

Need Assessment of Women Dairy Farmers

Saroj Kumari¹, Nishi Sethi², Joginder Singh Malik³ and Vikram Yogi⁴

¹ Department of EE and CM, CCSHAU, Hisar, Haryana, India

² Associate Director (Extension), CCS HAU, Hisar, Haryana, India

³ Professor of Extension Education, CCS HAU, Hisar, Haryana, India

⁴ Division of Agricultural Economics, IARI, New Delhi, India

Abstract

The present study was conducted in Hisar district of Haryana state. From Hisar district, two blocks Adampur and Hisar-I were selected randomly. From selected blocks, two villages, namely Siswal from Adampur and Dabra from Hisar-I were selected by random technique. From each selected village, 50 women were selected randomly, thus making a total sample of 100 women. From selected villages, 20 women who were interested in training in dairy farming were selected purposively. Majority of the respondents belonged to middle age group, illiterate, married and belonged to joint family of medium family size. Eighty-four per cent respondents had no social participation and had small herd size. Most of the respondents (25%) had medium land holding and lived in pacca houses. Training need score was obtained highest for the task housing management of cattle shed (Mean-76.83 and rank-I), followed by animal health, watering, wallowing and bathing, breeding, post-parturition care, bedding, care and management of calves, feeding, marketing, farm management and accounting and milking and milk product preparation ranked from II to XI, respectively. Similarly, training need was high for animal health (ranked-II) but dairy farm women had high knowledge (74.1) and low difficulty (2.19). It was surprise to see that after computing frequency, importance, difficulty and knowledge of last ranks were given to farm management and accounting (X rank) and milking and milk product preparation (XI rank) but highest learning difficulty by dairy farm women was perceived for these components. It was also interesting to note that negligible percentage of respondents performed tasks of dairy farm management and accounting and marketing where money matters were involved.

Keywords: Dairy farming, respondents, women

Dairying is one of the important enterprises, which supports the rural households by providing gainful employment and steady income. The importance of milk and milk products for the physical development and well-being of human beings is universally recognized. In India, women's involvement in livestock management is a longstanding tradition and dairy farming has been an integral part of homestead farming system. Dairy farming is closely integrated with family life, farm women play crucial and significant role in livestock rearing but their contribution in livestock rearing has not been given due place as they always remain invisible workers. Many research studies have indicated that responsibilities of dairy are almost completely shouldered by women. There is considerable evidence to show that livestock and management related activities continue to be predominately rural women's

responsibility and domain. Women generally are responsible for the feeding, grazing, fodder collection, milking, processing, dung management, while men who manage the finances generally sale of milk and milk products (Sethi, 2010). They are actively participating in various dairy farming practices including harvesting and bringing of fodder from field, care of sick animal, feed preparation, feeding the animal, cleaning of animal shed, milking, cow dung collection and cake making, etc. (Farinde and Ajayi, 2005, Narmatha *et al.* 2009).

Small scale dairy farming in Bunyala district, western Kenya attracts more married people above 56 years old and more male than female and youths, though they form the majority of the population in the area of study. Most of the farmers do not practise large scale farming and they have been keeping livestock for more than three years. The farmers carry out most of the

activities in their farms and they do not depend on hired labour. The farmers have small families excluding dependants and they have learned up to the secondary level of education. Most of the key informants were designated as members and majority of them were in the CSOs e.g. NGO, FBO and the CBO and the civil servants sector. These results plus those of key informants above implied that the availability of microfinance played a very big role in improving the life of the people within Bunyala district. Microfinance services have positive effects on the farmers of Bunyala in many of the following area: enterprise development and improved enterprise, access to clean water for drinking due to microfinance services, realization of their housing plans and the ability to have a better house, nutrition and diets as they are able to afford a meal a day due to microfinance. However, the performance of microfinance is still poor in micro-insurance schemes like medical care, flood and other disaster cover (Omillo *et al.* 2013).

In India, women's involvement in livestock management is a longstanding tradition and dairy farming has been an integral part of homestead farming system. Although much of the work related to livestock farming is carried out by women, the areas in which they need training the most are not given due consideration while designing training programmes. Hence, the studies on accessing the training needs of farm women engaged in dairy farming are of paramount importance to the extension agencies involved in rural development. So, the study was undertaken with an objective to understand the training needs of farm women engaged in dairy farming.

The income of the respondent is dependent on the number of cattle reared, but the quantity of milk does not vary directly in proportion to the number of cattle reared. This occurs because (a) all the cattle may not give milk at the same time; (b) at the time of artificial insemination the calving intervals are not timed properly among cattle; (c) difference in length of lactation; and (d) fertility problems in cows and buffaloes leading to low yield of milk (Fatima and Akhtar, 2014).

Major constraints in the growth of dairying in Haryana are lack of knowledge regarding silent heat, high cost of dry fodder, lack of knowledge about feeding practices, milk record keeping and high cost of treatment. Although much of the work of livestock farming is carried out by women yet they have very low knowledge about technology and practices related to livestock farming. It may be due to the fact that extension and training programmes are not generally designed for greater involvement of women and extending benefits to them (Sharma, 2005).

METHODOLOGY

The present study was conducted in Hisar district of Haryana state. From Hisar district, two blocks Adampur and Hisar-I were selected randomly, but of these blocks, two villages, namely, Siswal from Adampur and Dabra from Hisar-1 were selected by random technique. Fifty women were selected randomly from each selected village, thus making a total sample of 100 women. Out of them, 20 women who were interested in training on dairy farming were selected purposively. In the present study, the interpretation of training needs was done as suggested by FAO (1992) and thus operationalized as frequency of different dairy related tasks performed, importance of the tasks, difficulty of the tasks and knowledge related to these tasks perceived by respondents while performing these tasks. Need assessment was done as per index given by FAO (1992) by computing frequency score, importance score, learning difficulty and knowledge score divided by maximum possible score of all these and multiplied by 100.

$$\text{Training index} = \frac{F + I + D + K}{M} \times 100$$

F = Sum of frequency score

I = Sum of importance score

D = Sum of difficulty score

K = Sum of knowledge score

M = Sum of maximum possible score of each task

Twelve tasks mainly performed by dairy farm women, namely, feeding, watering, wallowing and bathing, bedding, care and management of calves, management of cattle shed, post-parturition care, breeding, animal health, milking and milk product preparation, farm management and accounting and marketing were selected for the purpose.

RESULTS AND DISCUSSION

Socio-personal and Economic Profile of Respondent

Socio-personal and economic profile of respondents revealed that majority of them belonging to middle age group were illiterate, had medium family size and belonged to joint family. These findings are in line with the findings of Rani and Subhadra (2009) and Hai *et al.* (2011). Majority of them were engaged in farming as occupation, had medium annual income, small herd size, medium land holding and lived in a cemented

Table 1. Socio-personal and economic profile of the respondents

n = 100

Sl. No.	Variables	Dabra Frequency	Siswal Frequency	Total
1.	Age			
	Young (below 25 years)	8	6	14
	Middle (25-50 years)	24	28	52
	Old (Above 50 years)	18	16	34
2.	Marital status			
	Married	45	44	89
	Unmarried	2	1	3
	Widow	3	5	8
3.	Respondent's education			
	Illiterate	22	27	49
	Primary	5	4	9
	Middle	6	6	12
	Secondary	3	2	5
	Higher secondary	6	4	10
	Collegiate education	9	6	15
4.	Family education status			
	Low	8	12	20
	Medium	28	26	54
	High	14	12	26
5.	Family type			
	Nuclear	18	14	32
	Joint	32	36	68
6.	Family size			
	Small (up to 4 members)	10	9	19
	Medium (5-6 members)	28	30	58
	Large (more than 7 members)	12	11	23
7.	Family occupation			
	Labourer	5	8	13
	Business	8	7	15
	Farming	25	24	49
	Government Service	9	8	17
	Private job	3	3	6
8.	Annual income			
	Low (Upto ₹ 40,000)	6	12	18
	Medium (₹ 40,000 - ₹ 60,000)	24	21	45
	High (above ₹ 60,000)	20	17	37

(Cont...)

9.	Caste			
	Lower (Chamar, Bhangi, Doom, Jhimar, Khati, Dhobi, Badi)	5	15	20
	Middle (Lohar, Kumhar, Darji, Nai, Baniya, Sunar, Ahir, Saini Arora)	9	26	35
	Upper (Brahmin, Bishnoi, Jat, Rajput)	36	9	45
10.	Social participation			
	No Membership	40	44	84
	Member of a formal organization	8	4	12
	Member of a non-formal organization	2	2	4
11.	Land holding			
	Landless (No Land)	5	10	15
	Marginal (1-2 acres)	12	21	23
	Small (2-5 acres)	10	9	19
	Medium (5-10 acres)	16	10	26
	Large (= 10 acres)	11	7	18
12.	House type			
	No house (rent)	2	9	11
	Kaccha	4	8	12
	Mixed	16	10	26
	Pucca	28	23	51
13.	Herd size			
	Up to 2	26	24	50
	3-4	10	16	26
	= 5 or above 5	14	10	14

(pacca) house and had low social participation. These findings are in tune with those of Doomra *et al.* (2007). Regarding family education, it was observed that although majority of the dairy farm women were illiterate yet their family education status was medium which indicates that now parents are educating their children as they are now aware about the importance of education (Kumari, 2009). Village-wise data revealed that overall SES of Dabra village was superior to that of Siswal village in almost all aspects viz. education, annual income, occupation, land holding, house type, etc. The probable reason for this difference may be that Dabra village is in close periphery of Hisar city and is politically sound. Whereas Siswal village is interiorly located. Further, it was observed that majority of the respondents had low mass media exposure (76%) and medium utilization of information source (62%). In contradiction to this it was found that university scientists were related as most credible source of information followed by veterinary surgeon.

Majority of the dairy farm women performed all the tasks related with dairy at least once or twice a day like feeding, watering, wallowing and bathing, bedding, care and management of calves, housing management of cattle shed, post-parturition care, milking and milk product preparation, while the tasks viz., farm management and accounting, animal health and marketing were not found to be performed by majority of them. It may be due to the reason that majority of dairy women were illiterate and were unable to keep proper accounts. Similar results were also obtained by Devi (1999) and Rangi (2000).

Surprisingly majority of the respondents i.e. 45% were of upper caste shows in table 1. Among them, 36% belonged to Dabra village as this is in close periphery of Hisar and is politically sound. Only 20% belonged to lower caste. As show in (table 1) among them only 5% belonged to village Dabra. Eighty-four per-cent respondents had no social participation. Only 12 % respondents were members of formal organizations and 4% respondents had membership of non-formal

Table 2. Psychological profile of the respondents

(n = 100)

Sl. No.	Variables	Dabra Frequency	Siswal Frequency	Total
1.	Change proneness			
	Low (8-13)	8	12	20
	Medium (14-19)	18	17	35
	High (20-24)	24	21	45
2.	Risk Orientation			
	Low (5)	13	12	25
	Medium (6-10)	25	22	47
	High (11-15)	12	16	28
3.	Economic Motivation			
	Low (5)	10	11	21
	Medium (6-10)	25	24	49
	High (11-15)	15	15	30
4.	Intra family decision making			
	Self	12	8	20
	Husband	32	20	52
	Joint	15	13	28
5.	Entrepreneurial decision making			
	Self	8	5	13
	Husband	30	28	58
	Joint	16	13	29

Table 3. Communicational profile of the respondents

(n = 100)

Sl. No.	Variables	Dabra Frequency	Siswal Frequency	Total
1.	Mass media exposure			
	Low (10-20)	33	34	67
	Medium (21-30)	8	6	14
	High (31-40)	9	10	19
2.	Information Source Utilization			
	Low (5-10)	12	8	20
	Medium (11-16)	30	32	62
	High (17-21)	8	10	18

organizations. Most of the respondents (25%) had medium land holding, whereas 18% had large (> 10 acres) land holding. Only 15% respondents were landless (no land). Further data unfold the fact that

majority of the respondents of Dabra village had large land holding as compared to Siswal village.

Regarding herd size, it was observed that majority of the respondents (50%) had small herd size i. e. up to

Table 4. Overall knowledge of dairy farm women related to dairy activities

(n = 100)

Sl. No.	Messages	Class	Percentage
1	Feeding	Low (18-24)	75.00
		Medium (25-30)	15.00
		High (31-36)	10.00
2	Milking	Low (5-6)	76.00
		Medium (7-8)	17.00
		High (9-10)	7.00
3	Watering, wallowing and bathing	Low (1-2)	49.00
		High (3-4)	51.00
4	Deworming	Low (1-2)	90.00
		High (3-4)	10.00
5	Care and management of calves	Low (12-16)	56.00
		Medium (13-20)	31.00
		High (21-24)	13.00
6	Housing management of cattle shed	Low (3-4)	52.00
		High (5-6)	48.00
7	Breeding	Low (15-20)	35.00
		Medium (21-25)	56.00
		High (26-30)	9.00
8	Post parturition care	Low (3-4)	74.00
		High (5-6)	26.00
9	Animal health	Low (7-9)	26.00
		Medium (10-12)	63.00
		High (13-14)	11.00
10	Milking and milk product preparation	Low (8-11)	27.00
		High (12-16)	73.00
11	Farm management and accounting	Low (8-10)	69.00
		Medium (11-12)	13.00
		High (13-14)	8.00
12	Marketing	Low (3-4)	18.00
		Medium (5-6)	60.00
		High (7-8)	22.00
13	Bedding	Low (3-4)	57.00
		Medium (5-6)	—
		High (7-8)	43.00

two animals (low/buffalo) and 26% of the respondents had medium herd size (3-4 animals), while 24% of the respondents had large number of animals (>5%).

Psychological Profile of Respondents

Psychological profile of respondents included change proneness, economic motivation, risk orientation, intra-family decision making and entrepreneurial decision making, which is given in Table 2. Regarding change proneness, 45% respondents had high level of change proneness and only 20% had low level of change proneness which indicates that they were ready for change.

Majority of the respondents (47%) had medium risk orientation followed by high (28%) and low (25%) in both the villages. It further indicated that majority of the respondents (49%) had medium level of economic motivation followed by high (30%) and low (21%). It was that majority of intra-family decisions were done by husbands followed by jointly (28%) and self (20%). Regarding entrepreneurial decisions, majority of the respondents indicated that 58% decisions were taken by their husbands followed by jointly (29%) and self (13%) in both the villages which clearly indicated that either it was intra-family decision or decision related to entrepreneur women alone can't take decision in majority of the cases.

Communicational Profile of Respondents

It is clear from Table 3 that majority of the

respondents had low mass media exposure followed by high (20%) and medium (14%). As regard of information source utilization, it is clear that majority of the respondents had medium level (62%) of information source utilization followed by low (20%) and high (18%) level.

Overall Knowledge of Dairy Farm Women Related to Dairy Activities

Regarding feeding although majority of the respondents had low knowledge and none of them knew how to prepare silage feeding, have knowledge about mineral mixture requirement of calves/adult, salt requirement of calves/adult, proper amount of green fodder, dry fodder and grain mixture of animals. Majority of dairy farm women had low knowledge level about artificial insemination. Findings of Sharma and Singh (2008) and Aulakh *et al.* (2011) are in contradiction with these findings, which may be due to the reason that these tasks related to feeding are somewhat scientific practices and majority of them were illiterate and did not avail any training before.

Further, about milking and milk product preparation, watering, wallowing and bathing, breeding and animal health, medium level of knowledge was observed (Table 4). These findings are in accordance with the findings of Deepak (2004) and Sharma (2005). Involvement of farm women in marketing activity was poor because money matters were involved.

As Table 5 indicates that to assess the training needs

Table 5. Need assessment in dairy farming

(n= 100)

Task	Frequency	Importance	Difficulty	Knowledge (%)	Training needs (%)	Rank
Feeding	2.50	3.96	2.09	65 (23.40/36)	66.56	VIII
Watering, wallowing and bathing	2.85	3.76	2.08	68.2 (2.73/4)	71.37	III
Bedding	2.13	3.83	2.02	69.5 (5.56/8)	67.70	VI
Care and management of calves	1.82	3.40	2.17	70.4 (16.91/24)	67.50	VIII
Housing management of cattle shed	3.50	3.92	2.04	72.8 (4.37/6)	76.83	I
Breeding	2.08	3.55	2.37	71.4 (21.42/30)	70.04	IV
Post parturition care	2.66	3.78	2.00	63.6 (3.82/6)	68.11	V
Animal health	2.39	3.72	2.19	74.1 (10.39/14)	71.88	II
Milking and milk product preparation	2.57	3.95	2.25	62.5 (10.22/26)	52.75	XI
Farm management and accounting	1.41	1.66	3.24	66.7 (9.34/14)	60.19	X
Marketing	1.45	2.77	2.64	68 (5.44/8)	61.50	IX

of the dairy farm women, frequency of task performed, importance of task and learning difficulties perceived by dairy farm women related to dairy were investigated. For housing management of cattle shed, it was observed that the highest training need for knowledge and found most performed task by dairy farm women with mean 3.50 followed by watering wallowing and bathing (2.85), post-parturition care (2.66), milking and milk product preparation (2.57), feeding (2.50), animal health (2.39), bedding (2.13), marketing (1.45) and farm management and accounting (1.41). Feeding to dairy animal was perceived as the most important task by majority of the dairy farmers with mean of 3.96 followed by milking and milk product preparation and housing management of cattle shed with mean 3.95 and 3.92, respectively. The importance of other tasks ranged from 3.83-1.66. This finding is in line with those of Das and Mishra (2002). Highest learning difficulty by the dairy farm women was perceived for marketing task and minimum for post-parturition care. It may be due to the reason that they had less involvement in this task. Findings are in line with those of Kaushik and Singal (1993) and Rangi (2000) who revealed that women had lack of credit facilities and finance for purchase of animals.

CONCLUSION

The farm women play substantial role in dairy farming. The present study concluded that majority of the rural women participants were of middle age group, married and illiterate with joint family. They were actively involved in various aspects of dairy farming including milking and milk product preparation, watering, wallowing and bathing who had high level of knowledge but in breeding, animal health and marketing medium level of knowledge was observed. It could be concluded that actual work done by women was more in activities related to caring of animals and less in outdoor activities like marketing and selection of animals. The level of participation of women in dairy farming activities was medium.

REFERENCES

- Aulakh, G.S., Yadav, J.S. and Singh, R. 2011. Knowledge level of dairy farmers regarding recommended buffalo management practices. *J. Dairying, Foods and H.S.* **30**: 147- 149.
- Das, L. and Mishra, S.K. 2002. Training needs of tribal women in farm and home activities. *Agric. Ext. Rev.* **14**: 3-6.
- Deepak, K. 2004. Training needs of rural women in buffalo rearing practices. Unpublished M. Sc. thesis, CCS Haryana Agricultural University, Hisar.
- Devi, B.K.H. 1999. A comparative study on role performance and decision making of tribal and non-tribal women of Ranchi district (Bihar) in animal husbandry activities. M. Sc. thesis, Birsa Agricultural University, Ranchi.
- Doomra, Z., Singh, K., Mehta, M. and Dilbagi, M. 2007. Involvement of women in dairy activities. *Dairying, Foods and H.S.* **26**: 169-73.
- FAO. 1992. Planning for effective training: A guide to curriculum development. Food and Agriculture Organization of the United Nations, Rome.
- Farinde, A.J. and Ajayi, A.O. 2005. Training needs of women farmers in livestock production : Implies for rural development in Oyo state of Nigeria. *J Soc. Sci.* **10**: 159-164.
- Fatima, S. and Akhtar, W. 2014. Empowerment of rural women through dairy industry in Begusarai district, Bihar. *Int. J. Applic or Innov. in Engg. and Manage*, **10**: 130-133.
- Hai, A., Akand, A.H. Shanaz, S. and Bulbul, K.H. 2011. Contribution of farm women towards dairy enterprise in Ganderbal district of Kashmir valley. *J. Dairying, Foods and H.S.* **30**: 140-46.
- Kaushik, S. and Singal, S. 1993. Involvement of rural women in dairy co-operative societies in Haryana. *Indian Co-op. Rev.* **30**: 367.
- Kumari, R. 2009. Capacity building of scheduled caste rural women through energy conservation. Unpublished Ph.D. thesis, CCS Haryana Agricultural University, Hisar.
- Narmatha, N., Uma, V., Arun, L. and Geetha, R. 2009. Level of participation of women in livestock farming activities. *Tamilnadu J. Vet. Sci.* **5**: 4-8.
- Omillo, F.O. Nganga, S.I. and Bennett, H. 2013. Transforming women livelihood by dairy farming and microfinance in Bunyala, Western Kenya. *J. Studies in Accounts and Economics*, **1**: 15-23.
- Rangi, M. 2000. Assessment of training needs and development of support material for field functionaries/dairy farm women. Unpublished M. Sc. thesis, CCS Haryana Agricultural University, Hisar.
- Rani, D.V. and Subhadra, M.R. 2009. Training needs of farm women in dairy farming. *Vet. World*, **2**: 34-38.
- Sethi, N. 2010. Factors affecting adoption of scientific technologies by dairy women in buffaloes. *Proc. of International Buffalo Conference*, **2**: 166-67.
- Sharma, K. 2005. Problems and prospects in adoption of buffalo husbandry practices in Haryana Unpublished Ph.D. thesis, CCS Haryana Agricultural University, Hisar.
- Sharma, V.K. and Singh, V.P. 2008. Role of dairying in Punjab agriculture. *IJDS*, **61**: 483-88.