respondents according to their education (n=254)

S.No.	Category	Frequency	Percentage (%)
1.	Illiterate	102	40.15
2.	Up to primary education	43	16.93
3.	Up to middle school	54	21.26
4.	Up to high school	34	13.38
5.	Intermediate	14	5.52
6.	Graduate	7	2.76
7.	Post graduate	0	0.00

Majority of dairy farmers in the study area were resource poor and strive hard for their living on traditional farming which might be discouraging them from attending school and taking any interest in education, which has resulted in the above trend. Similar findings were observed by Bhanotra et al. (2016) [5], Anjum (2015) [2], Verma et al. (2012) [6].

3. Family size
It is evident from the table 3, that majority (68.50%) had family size of medium with 4-6 members followed by small, large and very large family size with 13 percent,11.02 percent and 7.48 percent respectively.

Table 3: Distribution of respondents according to their family size (n = 254)

S. No	Category	Frequency	Percentage (%)
1.	Small (1-3 members)	33	13
2.	Mediu(4-6 members)	174	68.5
3.	Large (7-9 members)	28	11.02
4	Very large (10 and above)	19	7.48

The results might be due to their low educational level, less awareness on family planning programmes. The results are similar to the studies of Bhanotra et al. (2016) [5], Krishnaiah (2016) [1] and Sathyanarayan et al. (2010) [7] who had reported that the majority of the respondents had medium family size.

4. Herd size
The distribution of dairy farmers according to the livestock holding was presented in table 4, and was evident that more than three-fourth of the farmers (77.16%) belonged to medium herd size, followed by large (14.17%) and small (8.66%) herd size category.

Table 4: Distribution of respondents according to herd size (n=254)

S. No.	Category	Frequency	Percentage (%)
1.	Small	22	8.66
2.	Medium	196	77.16
3.	Large	36	14.17

$\bar{x}$ =22.04, σ=11.7

Dairy farmers in the study area were categorized based on the number of dairy animals they own. In the table 5, it was showed that among the respondents, 58.66 percent were belonged to medium category with possession of 4-9dairy animals, followed by small (24.02%) who possessed less than 4 dairy animals and large (17.32%) who possessed more than 9 dairy animals.

Table 5: Distribution of respondents according to dairy animals (n=254)

S. No.	Category	Frequency	Percentage (%)
1.	Small (<4)	61	24.02
2.	Medium (4-9)	149	58.66
3.	Large (>9)	44	17.32

$\bar{x}$ = 6.24 σ= 2.59

This is because of its labour intensive in nature, inadequate feed resources, low income levels and cost of veterinary aid. However, all the members should be encouraged to rear other livestock species viz. improved backyard poultry varieties, sheep and goat rearing keeping in view of nutritional security to their family and as ready bankable assets. Anjum (2015) [2], Lahoti et al. (2012) [8] and Rathod et al. (2012) [9] had reported similar results in their studies.

5. Farm size
The distribution of dairy farmers according to their farm size was presented in table 6. Majority of the dairy farmers (47.25%) were small who had 2.5-5 acres of land, followed by marginal (29.53%) who had less than 2.5 acres, semi-medium (15.35%) who had 5.1-10 acres, medium (6.30%) who had 10.1-25 acres, landless farmers (1.18%) and large farmers (0.39%) who had more than 25acres of land.

Table 6: Distribution of respondents according to farm size (n=254)

S. No	Category	Frequency	Percentage
1.	Landless (0 acres)	3	1.18
2.	Marginal(<2.5acres)	75	29.53
3.	Small(2.5acre-5acres)	120	47.25
4.	Semi medium (5.1 acres-10 acres)	39	15.35
5.	Medium (10.1 acres-25acres)	16	6.30
6.	Large (>25 acres)	1	0.39

The phenomenon is common in rural India, because the marginal and small farmers found dairy farming as an important alternative source of livelihood. The results drew the support from the findings of Anjum (2015) [2], Kour *et al.* (2014) [10], Rathod *et al.* (2014) [3], Jamaluddin (2013) [11].

6. Farming system
Results presented in the table 7, showed that 98.82 percent of farmers practiced integrated farming system i.e. crop + dairy farming (66.92%) followed by crop + dairy + poultry farming (14.57%), crop + dairy + sheep/goat farming (9.06%), crop + dairy + sheep/goat + poultry farming (6.30%), crop + dairy + sheep/goat + horticulture + poultry farming (1.97%) and only 1.18 percentage of farmers were dependent on dairy alone.

Table 7: Distribution of respondents according to farming system n=254

S. No.	Category	Frequency	Percentage (%)
1.	Dairy	3	1.18
2.	Crop + Dairy	170	66.92
3.	Crop + Dairy + Poultry	37	14.57
4.	Crop + Dairy + Sheep/Goat	23	9.06
5.	Crop + Dairy + Sheep/Goat + Poultry	16	6.30
6.	Crop + Dairy + Sheep/Goat + Horticulture + Poultry	5	1.97

This might be due to deriving inputs like feed and fodder, manure, nutrient recycling and utilization of farm by products, and the farmers of the opinion that integration of farming would help to recoup the losses incurred in one enterprise by the other enterprise. These results are in line with the findings of Anjum (2015) [2] Odhong *et al.* (2014) [12], Subrahmanyeswari and Chander (2013) [13].

7. Family income
Family income of dairy farmers per annum was presented in the table 8, which revealed that majority of the dairy farmers (67.72%) had family income with Rs.75,000 to 1,50,000, followed by 16.93 per cent had high income with more than Rs. 1,50,000 and 15.35 per cent had low family income with less than Rs.75,000. The distribution of respondents according to income generation from dairy enterprise was presented in table 9, indicated that majority of the farmers (52.76%) were belonged to medium income category with the annual income of Rs.40,000 to Rs.80,000 followed by low income (27.17%) with less than Rs. 40,000 and high (20.07%) income category with more than Rs.80,000.

Table 8: Distribution of respondents according to family income per annum (n=254)

S. No.	Category	Frequency	Percentage (%)
1.	Low(<Rs.75,000)	39	15.35
2.	Medium(Rs.75,000-1,50,000)	172	67.72
3.	High(>Rs.1,50,000)	43	16.93

$\bar{x}$ = 1,12,859 σ= 37,362

The majority of the farmers were marginal and small farmers in the study area, who practiced integrated farming system with dairy enterprise which had potential of sustainable contribution towards family income despite of inadequate resources and un-favorable monsoon and severe drought, could be the reasons for above results. The results of the present investigation correspond with that of Anjum (2015) [2], Khan *et al.* (2014) [14] Khuman *et al.* (2013) [15], Rathod *et al.* (2012) [9].

Table 9: Distribution of respondents according to income generation from dairy enterprise (n=254)

S. No.	Category	Frequency	Percentage (%)
1.	Low (<Rs.40,000)	69	27.17
2.	Medium(Rs.40,000-80,000)	134	52.76
3.	High (>Rs.80,000)	51	20.07

$\bar{x}$ = 59,896, σ= 19,755

8. Dairy Farming experience
A perusal of table 10 on the distribution of dairy farmers based on experience in dairy farming depicted that majority (45.28%) of the farmers had medium dairy farming experience of 12-24 years followed by low experience (31.50 %) of less than 12 years and high experience (23.22 %) of more than 24 years.

Table 10: Distribution of respondents according to dairy farming experience (n=254)

S. No	Category	Frequency	Percentage (%)
1.	Low (<12years)	80	31.50
2.	Medium (12 – 24 years)	115	45.28
3.	High (>24years)	59	23.22

$\bar{x}$ =18.27 σ= 6.48

The results might be due to the fact that dairy farming was traditional occupation and most of the dairy farmers in the study area were engaged from young itself. The results drew the support from the findings of Khan *et al.* (2014) [14], Rajavi (2012) [16].

9. Information seeking behaviour
Among the dairy farmers in the study area, 47.24, 29.14 and 21.65 per cent were occasionally, frequently and rarely consulted the veterinarian for information (Table 11). About 10.24, 6.30 and 4.72 per cent of dairy farmers rarely, occasionally and frequently consulted agricultural officer for accessing information. Only 0.39 per cent of dairy farmers rarely approached scientists. Extension officers/agents were approached rarely by 10.23 per cent, occasionally by 6.7 per cent and frequently by 5.12 per cent of the farmers. Cooperatives/NGOs were approached rarely by 11.42 per cent and occasionally by 9.84 per cent of the farmers for information. Amongst informal sources, all the dairy farmers approached family members frequently, contacted friends/relatives occasionally (51.57%), frequently (33.47%) and rarely (14.96%) for accessing information. Neighbours were approached by 52.76 per cent, 33.46 per cent and 13.78 per cent of the farmers occasionally, frequently and rarely. About 41.34, 22.44 and 17.32 per cent of progressive farmers were approached to access information occasionally, rarely and frequently in the study area repeatedly by the dairy farmers. Mass media like television (22.83%), mobile phones (13.39%), radio (2.76%) and newspaper (2.36%) were accessed frequently for information on dairy farming. Television (44.1%), mobile phones (16.14%), farm literature (7.48%), newspaper (3.15%), internet (2.36%) and radio (1.57%) were utilized occasionally for information, where as television (17.72%), farm literature (5.90%), newspaper (3.54%) and internet (1.57%) were rarely used.

Table 11: Distribution of the dairy farmers according the response to information seeking behaviour (n=254)

S. No.	Source	Extent of contact							
		Frequently		Occasionally		Rarely		Never	
		F	(%)	F	(%)	F	(%)	F	(%)
1.	**Formal Sources**								
	1. Veterinarian	74	29.14	120	47.24	55	21.65	5	1.97
	2. AO	12	4.72	16	6.30	26	10.24	200	78.74
	3. Scientists	0	0.00	0	0.00	1	0.39	253	99.60
	4. Extension officers/agents	13	5.12	17	6.70	26	10.23	198	77.95
	5. Cooperatives/NGOs	0	0.00	25	9.84	29	11.42	200	78.74
2.	**Informal Sources**								
	1. Family	254	100.0	0	0.00	0	0.00	0	0.00
	2. Friends/Relatives	85	33.47	131	51.57	38	14.96	0	0.00
	3. Neighbors	85	33.46	134	52.76	35	13.78	0	0.00
	4. Progressive Farmers	44	17.32	105	41.34	57	22.44	48	18.90
3.	**Mass Media**								
	1. Newspaper	6	2.36	8	3.15	9	3.54	231	90.95
	2. Farm Literature	0	0.00	19	7.48	15	5.90	220	86.61
	3. Radio	7	2.76	4	1.57	0	0.00	243	95.67
	4. Television	58	22.83	112	44.1	45	17.72	39	15.35
	5. Mobile Phones	34	13.39	41	16.14	0	0.00	179	70.47
	6. Internet	0	0.00	6	2.36	4	1.57	244	96.06

F: Frequency, %: Percentage

Based on the obtained score, dairy farmers' information seeking behaviour was classified into three categories i.e. low, medium and high as shown below. From the table 12, it is apparent that the majority (74.41%) of the dairy farmers had medium information seeking behaviour, 12.99 per cent were with low and 12.60 per cent were with high information seeking behaviour, followed by low (12.99 %) and high (12.60 %).

Table 12: Distribution of respondents according to information seeking behaviour (n=254)

S.No.	Category	Frequency	Percentage (%)
1.	Low	33	12.99
2.	Medium	189	74.41
3.	High	32	12.60

$\bar{x}$=30.12, σ = 5.73

The reasons for the above trend might be, the Veterinarian was considered as qualified, knowledgeable, and accessible formal source to the dairy farmers. Amongst informal sources, the farmers tend to rely more on family members, neighbors, friends/relatives, progressive farmers for many advices on pertinent problems related to dairy farming. Television was considered as reliable information provider among other mass media tools. The results are in line with Chaurasiya *et al.* (2016) [17] and Gamit *et al.* (2015) [18].

Conclusion
It can be concluded that majority of the respondents belonged to middle age group of 36-50 years, illiterates, medium family size with 4-6 members, more than three-fourth of the farmers belonged to medium herd size, majority of the respondents possessed 4-9 dairy animals. The farm size of the respondents revealed that 47.25 percent were small farmers, nearly cent percent of farmers practiced integrated farming system, with most of them practiced crop plus dairy farming. Based on total income generated from various sources, majority of the respondents were had medium income category with 75,000 - 1,50,000 and income generated from dairy animals showed that majority of the farmers were under medium income category of Rs.40,000 to Rs.80,000. Majority of the dairy

farmers had medium experience of 12-24 years, medium information seeking behaviour, among the formal sources majority of the dairy farmers were consulting the veterinarian occasionally for information, where as among the informal sources all the respondents were consulting the family members frequently. Television was mostly assessed among the mass media sources, followed by mobile phones by the dairy farmers in southern telangana zone. Socio-economic profile of dairy farmers in southern telangana zone revealed that there is a scope for further improvement in socio-economic status, which ultimately leads to animal husbandry development.

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