



Study on behavioural changes among women SHGs and their impact on adoption of scientific practices in dairying

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ABSTRACT

The study brings out the evaluation of behavioural construct of 56 members from four self help groups (SHGs) in Karnal district of Haryana, India at two point of time (before and after situation). Comparison of the mean values of both before and after situation using t-statistics (values ranging from 2.25 to 5.50) indicated the positive trend of members for improving their livelihood options. Members were imparted training on scientific dairy farming (SDF) and milk products preparation (MPP). The data revealed that most of the women adopted the SDF practices and MPP technologies which have increased their income through sale of milk and indirectly saving of money by milk products prepared at home. An innovative model involving fortnightly interaction between experts and farm women over a period of 2 to 3 years through group dynamics approach could not only bring a sustainable dairy farming but also a responsible citizenship among villagers.

Key words: Behavioural changes, Milk products preparation, Scientific dairy farming, SHGs

INTRODUCTION

Women comprising half of human resources are the key development agents to bring rural prosperity. The contribution of women and their role in the family as well as in the economic development and social transformation make great strides in national development. Role of women in crop farming, livestock, post harvest and allied activities and their skill and indigenous knowledge is more significant for achieving better farming standards. Of late, self help group (SHG) emerged as a mode of group dynamics in rural areas. Empowering woman is not just for their economic needs but also through more holistic social development. Murugan and Dharmalingam (2000) conceptualized SHG as a mobilized group of people who are empowered economically, politically and socially in a holistic way for developing their own institution for common benefit. SHG members generate income for them which improve their decision making capabilities leading to overall empowerment.

SHGs have been recognized as potential mode of technology transfer, with positive attitude of members as a prerequisite. Training programme could able to create significant impact on knowledge level of SHG members (Meena *et al* 2006). SHGs activities should be enlarged and training should be provided for developing entrepreneurial skills. Despite the potential role of SHGs in technology

dissemination and rapid growth of SHGs in India, the demonstration of its full potential of utilizing SHG in technology adoption remains unexploited. A study was undertaken to measure the behaviour of SHG members and impact of training on scientific dairy farming (SDF) and milk products preparation (MPP) practices in Karnal district of Haryana.

MATERIALS AND METHODS

National Dairy Research Institute, Karnal adopted four villages under the aegis of Field /Farm Technician lab of Dairy Extension Division during 2010. Four villages were Subri, Shahpur, Kulwehri and Bazidpur. In order to promote SDF as well as milk processing technologies, SHGs were formed in adopted villages. All selected members of four SHG had undergone training in scientific dairy farming (SDF) and milk products preparation (MPP).

To determine the behavioral construct for measuring behaviour of four SHGs members, namely Satyam SHG, in village Subri, Sadbhavana SHG in Shahpur, Vishwas SHG in Kulwahri and Sidak SHG in Bazidpur, the data were collected on three point continuum viz. no change, moderate change and great change by assigning numerical values of 1, 2 and 3 respectively.

The data collection instrument consisted of 18 items. The minimum and maximum possible scores were 18 and 54

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respectively. The data were solicited from 56 SHG members of four SHGs of Karnal district, Haryana. The mean values of two situations (before and after situation) were compared (t-test) to observe the behavioural change among the members. The overall change in behaviour of SHG members were also measured and categorized based on mean value and standard deviation.

RESULTS AND DISCUSSION

Behaviour of an individual tends to vary significantly while working in a group. The result of this study has been discussed under different sub heads below:

Socio- economic attributes of SHGs members: It is evident from Table 1 that the majority of SHG members of all groups (94.65 %) belonged to middle age category (26-50 years) followed by 5.35 percent of the old age category . The above findings are in line with the findings of various researchers namely Das (2004), Ganguly (2005) and Parkash (2009). It can be concluded that activities of SHGs members demand active and physical fitness. The respondents belonging to the middle age group formed the most potential group of all these trainings. However members above 50 years with rich experience also joined

the SHG activities. Nearly 48.21 percent SHG members had primary education and about one third (33.93%) were matriculates followed by higher secondary (8.93%) and illiterate (5.35%). The above findings are in line with the findings of various researchers namely Sajesh (2006) and Parkash (2009).

It is evident from Table 1 that the majority of SHG members of all groups (89.28%) belonged to crop farming and dairy occupation and 10.72 per cent belonged to landless and dairy occupation which was supported by Ganguly (2005). As a whole the data presented in Table 1 indicate that majority (96.42 %) belonged to large family size and had nuclear type family system which included their parents. Regarding farm size, majority (69.64%) belonged to marginal farmer category (upto 1 ha). This was followed by 30.36 per cent who cultivated small land holding (1-2 ha). The above findings are in line with the findings of various researchers namely Rao (2009) and Sajesh (2006). The data presented in Table 1 revealed that most of the SHG members (51.77%) were having small herd size i.e. less than 5 animals followed by 48.23 per cent having medium herd size ranging from 5-10 animals.

TABLE 1: Socio- economic attributes of SHG members

Parameters	Category	Name of the Self Help Group				TOTAL N= 56
		Satyam (n=16)	Sadhbhawna (n= 14)	Vishwas (n= 12)	Sidak (n=14)	
Year of establishment		2007	2010	2011	2012	-
Age of SHGs members	Young < 25 years	-	-	-	-	-
	Middle 26-50 years	16(100)	14(100)	12(100)	11(78.57)	53(94.65)
	Old > 50 years	-	-	-	3(21.43)	3(5.35)
Educational qualification	Illiterate	-	3(21.44)	-	-	3(5.35)
	Primary	6(37.50)	9(64.28)	4(33.33)	8(57.15)	27(48.21)
	Middle	8(50.00)	1(7.14)	5(41.67)	5(35.71)	19(33.93)
	Higher secondary Collegiate	2(12.50)	-	2(16.67)	1(7.14)	5(8.93)
Family size	Small <5	2(12.50)	1(7.14)	1(8.33)	-	2(3.58)
	Large 6-8	14(87.50)	14(100)	12(100)	14(100)	54(96.42)
Family type	Nuclear	16(100)	14(100)	12(100)	14(100)	56(100)
	Joint	-	-	-	-	-
Farm size	Marginal (up to 1ha)	10(62.50)	10(71.43)	9(75.00)	10(71.43)	39(69.64)
	Small(1-2ha)	6(37.50)	4(28.57)	3(25.00)	4(28.57)	17(30.36)
	Large(>2ha)	-	-	-	-	-
Dairy herd size	Small <5	10(62.50)	12(85.71)	5(41.66)	2(14.28)	29(51.77)
	Medium 5-10	6(37.50)	2(14.29)	7(58.34)	12(85.72)	27(48.23)
	Large >10	-	-	-	-	-
Occupation	Agriculture and Dairy	16(100)	11(78.57)	12(100)	11(78.57)	50(89.28)
	Landless and Dairy	-	3(21.43)	-	3(21.43)	6(10.72)
	Business and Dairy	-	-	-	-	-

The data in Table 2 indicated that majority of (53.57%) respondents were producing milk ranging from 1-7 liters of milk per day. However, 32.14, 12.50 percent and 1.79 per cent respondents were producing 8-14, 15-20 and more than 20 liters of milk per day respectively. Regarding sale of milk majority (71.43%) of respondents were selling 1-5 liters milk to market followed by 19.64 per cent and 8.93 per cent respondents were selling 6-10 liters and more than 10 liters per day respectively. The data regarding consumption pattern of milk revealed that majority (96.42%) were consuming 1-5 liters of milk per day at home. It can be concluded from Table 2 that majority of families of all groups were consuming milk at home because of awareness of nutritional value of milk created by NDRI through training.

Regarding sale price of milk majority of respondents were selling cow milk at the rate less than Rs25/- per liter where as buffalo milk at Rs 25-30 per liter. The price received by SHG members was low as compared to prevailing market rate of cow milk @ Rs.28/- litre and buffalo milk @ Rs.32/- litre due to distance of villages from town market.

Behaviour of SHG members: Behaviour of SHG members was measured on a 3 point continuum. The scale consisted of 18 statements. The comparison scores with the t-value are presented in Table 3. For measuring the behaviour, SHG members were solicited on three point continuum namely. no change, slightly change, and highly changed with assigning numerical values of 1, 2 and 3 respectively. The overall mean value of before situation ranged from 1.03 to 1.52. However it increased after situation scenario and ranged from 1.32 to 2.93. It indicated significant improvement between two situations (Table 3).

Impact of training on group behaviour was found significantly positive at 5% level of significance because of team spirit taught during training for any group activity. Risk

taking behaviour was observed significant at 5% due to more confidence developed after working in group with team spirit.

The problem solving activity increased with their supportive behaviour. They also learnt application of market strategies and target setting significant at 1% level to achieve the group objectives. Impact on team work atmosphere was found significant at 1% level due to their better interpersonal communication.

Impact on frequency of interaction with bank was significant at 1% level due to their involvement in group activity. Impact on group discussion was significant at 1% level due to group cohesiveness and information seeking pattern of group which is supported by the findings (Murugan and Dharmalingam 2000) While in Table 3 it was also observed that impact of training on skill improvement, supportive behaviour, respecting others views, frequency of interaction with government official, motivating others, information seeking pattern was found non -significant which requires repeated training in dairy production and dairy processing, so that their skill in making products will be improved which will increase their self confidence, supportive behaviour and also motivating others to adopt these technologies as an enterprise.

Changes in adoption of scientific dairy farming practices

:It is evident from the Table 4 that the respondents in all four self help groups were having very low knowledge regarding breeding, feeding, health care and management practices. After training in SDF practices, these SHG members have adopted scientific dairy farming practices i.e breeding, feeding, health care and management practices. By adopting these SDF practices especially feeding of mineral mixture, the milk yield of dairy animals has increased and they have reported the increased income from Rs 1500 to 3000. Besides this, they had also adopted clean milk production practices

TABLE 2: Milk production and consumption pattern of SHG members

Parameters	Category	Name of the Self Help Group				TOTAL N= 56
		Satyam (n=16)	Sadhbhawna (n= 14)	Vishwas (n= 12)	Sidak (n=14)	
Average Milk production (liters)	1-7	8(50.00)	8(77.15)	3(25.00)	11(78.57)	30(53.57)
	8-14	5(31.25)	6(42.85)	5(41.66)	2(14.28)	18.(32.14)
	15-20	2(12.50)	-	4(33.34)	1 (7.15)	7(12.50)
	>20	1(6.25)	-	-	-	1(1.79)
Marketable surplus/day	1 -5 liters	14(43.75)	12(85.71)	4(33.33)	10(71.43)	40(71.43)
	6-10 liters	2(12.50)	2(14.29)	6(50.00)	1(7.14)	11(19.64)
	>10 liters	-	-	2(16.67)	3(21.43)	5(8.93)
Consumption/day	1-5 litre	16(100)	14(100)	10(83.33)	14(100)	54(96.42)
	6-10 liters	-	-	2(16.67)	-	2(3.58)
Average Price of milk(Rs)	<25	16(100)	14(100)	12(100)	14(100)	56(100)
	25-30	-	-	-	-	-
	>30	-	-	-	-	-

which have increased its shelf life of milk by decreasing its spoilage which has indirectly increased farm income. Appropriate technological interventions aimed at women could bring visible dividends in the dairy farming (Ponnusamy and Ambasankar, 2006).

Change in adoption of dairy processing: It is evident from the Table 4 that they had little knowledge about milk products before joining this group but after training in milk products preparation (MPP) they had gained skill in making *Paneer*, *Gulabjamun*, *Burfi*, *Kalakand*, *Rasmalai*, *Matka kulfi* and *Chhana murki* with more scientific method. Now they are making pure milk products during festivals and indirectly saving money by making at home.

Recommendations: 1. There is a need for regular sensitization of men and women members of family for adoption of scientific practices in dairying.

2. Market tie-ups need to be arranged for sale of dairy products prepared by women SHGs.

TABLE 3: Impact on behaviour dimension of self help group

Behavioural component	Earlier		After		t value
	Mean	SD	Mean	SD	
Group behaviour	1.21	0.41	2.55	0.53	2.44*
Skill improvement	1.18	0.31	2.11	0.49	1.46
Risk taking behaviour	1.05	0.22	2.05	0.48	2.25*
Problem solving activity	1.03	0.18	2.18	0.38	2.98**
Supportive behaviour	1.03	0.18	2.86	0.35	1.88
Marketing strategies	1.16	0.38	2.07	0.26	3.36**
Target setting	1.05	0.22	2.46	0.50	3.31**
Respecting others view	1.03	0.18	2.86	0.35	1.88
Interpersonal communication	1.16	0.37	2.89	0.33	2.43*
Teamwork atmosphere	1.25	0.43	2.80	0.40	5.44**
Frequency of interaction With bank	1.12	0.33	2.11	0.31	3.15**
Frequency of interaction with government official	1.82	0.38	2.84	0.37	1.31
Motivating others	1.18	0.38	1.32	0.57	.0037
Self confidence	1.36	0.52	2.86	0.35	1.98
Trust on others	1.07	0.26	2.86	0.35	2.45*
Group cohesiveness	1.34	0.54	2.89	0.31	2.45*
Information seeking pattern	1.14	0.35	2.93	9.26	1.98
Group discussion	1.52	0.50	2.89	0.31	5.30**

*Significant at 5% level

** Significant at 1% level

TABLE 4: Change in adoption of scientific dairying practices

Name of the technological intervention	Earlier practice	Change in practice
Scientific dairy farming practices	Earlier no scientific dairy farming practices	Learnt the scientific method of breeding, feeding and management which leads to increase in milk production which increased their income Rs 1500-3000/- month
Clean milk production practices	Earlier no clean milk production practices	Learnt the clean milk production practices which leads to increase the shelf life of milk for marketing
Preparation of <i>paneer</i>	Curd and lemon used in traditional way for making paneer but the texture, flavor and taste were not liked by the consumers	Learnt the scientific method of making <i>paneer</i> with citric acid which produced good quality paneer.
Preparation of <i>Khoa</i>	Earlier no practice	Learnt the scientific method of making good <i>gulabjamun</i> in household
<i>Gulabjamun</i>	Earlier no practice	Learnt the scientific method of making <i>kalakand</i> in household
<i>Kalakand</i>	Earlier no practice	Learnt the scientific method of making <i>rasmalai</i> in household
<i>Rasmalai</i>	Earlier no practice	Learnt the scientific method of making <i>matka kulfi</i> of good quality and texture with no ice crystals.
<i>Matka kulfi</i>	Earlier no practice	Scientific method of making good quality <i>chhana murki</i> in household
<i>Chhana murki</i>	Earlier no practice	

3. Efforts should be undertaken to improve the decision-making capacity of women for better performance of their knowledge and skills.

CONCLUSION

Self-help groups in recent times emerged as one of the mechanisms for technology transfer. Since majority of farm operations in dairy enterprise are being carried out by women, their capacities need to be strengthened as one of

the vital stakeholders. NDRI Model of forming SHG in its adopted villages and streamlining them for technology adoption in dairy production and processing will go long way as a replicable model for ensuring profitable and sustainable rural farming. Moreover, the positive behavioural changes among the SHG members due to continued interaction of scientists with them will endure responsible citizenship leading to rural prosperity in the country.

REFERENCES

- Das, B.C. (2004). Performance of Self Help Groups (SHGs) in dairy farming – A comprehensive study of Karnal District. PhD thesis. NDRI, Karnal, Haryana.
- Ganguly, S. (2005). A study of women Self Help Group dynamics in dairying. M.Sc. thesis, NDRI, Karnal, Haryana.
- Murugan, K.R. and Dharmalingam, B. (2000), 'Self Help Groups-New Women's Movement' in T.N, *Social Welfare*, **47** (5): 9-12.
- Meena, M.S., Brar, R.D and Meena, H.R. (2006). Impact Assessment of Training on Food Processing and Preservation Aspects. *Indian Journal of Extension Science* **1**(1):128-30
- Parkash, A. (2009). Impact of Self Help Groups on Growth of Dairy Farming in Haryana, PhD thesis. NDRI, Karnal, Haryana.
- Ponnusamy, K. and Ambasankar, K. (2006). Technological interventions for socio-economic enrichment of dairy farmers. *Indian Journal of Dairy Science*. **59** (1): 33-36
- Rao, R.G. (2009). Quality and sustainability of SHGs in Assam. NABARD sponsored study by APMAS and NABARD Collaboration.
- Sajesh, V.K. (2006). Impact assessment of SHG for the empowerment of rural poor. M.Sc. Thesis. IARI, New Delhi.