



## A STUDY OF COMMERCIAL MILK PRODUCERS IN GUJARAT STATE

A. K. Makwana\* M. D. Gurjar\*\*

\*Associate Professor, SMC College of Dairy Science, Anand Agricultural University, Anand – (Gujarat).

\*\*Assistant Professor, SMC College of Dairy Science, Anand Agricultural University, Anand– (Gujarat).

### Abstract

Dairying has become an important secondary source of income for more than 15 million rural families and has assumed an important role in providing employment and income generating opportunity for the most vulnerable sections of our population. For millions of small and marginal farmers as well as landless labourers, milk production provides ready cash in hand for fulfilling their daily household requirements. According to 2012 livestock census data, Gujarat had 9984 thousand cattle and 10386 thousand buffalo population. The daily milk yield per animal in the state for Cow (Crossbreed), Cow (indigenous) and Buffalo is around 9.08 kg/day, 4.19 kg/day & 5.15 kg/day respectively. The present study was conducted to evaluate the status of Commercial Milk Producers in Gujarat state. The study covered all districts of the state and information was collected by using questionnaire. After analyzing the collected data it could be concluded that the major characteristics of commercial dairy farmers were- young farmers, Male dairy farmers, and educational background of SSC to Post graduation. This notable characteristic of milk producers is an excellent opportunity for delivering effective animal husbandry and dairy farming training and extension programmes. The main weakness observed was low milk yield lack of awareness of clean milk Production and Scientific Animal Husbandry practices.

**Keywords:** Commercial Milk Producers, Gujarat Dairy, Cooperative Dairies, Dairy Business.

### 1. Introduction

#### Indian Dairy Sector

The Indian Dairy cooperatives structure has a huge contribution in raising the milk production in the country upto approximately 146 million tonnes in the year 2014-15 from a meagre milk production 17 million tonnes in the year 1951. The per capita availability of milk in the country has increased to 340 g /day (GCMMF Annual Report 2015-16). Further, milk is the largest agricultural crop in India with market value exceeding Rs 4 lakh crore per annum and the milk group contributes the highest to the total output of our agricultural sector, surpassing the output value of wheat, rice and oilseeds.

India's livestock sector is one of the largest in the world. According to 2012 livestock census data, Gujarat had 9984 thousand cattle and 10386 thousand buffalo population, which comes to around 5.23% and 9.55% of cattle and buffalo population of the country. The daily milk yield per animal in the state for Cow (Crossbreed), Cow (indigenous) and Buffalo is around 9.08 kg/day, 4.19 kg/day & 5.15 kg/day respectively; whereas that of India is 7.15 kgs, 2.54 kgs and 5.15 kgs for Cow (Crossbreed), Cow (indigenous) and Buffalo respectively. Gujarat is lucky to have good and high-yielding breeds of cattle and buffaloes. Gir and Kankrej breeds of cows and Mahesani, Jafarabadi, Banni and Surti breeds of buffaloes are well known for their high milk yielding capacity. Kankrej bullocks are famous for their "Sawai-chal" and the cows of this breed are good milk producers.

Dairying has become an important secondary source of income for more than 15 million rural families and has assumed an important role in providing employment and income generating opportunity for the most vulnerable sections of our population. For millions of small and marginal farmers as well as landless labourers, milk production provides ready cash in hand for fulfilling their daily household requirements.

In India, milk production is scattered in large number of villages in small quantity of two to four liters by milch animals. The average milk production per animal per lactation is around 1400 liters which is much below the world average of 2300 liters. (Rajorhia, G.S .2013) The milk productivity of crossbred cows, Indigenous cows and of buffaloes in India is very low. It is 6.45, 1.97 and 4.3 Kg per day respectively. The unorganized sector comprises of numerous small and /or seasonal milk producers/trader (popularly known as halwais).

### 2. Methodology

The study was spread over the entire state and primary data was collected by way of a Questionnaire. The study covered all 26 Districts of Gujarat state, 227 talukas and further, three villages were selected from each taluka. In total 681 villages from the state were selected and data was collected from Commercial Milk producers (owning above 10 animals) belonging to the villages.



### 3. Results and Findings

#### a) Age Profile of Milk Producers

Sr. No	Age Group	N	Percentage
1	10-19	3	2%
2	20-29	20	10%
3	30-39	53	28%
4	40-49	59	31%
5	50-59	39	20%
6	60-69	17	9%
7	70-79	1	1%
8	80-89	0	0%
9	90-99	0	0%
	Total	192	100%

From the above table it can be seen that around 69% of the selected Commercial milk producers fell in the age group of 20 to 49 years. This age bracket is quite young and hence this shows the inclination of young milk producers towards Dairy Farming.

#### b) Education Qualification of Milk Producers

Education Qualification of Milk Producers			
Sr. No.	Education Qualification	N	Percentage
1	Illiterate	13	7%
2	1 to 9	81	42%
3	SSC	52	27%
4	11	3	2%
5	HSC	29	15%
6	UG	13	7%
7	PG	1	1%
	Total	192	100%

Around 51 % of the respondent milk producers had educational background of SSC to Post graduation. Overall 93% were literate. This notable characteristic of milk producers is an excellent opportunity for delivering effective animal husbandry and dairy farming training and extension programs.

#### c) Main Occupation of Milk Producers

Main Occupation Of Milk Producers			
Sr. No.	Main Occupation	N	Percentage
1	Only Dairying/ Animal Husbandry	34	18%
2	Animal Husbandry + Farming	142	74%
3	Animal Husbandry + Service	12	6%
4	Animal Husbandry + service + Farming	4	2%
5	Other	0	0%
	Total	192	100%

A large percentage (74%) of the respondents have their main business as “Animal Husbandry + Farming”. This indicates that “Mixed Farming” is being practiced by significant number of respondents.



**d) Land Holding of Milk Producers**

Land holding(area) of milk producers			
Sr. No.	Land holding(vigha)	N	Percentage
1	0	14	10%
2	1-10	56	38%
3	10-20	35	24%
4	20-30	17	12%
5	30-40	11	8%
6	40-50	6	4%
7	50-60	5	3%
8	>60	2	1%
Total		146	100%

Almost 10% are landless and another 38% of the respondents had land below 10 vigha (around 2.4 hectares) and 44% had land between 10 to 40 vigha.

**e) Land Holding (Irrigation facility)**

Land holding(irrigation) of milk producers			
Sr. No.	Type of land	N	Percentage
1	Irrigated	130	89%
2	Non-irrigated	16	11%
Total		146	100%

Almost 89% of the milk producer have irrigation facility on their land. This is a good sign for mitigating fodder related problems.

**f) Animal Holding of Milk Producers**

Animal Holding of Milk Producers			
Sr. No.	Animal	N	Percentage
1	Cow	34	18%
2	Buffalo	55	29%
3	Cow and buffalo	103	54%
Total		192	100%

Around 29% of the respondent commercial category milk producers were having only buffaloes and 18 % of the respondents had only cow and 54 % had both buffalo and cow.

**g) Breed Wise Animal Holding of Milk Producers (COW)**

Sr. No.	Cow Breed	N	Percentage
1	Crossbred HF	47	30%
2	Gir	66	42%
3	Crossbred Jersey	11	7%
4	Kankrej	34	22%
5	Total	158	100%

The main cattle breeds owned by commercial category milk producers were – Gir( 42%), Kankrej (22%), Crossbred HF ( 30%) and crossbred Jersey ( 7%)

**h) Breed Wise Animal Holding of Milk Producers (BUFFALO)**

Animal Holding Buffalo Breed wise of Milk Producers			
Sr. No.	Buffalo Breed	N	Percentage
1	Jafrabadi	38	20.8%
2	Mehsani	87	47.5%
3	Surti	40	21.9%
4	Banni	18	9.8%
5	Total	183	100.0%



The main buffalo breeds owned by Commercial category Milk producers were – Mehsani (47.5 %), Surti (21.9 %) and Jaffrabadi (20.8 %).

**i) Details of Daily Milk production**

Milk Production			
Sr. No.	Daily milk production (In Litres)	N	Percentage
1	0-10	0	0.00%
2	11-20	13	6.77%
3	21-30	38	19.79%
4	31-40	50	26.04%
5	41-50	35	18.23%
6	51-60	23	11.98%
7	61-70	9	4.69%
8	71-80	6	3.13%
9	81-90	7	3.65%
10	91- 100	6	3.13%
11	>100	5	2.60%
Total		192	100.00%

Around 77% of the Commercial category milk producers (who owned more than ten animals) had their daily milk production between 21 to 60 litres per day.

**j) Details of Daily Milk production - Session wise**

Milk Production Session wise			
Sr. No.	Session	Milk production in litres	Percentage
1	Moring Session	4280.3	52%
2	Evening Session	3961.9	48%
Total		8242.2	100%

The above table shows that the milk collection in the morning and evening session is almost same.

**k) Milk Production Fatwise**

Milk Production Fat(%) wise			
Sr. No.	FAT% Range	Milk	Percentage
1	0-3	312	3.78%
2	3.1-4	2112	25.62%
3	4.1-5	1041	12.63%
4	5.1-6	595	7.22%
5	6.1-7	1752	21.26%
6	7.1-8	1184	14.37%
7	8.1-9	582	7.06%
8	9.1-10	347	4.20%
9	>10	318	3.86%
Total		8242	100.00%

Around 56 % of the daily milk collection fell in the Fat range of 4 to 8% and another 15% of the daily milk production fell in the range of “greater than 8% milk fat”.

**l) Details of Milk production, self-consumption and distribution of surplus milk (Litres per day per animal)**

Category of Dairy farmers	N	Total Daily Milk Production	Self-Consumption	Milk Sold to Nearby customers	Milk Sold at VDCS	Milk Sold to private Middlemen	Milk Sold to Private Dairy	Average Milk production (Liters per day per Animal)
Commercial	192	8242.2	874.7	758.5	5991	294	324	2.87



From the above table it can be seen that the Average Milk production of an animal for Commercial category dairy farmers is 2.87 Liters per day.

Category of Dairy farmers	N	Total Daily Milk Production	Self-Consumption	Milk Sold to Nearby customers	Milk Sold at VDCS	Milk Sold to private Middlemen	Milk Sold to Private Dairy
Commercial	192	100%	11%	9%	73%	4%	4%

For Commercial category milk producers, it can be seen that the most preferred raw milk selling avenue is the VDCS (73 %) and around 11 % of the daily milk production is kept for self-consumption.

**m) Daily (operating) Cost of Milk Producer (In Rs.) (Per Animal)**

Average daily cost incurred by Commercial dairy farmer		
Cost item (Rs.)	Cost in Rs.	% Cost
Green Fodder	16.52	20.10%
Dry Fodder	15.29	18.61%
Cattle feed	23.24	28.28%
De oiled Cake	11.51	14.01%
Mineral Mixture	3.74	4.55%
Medicine	2.36	2.87%
Vaccination	0.18	0.22%
AI cost	0.50	0.61%
Insurance	1.76	2.14%
Labour	7.08	8.62%
Total (Rs.)	82.18	100.00%

From the above table it can be seen that the cost of cattlefeed, Mineral mixture, Deoiled cake, dry fodder and green fodder were around Rs. 23.24, 3.74, 11.51, 15.29 and 6.52, per day per animal respectively. Also, the cost of cattlefeed, Mineral mixture, Deoiled cake, dry fodder and green fodder were around 28.28, 4.55, 14.01, 18.61 and 20.10 % of total daily (operating) cost respectively.

**4. Conclusion**

After analyzing the collected data it could be it can be concluded that the major characteristics of commercial dairy farmers were- majority of them owned both buffalo and cow, respondents were young farmers and had educational background of SSC to Post graduation. This notable characteristic of milk producers is an excellent opportunity for delivering effective animal husbandry and dairy farming training and extension programmes. The main weakness observed was low milk yield lack of awareness of clean milk Production and Scientific Animal Husbandry practices. Further, the most preferred raw milk selling avenue was the VDCS and relatively low portion of daily milk production was kept for self-consumption by the commercial milk producers.

**Acknowledgement**

This research article has been prepared from the work carried out under the Research Project entitled “Challenges, Opportunities and Expectations of Stakeholders of Dairy Industry of Gujarat and its Implication for Strategy and Policy Formulation: An In-depth study” which was sponsored by Indian Council of Social Science Research (ICSSR), New-Delhi-11006. The authors acknowledge the support extended by ICSSR.