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Exploring the multifaceted role of women in dairy enterprise

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Abstract

The present study aimed to examine the role of women in dairy enterprises in rural areas of Pune district, Maharashtra, focusing on their socio-economic profile, level of involvement in dairy activities, data were collected from 150 dairy women across Baramati and Indapur tehsils through a structured interview schedule using purposive and random sampling techniques. Dairy women played an active and consistent role in essential dairy operations including care of pregnant animals, feeding, milking, cleaning, housing maintenance and basic healthcare activities like vaccination and deworming. They also engaged in value addition through the preparation of curd and ghee, and in the production of dung-based items like manure and dung cakes. However, they had minimal to no involvement in grazing, sale of farmyard manure, production of specific dairy items (lassi, paneer, ice cream), urine-based products or dung-based products like gobar gas and vermiwash.

Keywords: Role of women in dairy, dairy women, dairy enterprise

Introduction

Dairy farming stands out as one of the most significant income-generating activities for women in rural India. With the rising demand for milk and milk-based products, it has emerged as a profitable and sustainable livelihood option, particularly for rural women. Beyond its agricultural importance, dairy farming offers an ideal production system with the potential to improve the socio-economic status of rural households. India continues to lead the world in milk production, reaching a total output of 239.3 million tonnes in 2023–24. The country's per capita milk availability has increased to 471 grams per day, up from 459 grams, significantly surpassing both the global average of 329 grams per day and the Indian Council of Medical Research (ICMR) recommendation of 300 grams per day. Historically, women have played a vital role in the Indian dairy sector, and their involvement has grown substantially over time. Today, they constitute over 70 per cent of the workforce in dairy, performing essential responsibilities such as feeding and milking animals, providing water, caring for animals during parturition and preparing various milk-based products. Dairy farming not only ensures a steady source of income for these women but also acts as a powerful tool for their economic and social empowerment. Despite their significant contributions, rural women often face limited access to training, technology and resources. In this context, the present study titled *"Study on the Role of Women in Dairy Enterprise"* aims to explore the diverse roles undertaken by women in the dairy sector, while also identifying the challenges they face and the opportunities for their further empowerment.

Methodology

This study conducted in Baramati and Indapur tehsils of Pune district, Maharashtra. These tehsils were selected purposively due to their high cattle populations 1,21,504 in Baramati (15.91 per cent) and 1,45,144 in Indapur (19.01 per cent) of the district's total (20th Livestock Census). Baramati and Indapur fall under the hot semi-arid agro-ecological zone, with average summer temperatures around 39°C, winter lows near 12°C and annual rainfall between 500–560 mm, which is highly variable and contributes to their drought-prone status. The soils are predominantly black regur soils, ideal for crops like sugarcane, wheat, jowar, bajra and pulses. The total population of Baramati is 4,29,600, with a literacy rate of 82.27 per cent (male: 88.72 per cent, female: 75.51 per cent) and that of Indapur is 3,83,183, with 81.53 per cent literacy (male: 88.15 per cent, female: 74.46 per cent). Both tehsils are predominantly rural Baramati with 82.8 per cent rural population and Indapur with 93.3 per cent. The sample for the study consisted of 150 dairy women selected randomly from 10 villages (five in each tehsil), with 15 respondents from each village, based on highest cattle population. Data were collected using a structured interview schedule prepared in Marathi, covering personal, socio-economic, and dairy enterprise-related aspects.

Results and Discussion

The role of women in the dairy enterprise was categorized

into five major areas: breeding practices, feeding practices, management practices, marketing practices and making value-added products.

Role of dairy women in dairy enterprise

Information regarding the role of dairy women is presented in the following table.

Table 1: Distribution of dairy women according to their role in dairy enterprise

Sl. No.	Role of women in dairy enterprise	Always	Sometimes	Never
A	**Breeding practices**			
1.	Selection of breed	43 (28.67)	57 (38.00)	50 (33.33)
2.	Selection of milch animal	52 (34.67)	53 (35.33)	45 (30.00)
3.	Heat detection of animals	100 (66.67)	20 (13.33)	10 (06.00)
4.	Breeding program/breeding method	133 (88.67)	17 (11.33)	0 (0.00)
5.	Pregnancy diagnosis	90 (60.00)	33 (22.00)	27 (18.00)
6.	Care and management of pregnant animals	93 (62.00)	35 (23.33)	22 (14.67)
7.	Care of animals during parturition	111 (74.00)	24 (16.00)	15 (10.00)
8.	Rearing the calves	150 (100.00)	0 (0.00)	0 (0.00)
B	**Feeding practices**			
1.	Maize	130 (86.67)	20 (13.33)	0 (0.00)
2.	Jowar	0 (0.00)	23 (15.33)	127 (84.67)
3.	Napier grass	71 (47.33)	79 (52.67)	0 (0.00)
4.	Berseem	0 (0.00)	0 (0.00)	150 (100.00)
5.	Fodder of dried stems and leaves of sorghum or millet	122 (81.33)	28 (18.67)	0 (0.00)
6.	Rice husk	0 (0.00)	0 (0.00)	150 (100.00)
7.	Sugarcane	78 (52.00)	72 (48.00)	0 (0.00)
8.	Pearl millet	0 (0.00)	0 (0.00)	150 (100.00)
9.	Dry grass	142 (94.67)	08 (05.33)	0 (0.00)
10.	Selection of varieties of fodder crops	50 (33.33)	43 (28.67)	57 (38.00)
11.	Bringing of fodder from farm	77 (51.33)	73 (48.67)	0 (0.00)
12.	Chaffing of fodder	48 (32.00)	52 (34.67)	50 (33.33)
13.	Drying of fodder	128 (85.33)	22 (14.67)	0 (0.00)
14.	Storage of fodder	78 (52.00)	72 (48.00)	0 (0.00)
15.	Silage making	57 (38.00)	50 (33.33)	43 (28.67)
16.	Selection of cattle feed	80 (53.33)	70 (46.67)	0 (0.00)
17.	Preparation of feed concentrate	79 (52.67)	71 (47.33)	0 (0.00)
18.	Providing of feed to cattle	150 (100.00)	0 (0.00)	0 (0.00)
19.	Adding mineral mixture to feed	68 (45.33)	82 (54.67)	0 (0.00)
20.	Providing water to animals	150 (100.00)	0 (0.00)	0 (0.00)
21.	Milking of animals	89 (59.33)	61 (40.67)	0 (0.00)

22.	Grazing of animals	0 (0.00)	79 (52.67)	71 (47.33)
C	**Management practices**			
1.	Traditional/ scientific cattle shed facilities	110 (73.33)	32 (21.33)	08 (05.33)
2.	Vaccinating animals	120 (80.00)	15 (10.00)	15 (10.00)
3.	Animal deworming	77 (51.33)	73 (48.67)	0 (0.00)
4.	Cleaning of animal shed and utensils	150 (100.00)	0 (0.00)	0 (0.00)
5.	Bathing of animals	82 (55.33)	68 (45.33)	0 (0.00)
6.	Use of milking machine	48 (32.00)	62 (41.33)	40 (26.67)
7.	Handling and storage of milk	83 (55.33)	67 (44.67)	0 (0.00)
8	Record keeping	79 (53.00)	42 (28.00)	29 (19.33)
D	**Marketing practices**			
1.	Selling of milk to consumer	42 (28.00)	59 (39.33)	49 (32.67)
2.	Selling of milk in village dairy cooperative	79 (52.67)	71 (47.33)	0 (0.00)
3.	Purchase of milch animals	73 (48.67)	77 (51.33)	0 (0.00)
4.	Selling of farm yard manure	0 (0.00)	77 (51.33)	73 (48.67)
5.	Purchase of concentrated feed	81 (54.00)	69 (46.00)	0 (0.00)
6.	Selling of draught and old aged animals	59 (39.33)	91 (60.67)	0 (0.00)
E	**Making value added products**			
a)	**Milk products**			
1.	Curd	82 (54.67)	68 (45.33)	0 (0.00)
2.	Lassi	0 (0.00)	71 (47.33)	79 (52.67)
3.	Buttermilk	54 (36.00)	54 (36.00)	42 (28.00)
4.	Ghee	79 (52.67)	71 (47.33)	0 (0.00)
5.	Paneer	0 (0.00)	71 (47.33)	79 (52.67)
6.	Ice-cream	0 (0.00)	49 (32.67)	101 (67.33)
b)	**Urine based products**			
1.	Gomutra-Ark	0 (0.00)	77 (51.33)	73 (48.67)
2.	Panchamrut	0 (0.00)	76 (50.67)	74 (49.33)
3.	Gomutra spray	0 (0.00)	73 (48.67)	77 (51.33)
4.	Dashparni-Ark	0 (0.00)	49 (32.67)	101 (67.33)
c)	**Dung based products**			
1.	Dung cake	48 (32.00)	42 (28.00)	60 (40.00)
2.	Manure	61 (40.67)	40 (26.67)	49 (32.66)
3.	Gobar gas	0 (0.00)	0 (0.00)	150 (100.00)
4.	Vermicompost	0 (0.00)	79 (52.67)	71 (47.33)
5.	Vermi-wash	0 (0.00)	67 (44.67)	83 (55.33)
6.	Dhup	0	44	106

		(0.00)	(29.33)	(70.67)
7.	Soap	0 (0.00)	0 (0.00)	150 (100.00)
8.	Diwali lights	0 (0.00)	38 (25.33)	112 (74.67)
9.	Ganpati sculptures	0 (0.00)	0 (0.00)	150 (100.00)

(Figures in parenthesis indicates percentage)

The data revealed that dairy women were actively engaged in a wide range of dairy-related practices, though the level of involvement varied across activities. Breeding practices such as rearing calves, heat detection and managing animals during pregnancy and parturition were followed diligently by a large majority, reflecting a strong understanding of animal care. Feeding practices like providing water, dry grass, maize and sugarcane were commonly adopted, while certain fodders like berseem, pearl millet and rice husk were not used at all, possibly due to regional unavailability or lack of awareness. Daily management tasks especially cleaning, vaccination and bathing were carried out regularly, showing attention to hygiene and animal welfare. In marketing, most women preferred selling milk to cooperatives rather than directly to consumers and buying feed or milch animals was a shared responsibility. Milk product preparation was limited mostly to curd, ghee and buttermilk, with lesser engagement in making items like paneer or ice cream. Interestingly, the use of cow urine and dung for value-added products like gomutra ark, vermicompost or traditional items like Diwali lights and Ganpati sculptures was rare, indicating potential areas for skill-building and training. Overall, the findings reflect that women played a pivotal role in the dairy sector, particularly in core animal care and feeding tasks, while certain value-addition and marketing practices remained underutilized.

Overall role of women in dairy enterprise

Overall role of dairy women in dairy enterprise is as below.

Table 2: Distribution of dairy women according to their overall role in dairy

Sl. No.	Role of women in dairy	Respondents (n=150)	
		Frequency	Percentage
1.	Low (Up to 72)	18	12.00
2.	Medium (73 to 79)	100	66.67
3.	High (80 and above)	32	21.33
	Total	150	100.00

The data reveals that the majority (66.67 per cent) of dairy women had a medium level of involvement in dairy-related activities, indicating substantial participation. Additionally, 21.33 per cent were highly involved, reflecting strong engagement and responsibility. Only 12 per cent showed low involvement, pointing to limited participation. Overall, the findings suggest that most women actively contributed to dairy enterprises, with many playing significant roles.

Conclusion

The majority of dairy women actively and consistently participated in essential dairy operations. Their involvement was significant in various aspects, including the care and management of pregnant animals, heat detection, parturition, and breeding-related activities. In feeding practices, they contributed by feeding cattle, providing water, selecting appropriate feed such as maize and dry grass, and drying fodder. Additionally, they played a crucial role in milking and day-to-day management tasks such as cleaning animal sheds, maintaining cattle housing, vaccinating and deworming animals. They were also engaged in handling milk and performing marketing-related activities such as the purchase and sale of feed, animals, and milk.

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