

## A STUDY OF CHALLENGES, OPPORTUNITIES AND EXPECTATIONS FACED IN QUALITY CONTROL AREA BY DAIRY PLANTS IN GUJARAT STATE

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### ABSTRACT

The Indian Dairy cooperatives structure has a huge contribution in raising the milk production in the country up to approximately 146 million tonnes in the year 2014-15 from a meagre milk production 17 million tonnes in the year 1951. The present study was conducted to evaluate the Challenges opportunities and expectations of production department of dairy plants of Gujarat state and information was collected by using questionnaire. After analyzing the collected data it could be it can be concluded that the main challenges in Quality control related matters were- Problem due to absence of cold chain infrastructure in dairy sector, Poor quality of Milk & Milk products manufactured by Indian Dairy sector and Time period lapsed between drawing of milk & it's reaching the dairy plants. The main Opportunities in Quality control related matters were - "Clean milk production drive" will improve the quality standards of raw milk in dairy sector Poor quality of Milk & Milk products manufactured by Indian Dairy sector, Improvement in quality of raw milk (due to BMC, Automatic Milking units, and new chilling centers) will offer a good export opportunity, FSSAI implementation will prove to be a good opportunity for Indian Dairy Sector

**KEYWORDS:** Gujarat Dairy, Cooperative Dairies, Dairy Business, Dairy Processing & Dairy Quality

### INTRODUCTION

#### Indian Dairy Sector

The Indian Dairy cooperatives structure has a huge contribution in raising the milk production in the country up to 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).

## METHODOLOGY

The study was being spread over the entire state and primary data was collected by way of a Questionnaire. The study covered all 26 Districts of Gujarat state. Selection of sample of Dairy Processing Plants (Cooperative & Private): Each district has their own milk processing plant which process and manufacture the products. One middle level manager from all such plants was selected as respondent.

## RESULTS AND FINDINGS

The data obtained by way of questionnaire was analysed and the following results were found.

### Challenges in Quality Control Related Matters

The problems were presented before the respondents in terms of questions and they had to respond to a particular challenge by indicating Yes/ No against the challenge. The final result is given below

**Table 1**

Sr. No	Challenge Statement (Quality Control) (N=7)	Percentage
9	Is there a quality problem due to absence of cold chain infrastructure in dairy sector?	57
13	Is the poor quality of Milk & Milk products manufactured by Indian Dairy sector a problem for exports?	43
1	Is the time period lapsed between drawing of milk & its reaching the dairy plants a problem for dairy sector?	29
5	Is "Worker's hygiene" a problem in Indian /Gujarat Dairy Sector?	29
8	Is it difficult to obtain commitment of Each and every employee (supervisor & above category) towards quality aspect?	29
10	Is there a problem related to less number of QC tests carried out by dairies, than are required to ensure safety for human consumption?	29
6	Is there a problem related to the testing facilities for <b>Ingredients</b> used in manufacturing of dairy products (nuts, sugar, etc)?	14
11	Is there a problem due to shortage of availability of qualified QC personnel?	14
2	Is the implementation of HACCP a problem in Indian /Gujarat dairy sector?	0
3	Is ISO implementation a problem in Indian/ Gujarat Dairy Sector?	0
4	Is the implementation of TQM a problem in Indian dairy sector?	0
7	In general, is manufacturing Milk & Milk Products according to FSSAI standards a challenge in Indian Dairy sector?	0
12	Is there a problem due to lack of investment in QC Laboratory e.g equipment, tools etc.?	0

The main challenges in Quality control related matters were

- Problem due to absence of cold chain infrastructure in dairy sector
- Poor quality of Milk & Milk products manufactured by Indian Dairy sector
- Time period lapsed between drawing of milk & its reaching the dairy plants

### Opportunities in Quality Related Matters

The opportunities were presented before the respondents in terms of questions and they had to respond to a particular opportunity by indicating yes/ No against the challenge. The final result is given below

**Table 2**

Sr. No.	Opportunity Statement (Quality Control) (N=7)	Percentage
4	Do you think the "clean milk production drive" will improve the quality standards of raw milk in dairy sector?	86
5	Do you think that the improvement in quality of raw milk (due to BMC, Automatic Milking units, and new chilling centers) will offer a good export opportunity?	86
2	Do you think that FSSAI implementation will prove to be a good opportunity for Indian Dairy Sector?	71
3	Do you think that installation of BMC will throw good opportunity to improve the quality standards of raw milk in dairy sector?	71
1	Do you think that the progress in the development of new laboratory tools, equipment, etc. which enable accurate & rapid testing, is a good opportunity for the Dairy sector to improve quality standards?	57

### The Main Opportunities in Quality Control Related Matters Were

- "Clean milk production drive" will improve the quality standards of raw milk in dairy sector Poor quality of Milk & Milk products manufactured by Indian Dairy sector.
- Improvement in quality of raw milk (due to BMC, Automatic Milking units, and new chilling centres) will offer a good export opportunity.
- FSSAI implementation will prove to be a good opportunity for Indian Dairy Sector

### Expectations to Overcome Challenges in Quality Control Related Matters

The list of expectations as suggested by various dairy managers are presented below

**Table 3**

Sr. No	Challenge	Expectation
1	Is "Worker's hygiene" a problem in Indian /Gujarat Dairy Sector?	1. Training Needed. 2. Training for awareness
2	Is it difficult to obtain commitment of Each and every employee (supervisor & above category) towards quality aspect?	1. Training part is important factor to overcome this problem. 2. Industries have to more emphasize on this. 3. Due to lack of practical knowledge to dairy graduate is a difficulty.
3	Is there a quality problem due to absence of cold chain infrastructure in dairy sector?	1. Infrastructure of more cold chains. 2. Increase number of BMCS & improve transportation Facility. 3. Improvement in transportation facilities.

4	Is there a problem related to less number of QC tests carried out by dairies, than are required to ensure safety for human consumption?	1. Quick detection method should be established. 2. Easy and Fast detection of various QC tests like pesticides, antibiotics detection.
5	Is there a problem due to shortage of availability of qualified QC personnel?	1. Increase number of dairy colleges.
6	Is the poor quality of Milk & Milk products manufactured by Indian Dairy sector a problem for exports?	1. Maintain hygiene at each stage of production & processing from farm to consumer.

**Table 4: Expectations to Utilize the Opportunities in Quality Control Related Matters Were**

Sr. No.	Opportunities	Suggestions to Utilize Opportunities
1	Do you think that the progress in the development of new laboratory tools, equipment, etc which enable accurate & rapid testing, is a good opportunity for the Dairy sector to improve quality standards?	1. Advanced testing equipment is used. 2. Upgrade & give more attention for development of tools in this area of dairy sector. 3. Government should take major steps in development of tools, equipments etc. to improve quality standards.
2	Do you think that FSSAI implementation will prove to be a good opportunity for Indian Dairy Sector?	1. Consumers are getting standard products. 2. Create awareness of FSSAI rules & regulation
3	Do you think that installation of BMC will throw good opportunity to improve the quality standards of raw milk in dairy sector?	1. Ease of availability of BMC. 2. Due to installation of BMC, quality of good milk is received which improve the final product quality.
4	Do you think the "clean milk production drive" will improve the quality standards of raw milk in dairy sector?	1. Monthly training are implied (should be mandatory) for all members of Q.A.

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## CONCLUSIONS

After analyzing the collected data it could be concluded that the main challenges in Quality control related matters were- Problem due to absence of cold chain infrastructure in dairy sector, Poor quality of Milk & Milk products manufactured by Indian Dairy sector and Time period lapsed between drawing of milk & its reaching the dairy plants. The main Opportunities in Quality control related matters were - "Clean milk production drive" will improve the quality standards of raw milk in dairy sector Poor quality of Milk & Milk products manufactured by Indian Dairy sector, Improvement in quality of raw milk (due to BMC, Automatic Milking units, and new chilling centers) will offer a good export opportunity, FSSAI implementation will prove to be a good opportunity for Indian Dairy Sector

## REFERENCES

1. Rajorhia, G.S (2013) Contribution of Indian Dairy Industry to Food Security. Indian dairyman 65 (4) PP 69-71
2. <http://www.amul.com/>
3. <http://www.nddb.coop/>

