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## Socio-economic status and constraints in feeding and management practices of dairy animals in Latur District of Maharashtra

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### Abstract

The present investigation entitled “Socio-economic Status and Constraints in Feeding and Management Practices of Dairy Animals in Latur District of Maharashtra” was undertaken to study socio-economic status of dairy farmers. The 120 farmers of 9 villages were selected to study in Latur tahsil of Latur district. The study revealed that 0.83 percent of the respondents were landless, 45.83 percent of the respondents were marginal/small farmers, 38.33 percent of the respondents were medium farmers and 15.00 percent of the respondents were large farmers. Majority of livestock owners reared crossbred animal 76.34 percent followed by indigenous 22.34 percent animal. In constraints, feeding constraints, production and marketing constraints, technical constraints and health related constraints were faced by farmer in livestock management. Various facilities like easy loan facility, availability of pasture land, insurance of animal, timely receipt of payment is expected by farmers. Hence, it may be concluded that there is need to demonstrate scientific feeding and management practices, also management of fodder and water for summer season which is need for exploiting optimum production and proper management of livestock.

**Keywords:** Socio-economic status, constraints, feeding practices, management practices respondents, dairy farmers, Latur

### Introduction

India has vast resource of livestock, which play a vital role in improving the socio-economic conditions of rural masses. There are about 302 million bovines, 74 million sheep, 148 million goat and about 9.6 million pigs as per 20<sup>th</sup> Livestock census in the country [1]. The Animal census (2017) have revealed that the total livestock population of India have reached up to 536 million and rank first in livestock production and ranks first in total milk production. India, the largest producer of milk in the world, is set to produce over 187 million metric tonnes (MMT) milk during 2018-19. Livestock has become an integral part of all interventions aimed at reducing rural poverty and enhancing food and nutrition security. The farmers who raise cattle and buffaloes are yet ignorant with scientific management practices. If feeding, breeding, health care and other management practices fit in proper operation, it would be possible to reach the desired level of milk production [5]. Low productivity in livestock is due to many reasons. Several studies revealed that lack of proper information on the part of livestock production and management also a major problem of farmers in general, and small farmers in particulars. It has been also observed that farmers are not fully aware of improved practices of livestock production and management [6].

### Materials and Methods

The data for present investigation entitled “Socio-economic Status and Constraints in Feeding and Management Practices of Dairy Animals in Latur District of Maharashtra” was collected from different farmers especially who are rearing the cattle and buffaloes in a Latur tahsil of Latur district in Maharashtra state. A comprehensive questionnaire was prepared to collect the information by personal interviewes with individual farmers.

**Methods of sampling and size of sample:** The data obtained for the study was collected by multistage random sampling technique from Latur tahsil of Latur district.

**Selection of villages:** Random selection of nine villages from Latur tahsil was made.

**Selection of farmers:** The farmers were selected randomly from each village and the total sample size is comprised of 120 farmers from Latur tahsil of Latur district. The collection of above information of each dairy farmer, by method of 'Personal Interview' through questionnaire was followed. For these questionnaires, a standard profarma of questionnaire as adopted by National Bureau of Animal Genetic Resources (NBAGR), Karnal was prepared and taken for survey.

## Results and Discussion

### Socio – economic status of dairy farmers

It includes the name of dairy farmers, age, level of education, number of dairy animal owned, land holding, family size and occupation details of the family.

### Age

The farmers under study were categorized into different age groups and the results are presented in table 1.

**Table 1:** Frequencies showing categories of farmers according to age

Age group	Frequency	percentage
upto 30 years	4	3.33
31-50	97	80.83
51-70	19	15.83
>70	0	0.00
<b>Grand total</b>	<b>120</b>	<b>100</b>

The maximum number farmers were observed between the age group 31 to 50 years of age with 80.33 percent and followed by the age groups 51 to 70, upto 30 yrs and above 70 with 15.83, 3.33 and 0.00 percent, respectively. The possible reasons for this could be, the farmers between the age groups 31- 50 age respondents are more eager, interested and enthusiastic to earn additional income from dairy management. The similar results were reported by [13, 2]

### Level of education

The data regarding the educational status of dairy farmers under study are presented in table 2

**Table 2:** Education level of dairy farmers

Level of education	Frequency	percentage
Illiterate 0	5	4.17
Primary 1-4	8	6.67
Middle 4-7	25	20.83
Secondary 7-9	29	24.17
Higher secondary 10-12	29	24.17
Graduate 13-15	21	17.50
PG 16-17	3	2.50
Ph.D. >17	0	0.00
<b>Grand total</b>	<b>120</b>	<b>100</b>

The farmers studied were grouped into different categories based on their education level. It was observed that maximum number of farmers were secondary and higher secondary with 24.17 percent followed by middle, graduate, primary, illiterate and PG with 20.83, 17.50, 6.67 4.17 and 2.50 percent, the least number of farmers were Ph.D. with 0.00 percent. The present finding was in conformity with [20, 4].

### Size of land holding

The farmers studied were grouped into different categories based on their size of land holding as shown in table 3.

**Table 3:** Size of land holding of farmers

Sr. No	Type of farmers	Frequency	percentage
1	Landless	1	0.83
2	Marginal farmer	55	45.83
3	Medium farmer	46	38.33
4	Large farmer	18	15.00
	<b>Total</b>	<b>120</b>	<b>100</b>

It was observed that maximum numbers of farmers were marginal farmers with 45.83 percent followed by medium farmers and large farmers 38.33, 15.00 percent and the least number of farmers were landless with 0.83 percent. The present finding was in conformity with [13, 11, 18].

### Distribution of dairy animals

The distribution of dairy animals according size of herd is shown in the table 4.

**Table 4:** Distribution of livestock according to size of herd

Category of Dairy Animals	Buffaloes		Cows			
	Frequency	percentage	Crossbreed	percentage	Indigenous	percentage
1-2 Animals	76	18.35	60	30.30	35	61.40
2-4 Animals	125	30.19	75	37.87	9	15.78
4-6 Animals	42	10.14	21	10.60	0	0.00
> 6 Animals	171	41.30	42	21.21	13	22.80
<b>Grand total</b>	<b>414</b>		<b>198</b>		<b>57</b>	

It is observed that the 120 farmers kept 669 dairy animals out of which are 61.88 percent are buffaloes and 29.59 percent are crossbred cows and 8.52 are indigenous cattle. Total of 414 buffaloes are kept by the 120 farmers and from that the maximum number of buffaloes are above six with 41.30 percent and followed by two to four, one to two and four to six with 30.19, 18.35 and 10.14 percent respectively. In the same way total of 198 crossbred cows are owned by the farmers out of these 37.87 percent are between two to four and 30.30 percent are between one to two and total of 57 indigenous cows are owned by the farmers from that maximum number of cows with 61.40 are between one to two and followed by 22.80 percent are between above six,

respectively. This trend of result indicated that the farmers were mainly maintaining the buffaloes and crossbreds for the purpose of milk production to meet the dairy household demand and for the additional income. The above findings are similar to the reports of Sharma (2015), the author reported that about 27.5 percent and 39.5 percent dairy farmers were keeping up to 5 and 10 animals, respectively whereas 16.5 percent were having between 11 to 15 animals. Only 7.5 percent farmers kept more than 20 animals whereas 9.0 percent possessed between 16 to 20 animals. The distribution of dairy animals according to the type of breed to which it belongs is reported in the table 5.

**Table 5:** Distribution of livestock according to type of the breed

Name of Buffalo breed	Frequency	percentage	Name of Cow breed	Frequency	percentage
Murrah	30	7.49	Crossbred	198	77.34
Marathwadi	208	50.24	Deoni	31	12.10
Pandharpuri	134	32.37	Gir	20	7.81
Non-descript	41	9.90	Non-descript	7	2.73
Total	414			256	

The table 5 revealed that of 414 buffaloes (61.88 percent) the population of Marathwadi is higher compared to others with 50.24 percent followed by Pandharpuri with 32.37 percent and then of non -descript with 9.90 percent and the lowest populated is Murrah with 7.49 percent. In the similar way total of 256 cows (38.12 percent), the crossbreds are maximum with 77.34 percent followed by 12.10 and 7.81 percent of Deoni, Gir and non-descript cows are least kept by the farmers with 2.73 percent respectively. The above findings contradicting to the reports of <sup>[14]</sup> the author reported that about 92.75 percent of the farmers having indigenous

animals there was no exotic animal present. The 27 percent respondents had crossbred animals, while 4.25 percent of respondents possessed non-descript animals, respectively on livestock fodder camp.

### Family size

Family size, an important factor influencing labor availability for crop and livestock production. In big families, the members have to work hard for earning more money incurring the family expenditure <sup>[16]</sup>. Considering this, the data was collected, compiled and presented in table 6.

**Table 6:** Family status of dairy farmers

Type of family	Total no. of Members	Male	Female	Children
Single Member	154 (20.69)	38 (15.96)	39 (16.59)	77 (28.41)
Nuclear Family	357 (47.98)	119 (50)	117 (49.78)	121 (44.64)
Joint Family	233 (31.31)	81 (34.03)	79 (33.61)	73 (26.93)
Total	744 (100)	238 (31.98)	235 (31.58)	271 (36.42)

From table 6, it is revealed that in an average family size of 6.2 members, proportion of male is nearly 31.98 percent while that of female and children is about 31.58 and 36.42 percent, respectively. The table shows that maximum population is under nuclear family with 47.98 percent followed by joint family and single member with 31.31 and 20.69 percent. The present study is supported by the findings of <sup>(2)</sup> who reported family size in two villages.

### Occupation

In village areas, where main stay of life is agriculture dairying is only suited as economic activity. Thus the dairy has become a subsidiary occupation of rural families <sup>[8]</sup>. Data regarding the occupation of animal owners are represented in table 7.

**Table 7:** Frequencies showing occupation status of dairy farmers

Occupation	Frequency	percentage
Dairy	1	0.83
Dairy + Service	5	4.16
Dairy + Business	8	6.67
Dairy + Agriculture	77	64.17
Dairy + Poultry	7	5.83
Dairy + Agriculture + Service	11	9.17
Dairy + Agriculture + Business	6	5
Dairy + Poultry + Agriculture	5	4.16

From table 7, it is revealed that maximum number as 64.17 percent of cattle owners were engaged in agriculture. Whereas 9.17 percent cattle owners were engaged in agriculture and service, 5 percent engaged in agriculture and business. The above findings were similar to <sup>[10,4]</sup>.

### Production and utilization status

Production and utilization status include daily and total milk yield, disposal of daily milk, way of household consumption

and daily sale of fluid milk, ways of milk marketing, means of milk transport.

### Milk production and utilization status

The status on the production and utilization of milk by the rural families of the dairy farmers and cash income in the form of sale of milk has also been studied and compiled into mean performance and the results are presented in table 8, 9 and 10.

**Table 8:** Status of milk production

Particulars	Buffalo	Crossbreed cows	Indigenous cows	Non- discript
Mean lactation period (days)	296	283	269.31	263
Daily milk yield / Animal (kg)	5.02	5.8	2.46	1.83
Total milk production/family/ day (kg)	18	15.63	4.1	1.5
Quantity of milk consumed (Home)/Day (kg)	1.76	1.64	1.75	2
Quantity of milk sold/day (kg)	16.83	14.55	4	7

The results of table 8 revealed that the average lactation period of 296 days was recorded for buffaloes and similarly, 283 and 269.31 days was recorded for crossbred and indigenous cows, respectively. The corresponding figures for mean total daily milk production per animal as 5.02, 5.8 and 2.46 kg milk was recorded for buffalo, crossbred and indigenous cows, respectively. The results on milk production were similar to the findings of <sup>(14)</sup> showed majority of cow i.e. 35.49 percent was yielding 2.10 to 4 liters milk per day whereas majority of buffalo i.e. 32.23 percent were yielding 4.10 to 6 liters milk per day.

The amount of average milk production per family are recorded as 18.00, 15.63, 4.1 and 1.5 kg of buffalo, crossbred, indigenous and non-descript cow animal's milk. The amount of home consumed milk was recorded as 1.76, 1.64, 1.75 and 2.00 kg of buffalo, crossbred indigenous and non-discript cow milk. These findings supported by <sup>(19)</sup>. It is observed that buffalo have higher daily milk production, total milk production, milk consumption, and sale of milk than indigenous cow but crossbreed animals have higher production and sale of milk than indigenous cows and buffaloes. The values obtained are higher than the values reported by <sup>(17)</sup>. These parameters, the amount of sold milk was 16.83, 14.55, 4.00 and 7.00 kg of buffalo, crossbred, indigenous cow and non-descript milk respectively. The price of milk is observed as 50.00 and 40.00 rupees per kg of milk of buffalo and cow, respectively.

### Milk marketing

It is observed that the farmers sell the milk as fluids, they use different markets to sale the milk i.e., milk co-operative societies, consumers, regular customers and private level processor. The result are narrated below. The data regarding the disposal of milk are represented in table 9.

**Table 9:** Ways of milk marketing

Ways of milk marketing	Frequency	percentage
Milk cooperative society	28	23.33
Regular customer	42	35.00
Consumer	36	30.00
Private level processor	14	11.67
Total	120	100

The results of table 9, revealed that, the maximum dairy farmers sell the milk to the regular customers with 35 percent where as 30.00, 23.33 and 11.67 percent of farmers sell the milk to the daily consumers, milk cooperative society and private level processor. The milk sold to the private level processor is very low because the private level processor is located in the district head quarter which is quite far from the studied area. The results observed is quite similar to the findings of <sup>(3)</sup>

### Means of milk transport

**Table 10:** Observed frequencies of means of milk market

Means of Milk Transport	Frequency	percentage
By walk	11	9.17
On cycle	28	23.33
On motor cycle	58	48.33
Through vehicle	23	19.17
Total	120	100

From the table 10, it is observed that maximum number of dairy farmers carry the milk by motor cycle 48.33 percent from milking point to milk market and 23.33 percent farmers carry milk by cycle and about 19.17 percent farmers use vehicles. Few farmers carry milk by walk i.e., 9.17 percent.

### Constraints in dairying

During the investigation, the data of constraints in dairying by each and every dairy farmer recorded. i.e. feeding and other major constraints in dairying and the data obtained, evaluated and tabulated in table 11.

**Table 11:** Constraints in dairying

Sr. No.	Constraints	Frequency	Percentage
1	Feeding the animals due to scarcity of feeds	83	69.16
2	Health care management	36	30.00
3	Calf rearing	59	49.16
4	Reproductive problems	60	50.00
5	High cost of animal feed	63	52.50
6	Unavailability of Vet. aids at farmer's door step	43	35.83
7	Unavailability of pasture lands	62	51.66
8	Unavailability of proven sire/breeding bull at farmer fields	64	53.33
9	Disposal of milk	71	59.16

Feeding constraints perceived by the dairy farmers in the selected area are summarized in table 11. It reveals that among the different feeding constraints the important constraint is the in feeding the animals due to scarcity of feeds (69.16%) appeared to be at first rank, disposal of milk (59.16%) appeared to be at second rank, followed by unavailability of proven sire/breeding bull at farmer fields (53.33%) which appeared to be at third rank, high cost of

animal feed (52.50%) at fourth rank, unavailability of pasture lands (51.66%) stood at fifth rank, reproductive problems (50.00%) appeared at sixth rank, 49.16% of farmers perceived problems in calf rearing which appeared at rank seven, 35.83% of farmers perceived problems like unavailability of veterinary aids appeared at rank eight and 30.00% of farmers perceived the problem in health care management at rank nine. The above findings were supported by <sup>(9, 7, 12)</sup>.

## Conclusions

It was concluded from the results of this investigation as, the most of the farmers belongs to the age group between 31-50 years. Level of education of most farmers are secondary and higher secondary. Majority of the livestock owners belongs to marginal land holding category. Most of the dairy farmers having 1-2 animals with indigenous cow. Maximum population is under nuclear family and engaged in Dairy + Agriculture. The animals require balanced diet, nutrients for their body maintenance and milk production. Therefore to fulfill this gap the dairy farmers should be aware about importance of balanced diet, cultivation of fodder crops etc. Maximum numbers of dairy farmers are expected easy loan facilities for better rearing of animals and increasing production. Scarcity of feed was the major constraints perceived by dairy farmers in selected villages.

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