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Training Need Assessment and Impact of Training on Women Dairy Farmers

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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-1 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 were of middle age, illiterate, married and belonged to joint family. 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 *pucca* 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, accounting and marketing where money matters were involved.

Key words : Dairy farming, respondents, women, training

INTRODUCTION

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 long standing tradition and dairy farming has been an integral part of homestead farming system. Dairy farming is closely integrated with family life, farm women plays 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).

In western Kenya, most of the farmers do not practice 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. 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

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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).

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 Mantained of artificial insemination the calving intervals are maintained 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).

Majority 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. Individuals require training to overcome problems as well as to avoid creating problematic situation in the organizations thus, training needs could be for skill acquisition, knowledge gain and attitude change.

METHODOLOGY

The present study was conducted in Hisar district of Haryana state. From Hisar district, two blocks Adampur and Hisar-I were selected randomly. 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.

As per the willingness of trainees, one day was fixed for farm visits and on-farm demonstrations. Experts went to villages for delivering lectures, it also helped rural women as they utilized. This opportunity by consulting vetenerary doctors along with only with their animals. Lectures were delivered followed by participants observations and discussions. Impact assessment of training was taken as dependent variable for the study, whereas independent variables *i.e.* socio-personal, educational, communication and psychological variables were selected.

Impact of training was assessed in terms of dairy farming of individuals through improved knowledge, attitude and symbolic adoption. Thus, impact assessment was measured in terms of knowledge, attitude and symbolic adoption.

RESULTS AND DISCUSSION

Socio-personal and economic profile of respondents

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 (pucca) 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 were educating their children as they were 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 (76%) had low mass media exposure 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 per cent were of upper caste which is presented in Table 1. Among them, 36 per cent belonged to Dabra village as this is in close periphery of Hisar and politically sound. Only 20 per cent belonged to lower caste among them only 5 per cent belonged to village Dabra. Eighty-four per cent respondents had no social participation. Only 12 per cent respondents were members of formal organizations and 4 per cent respondents had membership of non-formal organizations. Most of the respondents (25%) had medium land holding, whereas 18 per cent had large (> 10 acres) land holding. Only 15 per cent 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 two animals (cow/buffalo) and 26 per cent of the respondents had medium herd size (3-4 animals), while 24per cent of the respondents had large number of animals (>5%).

Table 1: Socio- personal and economic profile of the respondents
n = 100

Variables	Dabra (%Respondents)	Siswal (%Respondents)	Total
Age			
Young (below 25 years)	8	6	14
Middle (25-50 years)	24	28	52
Old (Above 50 years)	18	16	34
Marital status			
Married	45	44	89
Unmarried	2	1	3
Widow	3	5	8
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
Family education status			
Low	8	12	20
Medium	28	26	54
High	14	12	26
Family type			
Nuclear	18	14	32
Joint	32	36	68
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
Family occupation			
Labourer	5	8	13
Business	8	7	15
Farming	25	24	49
Government Service	9	8	17
Private job	3	3	6
Annual income			
Low (Upto ₹ 40,000)	6	12	18
Medium (₹ 40,000-₹ 60,000)	24	21	45
High (above ₹ 60,000)	20	17	37
Caste			
Lower	5	15	20
Middle	9	26	35
Upper	36	9	45
Social participation			
No membership	40	44	84
Member of a formal organization	8	4	12
Member of a non-formal organization	2	2	4

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
House type			
No house (rent)	2	9	11
Kaccha	4	8	12
Mixed	16	10	26
Pucca	28	23	51
Herd size			
Up to 2	26	24	50
3-4	10	16	26
5 and above	14	10	14

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 per cent respondents had high level of change proneness and only 20 per cent had low level of change proneness which indicates that they were ready for change.

Table 2: Psychological profile of the respondents

n=100

Variables	Dabra (% Respondent)	Siswal (% Respondent)	Total
Change proneness			
Low (8-13)	8	12	20
Medium (14-19)	18	17	35
High (20-24)	24	21	45
Risk orientation			
Low (5)	13	12	25
Medium (6-10)	25	22	47
High (11-15)	12	16	28
Economic motivation			
Low (5)	10	11	21
Medium (6-10)	25	24	49
High (11-15)	15	15	30
Intra family decision making			
Self	12	8	20
Husband	32	20	52
Joint	15	13	28
Entrepreneurial decision making			
Self	8	5	13
Husband	30	28	58
Joint	16	13	29

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%).

Also majority of intra-family decisions were done by husbands (52%) followed by jointly (28%) and self (20%). Regarding entrepreneurial decisions, majority of the respondents indicated that 58 per cent decisions were taken by their husbands followed by jointly (29%) and self (13%) in both the villages which clearly indicated that it was intra-family decision but 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.

Table 3: Communicational profile of the respondents

n=100

Variables	Dabra (% Respondents)	Siswal (% Respondents)	Total
Mass media exposure			
Low (10-20)	33	34	67
Medium (21-30)	8	6	14
High (31-40)	9	10	19
Information source			
Low (5-10)	12	8	20
Medium (11-16)	30	32	62
High (17-21)	8	10	18

Overall knowledge of dairy farm women related to dairy activities

Regarding feeding, although majority of the respondents (75%) 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, a majority of the respondents (76%) had a knowledge about milking and milk product preparation, following by 51 per cent had high knowledge about 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.

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

n=100

Messages	Class	(% Respondents)
Feeding	Low (18-24)	75.00
	Medium (25-30)	15.00
	High (31-36)	10.00
Milking	Low (5-6)	76.00
	Medium (7-8)	17.00
	High (9-10)	7.00
Watering, wallowing and bathing	Low (1-2)	49.00
	High (3-4)	51.00
Deworming	Low (1-2)	90.00
	High (3-4)	10.00
Care and management of calves	Low (12-16)	56.00
	Medium (13-20)	31.00
	High (21-24)	13.00
Housing management of cattle shed	Low (3-4)	52.00
	High (5-6)	48.00
Breeding	Low (15-20)	35.00
	Medium (21-25)	56.00
	High (26-30)	9.00
Post parturition care	Low (3-4)	74.00
	High (5-6)	26.00
Animal health	Low (7-9)	26.00
	Medium (10-12)	63.00
	High (13-14)	11.00
Milking and milk product preparation	Low (8-11)	27.00
	High (12-16)	73.00
Farm management and accounting	Low (8-10)	69.00
	Medium (11-12)	13.00
	High (13-14)	8.00
Marketing	Low (3-4)	18.00
	Medium (5-6)	60.00
	High (7-8)	22.00
Bedding	Low (3-4)	57.00
	Medium (5-6)	-
	High (7-8)	43.00

Training Need Assessment in Dairy Farming

Table 5 indicateed that to assess the training needs 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 housing management of cattle shed 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 = 3.96) followed by milking and milk product preparation and housing management of cattle shed with (mean =3.95) and (mean = 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) revealed that women had lack of credit facilities and finance for purchase of animals.

Table 5. Need assessment in dairy farming

n=100

Task	(% Respondens)	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

Impact of training

Comparative mean score values of pre-exposure and post-exposure knowledge of respondents about all the messages *i.e.* feeding, protection during summer and winter, milking, watering, wallowing and bathing, deworming, care and management of calf, housing management of cattle shed, breeding, post-parturition care, animal health, milking and milk product preparation, farm management and accounting, marketing and bedding were found to be significantly different. It clearly indicates that respondents were able to gain sufficient knowledge at the post-exposure stage. The

higher the 't' value, the higher is the magnitude of difference in gain in knowledge of farm women (Table 6). Similar findings were obtained by Kumari *et al.* (2008) and Kumari (2009) that significant level of knowledge was acquired by the trainees after training.

Table 6: Pre and post-exposure knowledge of the respondents

n = 40

Tasks	Pre-exposure	Post-exposure	't' value
Feeding	22.25	31.25	25.92*
Milking	6.02	10.00	20.80*
Watering, wallowing and bathing	2.72	4.00	9.52*
Deworming	3.12	3.75	8.06*
Care and management of calves	16.92	24.00	17.23*
Housing management of cattle shed	4.35	6.00	9.70*
Breeding	21.52	31.70	29.80*
Post-parturition care	3.80	6.00	16.91*
Animal health	10.35	14.00	17.59*
Milking and milk product preparation	10.25	12.00	11.28*
Farm management and accounting	9.15	12.32	10.92*
Marketing	5.52	8.00	11.68*
Bedding	5.57	8.00	21.53*

* Significant at P= 0.05 level.

Attitude towards Dairy Farming

Majority of the respondents (70%) had favourable attitude towards dairy farming followed by unfavourable attitude (30%). However, at post-exposure stage, it can be observed that majority of the respondents succeeded to most favourable attitude (82.5%) and had favourable attitude (17.5%) after the dairy training (Jain and Verma 2007; Kumari, 2008). It also supported that significant change in attitude regarding all the selected messages of animal husbandry practices was observed (Table 7).

Table 7: Attitude of dairy farm women towards dairy farming

n = 40

Categories	Pre F (%)	Post F (%)	Pre MS	Post MS	Gap	't' value
Attitude statement						
Unfavourable	12 (30)	0	1.70	2.82	1.12	11.72*
Favourable	28 (70)	7 (17.5)				
Most favourable	0	33 (82.5)				
MS : Mean score						

Symbolic Adoption of Respondents Regarding Dairy Farming

It is indicated that before the training regarding symbolic adoption of dairy farming towards the task by a majority of the respondents (80%) was of medium level of symbolic adoption dairy training. Whereas 20 per cent of respondents had low level of symbolic adoption. However, at post-exposure stage a majority of the respondents (77.5%) had high level of symbolic adoption and 22.5 per cent had medium level of symbolic adoption of dairy farming (Table 8). Similar was also obtained by Kumari (2009).

Table 8: Symbolic adoption of respondents regarding dairy farming

n = 40

Categories	Pre F (%)	Post F (%)	Pre MS	Post MS	Gap	't' value
Symbolic adoption						
Low	7 (20)	0	1.27	2.77	1.50	17.10*
Medium	33 (80)	10 (22.5)				
High	0	30 (77.5)				

CONCLUSION

The farm women plays substantial role in dairy farming. The present study concluded that a 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 were 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. The study shows that the dairy farmers have a favourable attitude towards improved dairy practices with low to medium level of knowledge about improved dairy practices. It indicates that there is a need to update knowledge of dairy farmers regarding feeding, milking, deworming, care and management of calves, post-parturition care, farm management and accounting and bedding. This can be imparted through organizing training programmes on various need-based aspects related to dairy farming.

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