Adoption of Dairy Farming Technologies by Rural Women: Role and Constraints

Akila, N.[1], Senthilvel, K.[2] and Bharathy, N.[3]

1. Asso. Prof. and Head, 3. Asstt. Prof., Veterinary University Training and Research Centre, Karur, TN,
2. Professor, Veterinary College and Research Institute, Namakkal

Corresponding author e-mail:akila2528@gmail.com

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ABSTRACT

The study on adoption of dairy farming technologies by rural women in Karur district of Tamil Nadu revealed that the rural women were involved in all activities to take care of the animals except decision regarding marketing milk, purchase and sale of animals. Green fodder production (24%), pregnant animal care (21%), importance of deworming (19%), maintaining dry period (9%), and clean milk production (5%) were the technologies least adopted by the respondents before training. After the training, considerable improvement was seen among the trainees in adopting the technologies like deworming (96%), artificial insemination (98%), vaccination and mineral mixture feeding (97%). Lack of remunerative price for milk is the major constraint faced by the respondents followed by high cost of feed.

Key words: *Adoption; Farmwomen; Dairy farming;*

Rural women play a vital role in all spheres of economic life and contribute richly towards national income. Of the major rural enterprises, they always participated in dairy and animal husbandry activities in addition to their daily household chores (*Belurkar et. al. 2003*). About 75 million women as against 15 million men are engaged in dairying in India (*Thakur and chander, 2006*). In rural India, cattle and buffalo rearing has been traditionally been a responsibility of farm women (*Sarma and Payeng 2012* and *Srinivasulu 2014*). Women play crucial and significant role in livestock rearing but their contribution in livestock rearing has not been given the due place they deserve. They always remain invisible workers (*Chayal, 2009 & Narayana et al. 2015*). Hence this study was aimed to assess the involvement of rural women in Karur district, Tamil Nadu towards dairy farming, adoption of dairy farming technologies before and after training programme and their constraints in dairy production.

METHODOLOGY

Karur district is comprised of eight blocks and among them three blocks namely Karur, Thanthoni and Krishnarayapuram where dairy animal population was high were selected purposively for the study. From the blocks, 165 rural women own at least two dairy animals were selected randomly. Their role in dairy farming activities were studied by collecting primary data from them and by observation. The technologies related to dairy farming were selected and adoption level of those technologies was assessed with them before training. Later they were trained with the scientific technologies involved in dairy farming that can improve the health status, increase the production and reproduction of the animals. Again the adoption of technologies was assessed six months after the training. The constraints faced by them were also assessed.

Conventional analysis in the form of frequency, percentages and tabular analyses are used to study the role and adoption of scientific technologies in dairy farming by the respondents. Comparison in technology adoption before after training was assessed by ANOVA test. In addition, Garrett's ranking technique is used to analyze the constraints in dairy production. The

respondents are asked to rank the factors that are limiting the dairy production The order of the merit given by the respondents is changed into ranks by using the formula

$$\text{Percent position} = \frac{100\,(R_{ij} - 0.50)}{N_j}$$

Where Rij = Rank given for i item by j individual

Nj = Number of items ranked by j individual

The percent position of each rank is converted into scores by referring tables given by *Garrett and Woodworth (1969)*. Then for each factor, the scores of individual respondents are added together and divided by the total number of respondents for whom scores added. The mean scores for all the factors are ranked by arranging in descending order.

RESULTS AND DISCUSSION

Role of women in dairy farming: The results found in Table 1 shows that the respondents were involved in all activities to take care of the animals except decision regarding marketing milk, purchase and sale of animals. Since they didn't have much knowledge and confidence on purchase and sale of animals, they might have left this to their male counterparts. This finding was already opined by *Lahoti et. al. (2012)*.

Table 1: Involvement of women beneficiaries in dairy farming

Activity	No.	%
Taking animal for grazing	165	100
Milking	165	100
Feeding	165	100
Shed cleaning	165	100
Caring young ones	153	92.72
Caring Pregnant animals	150	90.00
Caring sick animals	146	88.48
Purchase and sale of animals	29	17.58
Marketing	49	29.69

Adoption of dairy farming technologies before training: The results found in Table 2 revealed that the green fodder production (24%), pregnant animal care (21%), importance of deworming (19%), maintaining dry period (9%), and clean milk production (5%) were the technologies least adopted by the respondents before training. Even they were unaware about certain practices among them. Since the State Department of Animal Husbandry conducting vaccination camps regularly 71 per cent of the respondents used the service properly. Artificial Insemination at optimum time was done by calling the veterinarians or inseminators at door step on paid basis. Fifty per cent of the beneficiaries fed mineral mixture on veterinarians' advice but not on regular basis.

Table 2: Adoption of technologies by the beneficiaries

Technology	Before training		After training	
	No	%	No	%
Deworming in regular interval	31	18.79	159	96.36
Balanced Concentrate feeding	79	47.88	127	76.97
Green fodder production and feeding	39	23.64	134	81.21
AI at optimum time	151	91.51	164	97.58
Feeding ration for pregnant animal	34	20.6	129	78.18
Timely vaccination	117	70.91	160	96.97
Mineral mixture feeding	84	50.91	160	96.97
Maintaining dry period for animals	13	7.88	99	60.00
Clean Milk Production	08	4.85	116	70.31

Adoption of dairy farming technologies after training: After the training, considerable improvement was seen among the trainees in adopting the technologies like deworming (96%), artificial insemination (98%), vaccination and mineral mixture feeding (97%). Green fodder cultivation was adopted by the respondents (81%) in overwhelming manner, but due to failure of monsoon and water shortage they couldn't continue the green fodder production. The respondents started to feed correct ration for pregnant animals that prevented ketosis in animals. Clean Milk Production practices followed by 70% of the respondents prevented the occurrence of mastitis in cows and buffaloes. Even after training 40% of the respondents were not maintained dry period in pregnant animals. This might be due to poor record keeping and high cost of maintenance.

Comparison in adoption of technologies before and after training : The adoption level of technologies before and after training was compared by means of Analysis of Variance (ANOVA). The details of ANOVA presented in the Table 3, showed that the 'F' value was higher than the table value at 5% level, and the analysis showed that there was significant difference found in adoption level before and after the training programme.

Constraints in dairy production: The constraints presented in Table 4 expressed that lack of remunerative

Table 3: Comparison of adoption level before and after training

Source of variation	SS	df	MS	F
Between training	27066.89	1	27066.89	7.93
Within technology	23889.57	7	3412.8	
Total	50956.46	8		

Table value (5%) level = 5.59
SS=Sum of Square

Table 4. Garrett's ranking and constraints in dairy production

Constraints	Score	Rank
Low market price for milk	80.21	I
High feed cost	69.86	II
Failure of monsoon and scarcity of water	53.64	III
Lack of enough veterinary service	40.22	IV
Disease outbreak	33.66	V
Incidence of Repeat breeding	26.87	VI

price for milk is the major constraint faced by the respondents followed by high cost of feed. *Patil et. al. (2009)* also found high cost of feed was a constraint felt by the farmers of Maharashtra. Because of poor and failure of monsoon they couldn't allow the animals for grazing and cultivate sufficient fodder. This in turn caused more burden on feeding the animals. The fourth constraint felt by the respondents was lack of enough veterinary service. Since the farmers couldn't take their animals to dispensary located far from the villages, they couldn't provide timely treatment. Contagious disease outbreak and incidence of repeat breeding also faced as a constraint by the farmer in keeping dairy animals.

CONCLUSION

It may be concluded that the farm women play an important and substantial role in dairy farming. They are actively involved in various aspects of dairy farming activities like livestock management, feeding and breeding livestock, health care etc. Training provided to them resulted in significant change in dairy technology adoption. Due attention should be given by extension agencies and policy makers to arrange such training programmes, rallies and seminars for women dairy farmers regularly will improve their knowledge, skill and results in more scientific and profitable dairy farming. The ways to reduce the feed cost and value addition in milk, importance of vaccination and the farm waste utilization will assist the farmers directly and indirectly to improve the profitability of dairy farming. The market price for milk should be fixed based on the production cost that assist in getting reasonable price for milk.

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