

## Livestock and Dairy Related Variables of Dairy Cooperatives: A Gender Analysis

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### ABSTRACT

*The objective of the present investigation was to investigate the livestock and dairy related variables of dairy cooperatives on gender basis. The study was conducted in Haryana State on a sample of 200 members of dairy cooperative, comprising of 100 men and 100 women drawn from 10 villages of two districts viz. Hisar and Mahendergarh. It was revealed that majority of men and women (55 and 70%) were in middle age group, 60 per cent men and 55 per cent women had nuclear family, 60 per cent men had medium family education status whereas 35 per cent each of women family education status was high and medium. Majority of the men members (48%) have 3-5 cattle and women up to 2 cattle (53%). The daily production and sale of milk was high for men i.e. 18.4 and 13.1 litres while this was comparatively less by women members i.e. 15 and 10 litres, respectively. A number of livestock and dairy related parameters, which influence the functioning, and performance of dairy cooperative have been analyzed on gender basis. Both genders feel that dairying is moderately profitable and highly satisfying.*

**Key words:** Dairy cooperatives; Livestock; Dairy; Profitability; Satisfaction; Gender analysis;

Livestock development is emerging as a major rural development activity and more so as an activity which is likely to benefit women directly (Ramkumar *et al.* 2004; Chaudhary, 2005). Although, the involvement of women in livestock production is a long-standing tradition all over the world, but livestock patterns differ widely among ecological zones, and socio-political systems. Rural farmers in the State of Haryana, India are engaged in agro-based activities including dairying, as land is a limiting factor. Dairying is the best suitable alternative in this situation for ensuring regular marketing of their produce, timely payment and other benefits (Grover and Sethi, 2005; BIRTHAL and TANEJA, 2006). This is being increasingly taken up as an entrepreneurial activity. A number of livestock and dairy related parameters influence the functioning and performance of dairy cooperatives. The importance of gender analysis is to understand perception and priorities of women and men and plan research, extension, training and development programmes accordingly (Grover and Sethi, 2005). The objective of the present study was to carryout gender analysis of livestock and dairy related factors of members of dairy cooperatives.

### METHODOLOGY

The study was conducted in Haryana State, India on a sample of 200 members of dairy cooperative, comprising of 100 men and 100 women drawn from 10 villages of two districts viz. Hisar and Mahendergarh. Being a gender study, equal number of men and women were selected though majority of dairy cooperative membership is that of men. Five dairy cooperatives from each selected districts, which is total of ten dairy cooperatives, were selected purposively. The selected dairy cooperative societies were Baropati, Talwandi Rana, Arya Nagar, Ladwa and Dhaima from Hisar district and Balaha Kalan, Raghunathpura, Bachhod, Silarpur and Ratta Kalan from Mahendergarh district.

A number of livestock and dairy related variables viz. herd size, animal shed and water availability, fodder related matter, purchasing and selling of animals, daily milk production and sale, opinion of members about profitability and satisfaction, length of association and type of membership, milk delivery, average distance travelled, time spent and mode of travel, and reasons for choosing dairy enterprise were investigated. The data were collected personally with the help of

pre-tested structured interview schedule and appropriate statistical tools were applied to analyze the data and inferences were drawn accordingly.

## RESULTS AND DISCUSSION

*Personal and socio-economic profile of members:* The personal profile of the respondents revealed that 55 percent of men and 70 per cent of women were in middle age group, all were married, 60 per cent men and 55 per cent women had nuclear family and remaining had joint family. As far as family education status was concerned it was found that 60 per cent men had medium family education status whereas 35 per cent of women each had low and medium family education status. Majority of men and women were involved in agriculture and total annual income in both the cases was reported to be in middle range. More than half of both men and women (50% and 63%) had low material possession.

*Livestock related variables of dairy cooperatives:*

*Herd size:* Results in Table 1 show that the 48 per cent men had medium herd size followed by small (45%) and large (7%). In case of women, 53 per cent had low followed by medium (45%) and large (2%) respectively. *Ramkumar et al. (2004)* reported that rearing one or two cows for milk is an important source of livelihood for landless women and possession means financial security, status, self-confidence and an opportunity to have some control over their lives. *Pandey (2005)* reported that majority of the dairy cooperative members prefer to maintain a minimum of three milch animals so as to enable them to supply milk regularly to the milk society for getting supplementary income throughout the year to meet the day to day expenses.

**Table 1. Gender analysis of herd size maintained by members of dairy cooperatives**

Category	Men		Women	
	No.	%	No.	%
Small	45	45.00	53	53.00
Medium	48	48.00	45	45.00
Large	07	07.00	02	02.00

$$\chi^2 = 1.3864$$

*Animal shed and water availability :* Table 2 depicts that majority (63% and 58%) of men and women had animal shed adjoining the house followed by within the house (37% and 42 %) respectively. As far as water availability was concerned, it was found that 88 per cent of men and 90 per cent of women had water with in the

house whereas 12 per cent of men and 10 per cent of women had to travel a short distance. The results obtained by *Pandey (2005)* revealed that 59.5 per cent of the respondents had animal shed adjoining the house followed by within the house (40.5%). As far as water availability was concerned, it was found that more than half of the respondents (56%) had to travel a short distance followed by water available within the house (44%).

**Table 2. Gender analysis of animal shed and water availability for animals**

Variables and categories	Men No. / %	Women No. / %
<i>Animal shed</i>		
Within the house	37	42
Adjoining the house	63	58
<i>Water availability</i>		
Available within the house	88	90
Travel a short distance	12	10

*Fodder related matter :* Fodder availability as presented in Table 3 shows that this was obtained mainly from farm by men always (52%) followed by frequently (22%), never (20%) and seldom (6%). This obtained WMS was 2.06 (Rank I). In case of women 48 per cent reported that this was obtained always from farm followed by frequently (28%), never (20%) and seldom (4%) respectively with highest WMS of 2.04 (Rank I). Further rank II with WMS of 0.94 for men and WMS of 0.96 was in case of fodder availability from local market. Cent percent men and women reported that fodder was never available from dairy cooperative society. Regarding availability of type of fodder, cent percent of men and women reported that dry fodder and concentrate were always available. Accordingly this got WMS of 3.0 and Rank I followed by Rank II for green fodder with WMS of 2.02. *Pandey (2005)* found that fodder was obtained by majority from farm and cooperative society and thereby the cooperative society played a positive role in assisting beneficiaries. However, the results of the present investigation differed. About the type of feed availability, for plain straw cent percent of the beneficiaries reported always and this scored WMS of 3.0 and rank I. About mineral mixed salt, 80 per cent of men and 75 per cent of women reported never followed by seldom (15% and 20%) and frequently (5% and 8%) respectively and obtained WMS of 0.25 and 0.36 respectively. Treated straw was not used at least through a recommended technology.

**Table 3. Gender analysis of fodder related matter of members of dairy cooperatives**

Particulars	Men (No. / %)						Women (No. / %)					
	3	2	1	0	WMS	Rank	3	2	1	0	WMS	Rank
<i>Fodder availability</i>												(r <sub>s</sub> ) = 1.00*
Mainly from farm	52	22	06	20	2.06	I	48	28	04	20	2.04	I
Local market	20	06	22	52	0.94	II	20	04	28	48	0.96	II
Cooperative society	00	00	00	100	0.00	III	00	00	00	100	0.00	III
<i>Type of fodder</i>												(r <sub>s</sub> ) = 1.00*
Green fodder	30	42	28	00	2.02	II	24	48	28	00	1.96	II
Dry fodder	100	00	00	00	3.00	I	100	00	00	00	3.00	I
Concentrate	100	00	00	00	3.00	I	100	00	00	00	3.00	I
<i>Type of feed</i>												(r <sub>s</sub> ) = 1.00*
Plain straw	100	00	00	00	3.00	I	100	00	00	00	3.00	I
Treated straw	00	00	00	100	0.00	III	00	00	00	100	0.00	III
Mineral mixed salt	00	05	15	80	0.25	II	00	08	20	75	0.36	II

3 = Always; 2 = Frequently; 1 = Seldom; 0 = Never

(r<sub>s</sub>) = Spearman Rank Order Correlation

WMS = Weighted Mean Score (Max. WMS = 3.00)

*Purchasing and selling of animals:* Responses were obtained from the beneficiaries regarding purchase and sale of animals. Table 4 shows that majority of beneficiaries purchased and sold animals locally i.e. 88 per cent of men and 95 per cent of women (Rank I) followed by livestock mela (7%), dairies (3%) and government institutions (2%) in case of men and livestock mela (3%), dairies (2%) in case of women. The ranks obtained by men and women were identical and when tested through spearman rank order correlation, were significantly correlated with the gender (r<sub>s</sub> = 1.00). The results are in conformity with the findings of Pandey (2005).

**Table 4. Gender analysis of purchase and sale of animals by members of dairy cooperatives**

Purchasing and selling	Men		Women	
	%	Rank	%	Rank
Locally	88.00	I	95.00	I
Government institution	02.00	IV	00.00	IV
Dairies	03.00	III	02.00	III
Livestock mela	07.00	II	03.00	II

(r<sub>s</sub>) = 1.00\*

(r<sub>s</sub>) = Spearman Rank Order Correlation

*Dairy related variables of dairy cooperatives :*

*Daily milk production and sale:* The results of the study presented in Table 5 reflect that the milk production level of 75 per cent of men and 65 per cent of women was high (above 12 litres/ day) followed by medium (25% and 24%) for men and women (6 to 12 lit/day),

**Table 5. Gender analysis of daily milk production, consumption and sale (litres per day) by members of dairy cooperatives**

Category	Men %	Women %
Average Production (litres per day)	$\chi^2 = 0.6310$	
Low (1-6)	00.00	00.00
Medium (6-12)	25.00	28.00
High (12 and above)	75.00	65.00
Mean Production (litres)	18.40	15.00
Average Consumption (litres per day)	$\chi^2 = 2.1291$	
Low (up to 2)	23.00	17.00
Medium (2-4)	27.00	23.00
High (4 and above)	50.00	60.00
Mean Consumption (litres)	5.30	5.00
Average Sale (litres per day)	$\chi^2 = 2.2584$	
Low (1-4)	15.00	20.00
Medium (4-8)	40.00	45.00
High (8 and above)	45.00	35.00
Mean Sale (litres)	13.10	10.00

respectively. The mean production was 18.4 and 15 litres for men and women, respectively. Regarding milk consumption 50 per cent of men and 60 per cent of women in their households had high consumption level (i.e. above 4 litres milk/ day) followed by medium (27%) and low (23%) in case of men and medium (23%) and low (17%) in case of women. The average consumption was 5.3 and 5.0 litres by men and women households.

As regards selling of milk 45 per cent of men and 35 per cent of women had high level of sale i.e. above 8 litres / day followed by medium (40%) and low (15%) in case of men and medium (45%) and low (20%) in case of women beneficiaries. The mean sale daily per member was 13.1 and 10 litres by men and women, respectively. The chi-square value was non-significant for production, consumption and sale on gender basis.

*Opinion of members about profitability and satisfaction of dairy cooperatives:* It is evident from Table 6 that 70 per cent of both men and women beneficiaries reported dairying as moderately profitable followed by somewhat profitable (25% and 24%) and highly profitable (5% and 6%) respectively. Majority (75% and 83%) of men and women beneficiaries reported dairy cooperative as highly satisfied followed by moderately satisfied (18% and 15%) and somewhat satisfied (7% and 2%) respectively. The ranks obtained on gender basis have significant correlation ( $r_s = 1.00^*$ ). The findings are in consonance with the results of *Deepti (2002)* and *Pandey (2005)*.

**Table 6. Gender analysis of opinion of members of dairy cooperative societies on profitability and satisfaction from dairy enterprise**

Opinion	Men		Women	
	%	Rank	%	Rank
Profitability				$r_s = 1.00^*$
Highly profitable	05.00	III	06.00	III
Moderately profitable	70.00	I	70.00	I
Somewhat profitable	25.00	II	24.00	II
Satisfaction				$r_s = 1.00^*$
Highly satisfied	75.00	I	83.00	I
Moderately satisfied	18.00	II	15.00	II
Slightly satisfied	07.00	III	02.00	III

$r_s$  = Spearman Rank Order Correlation

**Table 7. Gender analysis of length of association and type of membership of members of dairy cooperatives**

Category	Men No. / %	Women No. / %
<i>Length of association</i>		$\chi^2 = 46.7973^*$
Less than 2 years	15	60
2-5 years	55	33
5-10 years	30	07
<i>Type of membership</i>		
Life	100	100

$\chi^2$  = Chi-square value significant at 5% level of significance

*Length of association and type of membership :* Table 7 depicts the length of association of members with the dairy cooperative societies. Majority of men (55%) reported between 2-5 years association followed by 30 per cent between 5-10 years, 15 per cent less than 2 years and majority of women (60%) reported less than 2 years followed by 33 per cent between 2-5 years and only 7 per cent reported between 5-10 years. Same table shows that cent percent beneficiaries were having life membership.

*Milk delivery, average distance travelled, time spent and mode of travel :* Table 8 shows that majority (60% and 70%) men and women were delivering the milk to the society once a day followed by 40 per cent men and 30 per cent women who were delivering milk twice a day (morning and evening). Walking on foot was the mode of travel up to collecting centre for 80 per cent of men and 20 per cent reported by bicycle whereas cent percent of women reported delivery by foot only. The mean distance travelled and time spent were ½ km and 30 minute, respectively. These societies were located in the villages.

**Table 8. Gender analysis of milk delivery, average distance travelled, time spent and mode of travel up to collection center by members**

Category	Men No./ %	Women No./%
Frequency of delivering milk to DCS		
Twice a day (morning & evening)	40	30
Once a day	60	70
Mode of travel		
Walk (on foot)	80	100
Cycle	20	00
Mean distance travelled	up to ½ km	up to ½ km
Mean Time spent	up to 30 min	up to 30 min

*Reasons for choosing dairy enterprise :* From Table 9 it is evident that cent per cent of the beneficiaries reported that dairy is an economical enterprise (Rank I) as the main reason for choosing dairy enterprise followed by in case of men, own wish (50%, Rank II), high social recognition in dairying (20%, Rank III), wish of family members (15%, Rank IV), motivated by neighbours/ friends (8%, Rank V), motivated by members of dairy society (7%, Rank VI) while for women these were own wish (35%, Rank II), wish of family members (25%, Rank III), high social recognition

**Table 9. Gender analysis of reasons for choosing dairy enterprise by members of dairy cooperative societies**

Reasons @	Men			Women		
	No.	%	Rank	No.	%	Rank
Own wish	50	50.00	II	35	35.00	II
Wish of family members	15	15.00	IV	23	25.00	III
Motivated by neighbours/ friends	08	08.00	V	12	12.00	V
Motivated by members of dairy society	07	07.00	VI	03	03.00	VI
An economical enterprise	100	100.00	I	100	100.00	I
High social recognition in dairying	20	20.00	III	25	23.00	IV
@Multiple responses						( $r_s$ ) = 0.94*

( $r_s$ ) = Spearman Rank Order Correlation significant at 5 % level of significance

of dairying (23%, Rank IV), motivated by neighbours/ friends (12%, Rank V), motivated by members of dairy society (7 %, Rank VI) respectively. The ranks for reasons for choosing dairy enterprises when tested through spearman rank order correlation are significantly correlated with gender ( $r_s = 0.94$ ). Frequency of payment between 10-15 days as reported by members is a reflection of the fact that dairy cooperatives at village level were a regular source of income to members which acts as a basis for making these societies more credible in coming times. Besides this the dairy milk societies pay a better price per litre of milk based on fat content compared with the lower and flat price paid by milk vendors.

## CONCLUSION

Though both men and women are members of dairy cooperatives and profile of members reveals that

dairying is being practiced mainly by men and women of middle age, carried along with farming, men keep slightly more number of cattle. Members sell milk to the society on a daily basis after retaining milk for household consumption while production and sale are comparatively higher by men though the differences are not statistically significant. Both genders feel that dairying is moderately profitable and majority was highly satisfied probably this is a regular source of income and price of milk is determined on fat basis. Motivation is high as dairy is an economical enterprise, help from family members and high social recognition was other reasons reported by both men and women beneficiaries for choosing dairy enterprise. On the whole dairying provides sustainable employment within the village and can be performed by both men and women from their home.

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