Research Article

KNOWLEDGE LEVEL OF DAIRY FARMER ABOUT IMPROVED DAIRY FARMING PRACTICES IN REWA DISTRICT OF MADHYA PRADESH

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Abstract- The present study was conducted as ex-post facto knowledge test in the Rewa district of the Baghelkhand region of Madhya Pradesh. The knowledge was measured using a modified knowledge test developed by Sah, 2005 [19]. 48.33%, 28.33% and 23.34% Peri-urban respondents had medium, low and high level breeding knowledge respectively; 43.33%, 38.33% and 18.34% respondents had medium, low and high feeding knowledge; 60.00% low, 31.67% medium and 08.33% high level healthcare knowledge; 51.67% medium, 31.67% low and 16.66% high level management knowledge; 56.67% medium, 25.00% high and 18.33% low clean milk production practices knowledge and 46.67% medium, 36.67 % low and 16.67% had high level of overall knowledge while that of rural respondents had 51.67% low, medium 33.33%, 15.00% high level breeding knowledge; 55.00% low, 31.67 % medium and 13.33 % high level feeding knowledge; 66.67% low , 30.33% medium and 3.33% high level of healthcare knowledge; 48.33% medium, 41.67 % low, 10.00 % high level of management knowledge; 51.67% medium, 35.00 % low and 13.33 % high level clean milk production knowledge and 48.33 % low, 40.00% medium and 11.67% had high level of overall knowledge. The mean score of knowledge secured by peri-urban respondents was 13.83±2.37, 14.57±3.42, 10.35±1.73, 16.79±2.89, 17.24±3.19 and 72.78±8.92 while rural farmers secured 11.32±1.36, 12.46±2.49, 09.04±2.63, 13.21±3.38, 13.31±2.53 and 59.35±8.82 in breeding, feeding, healthcare, management, clean milk production and overall improved dairy farming practices knowledge respectively. In breeding, feeding and overall knowledge about dairy farming practices, peri-urban farmers were more knowledgeable at the 5 % level of significance and in clean milk production and management; knowledge level was at the 1 % level of significance. Non-significant difference was observed in health care practices in peri-urban and rural dairy farmers.

Keywords- Dairy Farmer, Dairy Farming Practices

Introduction

The livestock sector is one of the fastest growing segments of the agricultural economy, particularly in the developing world [9] which provides some 70.0 million families the triple benefits of nutritious food for a balanced diet, supplementary income and productive employment particularly the landless, marginal and small farmers. India ranks first in milk production, which is 14.6% of the world production. The total cattle population of India was 19.99 crores in which 16.58 crores (83.36%) belongs to the indigenous variety with lower productivity due to ignorant scientific farming practices. Total milk production in India is 146.31 million tonnes, while Madhya Pradesh contributes 10.78 million tones. Per capital milk, availability in Madhya Pradesh is 349gm, which is higher than average per capita milk availability in India i.e. 322 gm. According to the national accounts and central statistical organization, the livestock sector contributes nearly 3.92 % of the total GDP of the country, which is nearly 25.8 % of total agricultural GDP contributions. Indian dairy industry has a unique characteristic that the bulk of milk production is handled by small milk producers who are illiterate and ignorant of commercial and economic aspects of milk production. It is important in the Indian aspect as it has a wide area coverage in Peri-urban and rural coverage covering the small and marginal farmers as it require less land availability as compared to agriculture. It

had proven that landless farmers could also have a sustainable livelihood by adopting improved dairy farming practices. According to the estimates of the central statistical organization (CSO), the value of output from livestock was about Rs. 1, 73,350 crores at current prices in 2005- 2006, milk accounted for 68 percent of this output. It was higher than paddy or wheat in term of values of output, milk is now the single largest agricultural commodity in India [7]. Despite rapid advances in the animal husbandry technologies and their roles in improving livestock sector, the productivity of this sector still is very low in India [8] which may be due to various reasons like poor adoption and diffusion of new technologies and poor knowledge level of farmers etc. Reproductive diseases of dairy animals' results in huge economic losses caused by reducing milk production as well as increased input costs in the form of preventive and curative measures [6]. Retained placenta and uterine infections are major causes of an increase in service period and intercalving interval period [3]. Culling due to repeat breeding adds significant cost to milk production [5]. Hence, maintaining infertile animal is an economic burden on dairy owners. Repeat breeding [14,15], anestrus [15] and infertility [14] are some of the prominent reproductive problems under Indian conditions. However, extreme climate also affects the reproductive efficiency [16]. [11] estimated economic impact of postpartum reproductive

disorders as 21.01% and 34.25% in university and private farms, respectively. The imbalanced concentration of minerals is one of the possible causes of reproductive problems [1]. To achieve desired and sustainable level of milk production and advancement in the cognitive domain of dairy farmer's behavior it is crucial to analyze about their existing knowledge level about improved dairy farming practices. For adoption of improved recommended practices, it is essential that the adopter must possess a desired level of knowledge about these practices. Hence, an attempt was made to measure the knowledge of dairy farmers about improved dairy farming practices in the Rewa district of Madhya Pradesh.

Materials and Methods

Present study was ex-post facto research conducted in Rewa district of Baghelkhand region of Madhya Pradesh. The study was designed to analyze the knowledge of the peri-urban and rural dairy farmers about improved dairy farming practices in the area. Peri-urban was defined as the surrounding area 5 km nearby the district head quarters or Nagar panchayats and the rural was defined as the villages which are located beyond 5 kms from the district headquarter or Nagar panchayats. 60 dairy farmers each from peri-urban area and rural area, rearing at least one animal in milk at the time of investigation were selected randomly. The knowledge was measured using modified knowledge test developed by Sah, 2005 [19]. After modification, the knowledge test was pretested for reliability and internal validity. In the modified knowledge test there were eight questions in each breeding, feeding, health care, management and clean milk production section i.e. total forty questions. The score for each correct answer was assigned as three and zero for the incorrect / wrong answer. Thus, maximum obtainable score of

knowledge was 120, whereas minimum could be zero and extent of knowledge was calculated by following formula:

$$\text{Extent of Knowledge} = \frac{\text{Obtained score}}{\text{Maximum possible score}} \times 100$$

Data were tabulated and analyzed using appropriate statistical tools and accordingly interpreted to get fruitful results and logical conclusion of the study.

Results and Discussion

Knowledge level of peri-urban and rural dairy farmers about improved dairy farming practices:

Knowledge level of peri-urban and rural dairy farmers in breeding: It was found that a majority of peri-urban respondents had a medium level (48.33%) followed by low (28.33%) and high level (23.34%) respectively, while in rural areas, majority (51.67%) of respondents had a low level of knowledge about breeding practices followed by medium (33.33%) and high level (15.00%) respectively [Table-1]. The average breeding knowledge level of dairy farmers in peri-urban areas was 13.83±2.37 while that of dairy farmers in rural area was found 11.32±1.36. Peri-urban dairy farmers had 57.65 % while rural dairy farmers had 47.17 % knowledge about improved breeding aspects. The knowledge level of peri-urban farmers was reported significantly higher than the rural dairy farmers p>0.05% [Table-2].

Table-1 *Knowledge level of respondents of peri-urban and rural dairy farmer of Rewa*

S. No.	Variable	Category	Peri-urban (60)		Rural (60)	
			Frequency	Percent	Frequency	Percent
1.	Breeding	Low (6-12)	17	28.33	31	51.67
		Medium (12-18)	29	48.33	20	33.33
		High(18-21)	14	23.34	09	15.00
2.	Feeding	Low (6-9)	23	38.33	33	55.00
		Medium (9-15)	26	43.33	19	31.67
		High (15-18)	11	18.34	08	13.33
3.	Health Care	Low (6-9)	36	60.00	40	66.67
		Medium (9-12)	19	31.67	18	30.00
		High (12-15)	05	08.33	02	3.33
4.	Management	Low (6-12)	19	31.67	25	41.67
		Medium(12-18)	31	51.67	29	48.33
		High(18-21)	10	16.66	06	10.00
5.	Clean milk Production	Low (9-12)	11	18.33	21	35.00
		Medium (12-18)	34	56.67	31	51.67
		High (18-21)	15	25.00	08	13.33
6.	Overall Knowledge	Low (30-60)	22	36.67	29	48.33
		Medium (60-75)	28	46.67	24	40.00
		High (75-105)	10	16.66	07	11.67

Knowledge level of peri-urban and rural dairy farmers in feeding: The knowledge level in feeding practices of peri-urban respondents was 43.33%, 38.33% and 18.34% medium , low and high respectively, while that of rural respondents was 55.00% low, 31.67 % medium and 13.33% high [Table-1]. In a quantitative study, average feeding knowledge of peri-urban respondents was 14.57±3.42 while that of rural respondents was 12.46±2.49. Peri-urban respondents had 60.71%, while rural respondents had 51.92 % knowledge about improved feeding aspects. The knowledge level of peri-urban farmers was reported significantly higher than the rural dairy farmers p>0.05% [Table-2].

Knowledge level of peri-urban and rural dairy farmers in healthcare: Knowledge of peri-urban respondents about health care was 60.00% low, 31.67% medium level and 08.33% high level while that of rural respondents had 66.67% low level, 30.33% had medium level and 3.33% high level of healthcare

knowledge [Table-1]. Peri-urban farmers in healthcare aspect secured 10.35±1.73 marks while that of the rural farmers secured 09.04±2.63. Peri-urban respondents had 43.13%, while rural dairy farmers had 37.67% knowledge about improved health care dimension. The knowledge level of peri-urban farmers and the rural dairy farmers was varying non-significantly [Table-2].

Knowledge level of peri-urban and rural dairy farmers in management: Majority of the dairy respondents (51.67%) residing in the peri-urban areas belonged to medium level of management knowledge followed by 31.67% low and 16.66% high level, while that of 48.33% of rural area respondents had a medium level of knowledge followed by 41.67 % low and 10.00 % low level of knowledge [Table-1]. In management practice, aspect a comparative study was done about both peri-urban and rural farmers and on the basis of observation it was found that the knowledge of peri-urban farmers secured 16.79±2.89 and rural secured

13.21±3.38. Peri-urban farmers secured 69.96% marks while that of rural farmers secured 55.04%, which was significantly higher at 1% level of significance [Table-2].

Knowledge level of peri-urban and rural dairy farmers in clean milk production: The knowledge level in clean milk production practices of peri-urban respondents was 56.67% medium, 25.00% high and 18.33% low while that of rural respondents was 51.67% medium, 35.00 % low and 13.33 % high level of knowledge [Table-1]. In quantitative analysis, average knowledge of peri-urban respondents was 17.24±3.19 while that of rural respondents was 13.31±2.53. Peri-urban respondents had 71.83% while rural respondents had 55.46% knowledge about clean milk production aspects. The knowledge level of peri-urban farmers was reported significantly higher than the rural dairy farmers p>0.01% [Table-2].

Overall Knowledge level of peri-urban and rural dairy farmers: On the basis of findings of the study it found that most of the respondents (46.67%) in peri-urban area had medium, 36.67% low and 16.66% had high level of overall knowledge while that of 48.33 % rural dairy farmers had low level followed by 40.00% medium and 11.67% had high level of overall knowledge [Table-1]. The data on overall knowledge aspects of both peri-urban and rural farmers was compared as presented in [Table-2]. It was reported that in overall knowledge in improved dairy farming practices, peri-urban dairy farmers secured 72.78±8.92 and rural dairy farmers secured 59.35±8.82. Rural farmers had 60.65% knowledge in overall improved dairy farming practices while that of rural farmers had 49.46% over all knowledge, which was significantly higher in peri-urban dairy farmers as compared to rural dairy farmers at the 5% level of significance.

Table-2 *Comparison of knowledge of peri-urban and rural dairy farmers about improved dairy farming practices* n=120

S.No.	Variables	Mean Score and S.D.						Mean Difference	Z-Value
		Peri-urban (60)			Rural (60)				
		Mean	S.D.	%	Mean	S.D.	%		
1.	Breeding	13.83	2.37	57.63	11.32	1.36	47.17	2.51	2.23*
2.	Feeding	14.57	3.42	60.71	12.46	2.49	51.92	2.11	2.13*
3.	Healthcare	10.35	1.73	43.13	09.04	2.63	37.67	1.31	1.09
4.	Management	16.79	2.89	69.96	13.21	3.38	55.04	3.58	3.87**
5.	Clean Milk Production	17.24	3.19	71.83	13.31	2.53	55.46	3.93	3.98**
6.	Overall knowledge	72.78	8.92	60.65	59.35	8.82	49.46	9.5	2.28*
*p=0.05 ** p=0.01									

The study confirms with the earlier studied conducted by [2] who reported that a majority of respondents had a low level of knowledge about improved dairy practices. [4,12,13,17,18,20,21], found that majority of respondents were found to have medium level of knowledge about improved dairy farming practices. [10] found that majority of the on-campus trainee respondents had high level of knowledge while majority of off-campus trainees had medium level of knowledge.

Conclusion
On the basis of findings of the study it may be concluded that in breeding, feeding and overall knowledge about improved dairy farming practices, peri-urban farmers were more knowledgeable (p=0.05%) and in clean milk production and management knowledge (p=0.01%) The rural farmers were observed non-significantly differing in healthcare practices thanperi-urban. Knowledge level of peri-urban dairy farmers was significantly higher than rural dairy farmers at 5% level of significance. There is enormous chance for the improvement in the knowledge of the dairy farmers in both the rural and peri-urban area. Steps should be taken to remove deficiencies in healthcare practices and other dimensions of the improved dairy farming practices.

Conflict of Interest: None declared

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