A dairy product is food produced from the milk of mammals. Dairy products are usually high energy yielding food products. A production plant for the processing of milk is called a dairy. Recent study shows that India is the largest producer of milk in the world which is nearly 10 per cent of the world production. Various milk-based products which can be manufactured commercially in a rural industry are Paneer (Cheese), Dahi (Curd), Ghee etc. These products can be manufactured by low cost traditional methods and machineries. This kind of industries can be located in areas where abundance quantity of milk is available. The cost of these products would be considerably low compared to those of big companies. A good number of employment generations are possible with low investment. Milk and its products are the essential items of daily life in India especially majority of Indians are vegetarian and thus milk and milk products are indispensable to Indians.

The annual world trade in milk products (excluding intra-EU) amounts to 33 million tones, valued at US$ 10 billion. Barely 6 to 7 per cent of the world milk production is traded internationally. The bulk of the world dairy trade is in cheese, butter and powders. A growing shift towards cheese is expected in the near future. Two dynamic products with a substantial projected growth in the coming years are yoghurt and dessert. The international dairy trade is dominated by four players - EU, New Zealand, Australia and USA - which together account for 85 per cent of all exports. New Zealand and Australia export as much as 80 and 50 per cent of their milk production respectively. India’s milk production increased from 20.80 million MT in 1970 to 117.00 million MT in 2010 and to 135.60 million MT in 2012-13. Per capita availability of milk was 300.20 grams per day in 2012-13 increased from 241 grams per day in 2005-06, up from 178 grams per day in 1991-92.

Marketing comprises a set of activities necessary to direct and facilitate the flow of commodities from producers to the ultimate consumers in the process of distribution. Marketing thinking starts well before production commences and ends only after rendering after sale satisfaction. It is the set of those activities necessary and incidental to bring about exchange relationship. It encompasses the entire
economic process by means of which goods and services are exchanged and their values are determined in monetary terms. Production of milk include various cost incurred in production of milk in dairy plant.

Study on “Production and Marketing performance of Mini Dairy Plant at Cattle Breeding Farm JAU Junagadh” was undertaken to estimate the production cost, processing cost and marketing cost, satisfaction level of costumers and return from milk and marginal value of productivity and return to scale. The study was undertaken in Cattle Breeding Farm.

The objectives of the study were as follow

1. To workout cost of production of cow and buffalo milk.
2. To estimate the marginal value productivity and return to scale.
3. To workout cost of processing and marketing of milk.
4. To compare the return from cow and buffalo milk.
5. To find out customers satisfaction level among the different milk brands.

Cattle Breeding Farm, Junagadh Agricultural University is the largest and oldest organized farm maintaining purebred herds of Gir cows and Jaffrabadi buffaloes. The farm is also actively involved in breed improvement of field animals through field progeny testing programme and supply of breeding bulls (around 20 bulls annually) as well as frozen semen doses of high genetic merit to Field all centers, Gram Panchayats, Gaushalas, Religious and Government agencies. So the Junagadh district purposively selected for the study and the study was confined to Junagadh city. At first stage, Junagadh Agricultural University was selected purposively. At the second stage, 120 customers were selected purposively from Junagadh Agricultural University. Primary data were collected by using structured questionnaires for customer’s satisfaction level of the customers and perception about milk purchase. Tabular analysis was used for estimating the processing cost and marketing cost standard cost concept use for production cost. Cobb Douglas production function was used to determine the milk production for cow and buffalo.
5.1 MAJOR FINDINGS OF THE STUDY

5.1.1 Production cost of cow and buffalo milk (2014, 2015 and 2016)

The cost of production of cow milk during the dry period was Rs. 126,194 and 259 in the year 2014, 2015 and 2016 respectively. The cost of production of cow milk during the lactation period was Rs. 199, 253 and 262 in the year 2014, 2015 and 2016 respectively. The cost of production per litre of cow milk during the lactation period was Rs. 24.87, 25.30 and 23.82 in the year 2014, 2015 and 2016 respectively.

The cost of production of buffalo milk during the dry period was Rs. 202,257 and 312 in the year 2014, 2015 and 2016 respectively. The cost of production of cow milk during the lactation period was Rs. 311, 415 and 429 in the year 2014, 2015 and 2016 respectively. The cost of production per litre of buffalo milk during the lactation period was Rs. 34.56, 34.58 and 34.32 in the year 2014, 2015 and 2016 respectively.

From the cost concept it was revealed that cost of production of milk in the year 2015, increase in cost is higher (27.13 %) than the increase in milk production (25 %). So the cost of milk production increases in the year 2015. In year 2016 the milk production is higher (10%) than the increases in cost (3%). So the costs of milk production of cow is decrease in the year 2016 while in case of buffalo the cost of production of milk in the year 2015, increase in cost is higher (33.44 %) than the increase in milk production (33.33 %). So the cost of milk production increases in the year 2015. In year 2016 the milk production was higher (4.17%) than the increases in cost (3.33%). So the costs of milk production decrease in the year 2016.

5.1.2 Production function for milk production of cow buffalo

For cow, the co-efficient of determination (R²) was 0.70. It showed that the selected five explanatory variables explained 70 per cent variation on milk production. It was observed that production of milk per day during laction day imparted positive and significant effect on production of milk for cow. For buffalo, the co-efficient of determination (R²) was 0.68. It showed that the selected five explanatory variables explained 68 per cent variation on milk production. It was observed that production of milk per day during laction day imparted positive and significant effect on production of milk for buffalo.
The marginal value productivity of green fodder, maintenance and miscellaneous expenses cost has lower in case of cow. In case of buffalo green fodder, concentrates, maintenance and miscellaneous cost has lower and in dry fodder cost has higher.

The return to scale parameter in case of cow is return to scale is less than one (0.15) it indicate that there is over utilization of resources. So by less use of resources we reach the optimum level of output. In case of buffalo the return to scale is higher than one (1.33) it indicated that there is under utilization of resources. There is scope for increasing milk production by increasing the input factors.

5.1.3 Processing and marketing cost of cow and buffalo milk

The cost of processing in year 2014 was Rs. 1.81 for cow and buffalo milk, in 2015 it was Rs. 1.53 for cow and buffalo milk, 2016 was Rs. 1.65 for buffalo and cow milk and the cost of marketing of cow and buffalo milk was Rs. 1.93, 1.56 and 1.68 in year 2014, 2015 and 2016 respectively. In year 2016 marketing cost was higher than year 2015 and 2014.

5.1.4 Return from cow and buffalo milk production

The return from cow milk in year 2014, 2015, and 2016 was Rs. 1.39, 1.61 and 2.85 respectively. From this three year in 2016 return is more as compared to 2015 and 2014. The return from buffalo in year 2014, 2015 and 2016 was Rs. 1.70, 2.33 and 2.35 respectively. From this three year in 2016 return is more as compared to 2015 and 2014.

The return from cow and buffalo milk production concluded that the return from cow milk production was more than buffalo milk production.

5.1.5 Satisfaction level of CBF milk customer

Majority of CBF consumers are satisfied with hygienic, quantity and price as compare to other milk brands. In term of availability other milk consumers are satisfied as compare to CBF milk consumers because timing of delivery of CBF milk is in evening.
5.2 CONCLUSION

The present study was carried out with the objective to study cost of production, cost of processing and marketing, return to scale and satisfaction level of cbf milk. The customers were surveyed from Junagadh Agricultural University. The cost of milk production of cow and buffalo milk was Rs. 24.88 in 2014, Rs. 25.3 in 2015 and Rs. 23.82 in 2016. The cost of milk production of buffalo milk was Rs. 34.56 in 2014, Rs. 34.58 in 2015 and Rs. 34.32 in 2016. The returns to scale for cow was 0.15 indicate that there is under utilization of the resources and for buffalo 1.33 indicates that there is over utilization of the resources. The processing cost of cow and buffalo was Rs. 1.81, 1.53 and 1.65 in year 2014, 2015 and 2016 respectively. The marketing cost of cow and buffalo milk was Rs. 1.93, 1.56 and 1.68 in year 2014, 2015 and 2016 respectively. The return from cow milk was Rs. 1.38, 1.61 and 2.85 in year 2014, 2015 and 2016 respectively. The return from buffalo milk was Rs 1.70 in 2014, Rs. 2.33 in 2015 and Rs. 2.35 in 2016. From satisfaction level of CBF milk majority of consumers satisfied with hygienic, quantity, quality and price. So the study revealed that more consumers preferred CBF milk as compare to other milk brands. So CBF milk was found well as compare to other milk brands.