Constraints in Procurement, Processing and Marketing of Milk and Milk Products – A Comparative Study with Special Emphasis to Co-Operative Dairy Processing Units of Karnataka and Maharashtra States

J.L. Zirmire¹ and V.S. Kulkarni²

ABSTRACT

The study was conducted in two states Karnataka and Maharashtra. Nine dairy Co-operative Unions/Units from nine districts of Karnataka and nine dairy processing units from nine districts of Maharashtra involved in procurement, processing and marketing of milk and milk products were selected. Primary data were obtained by personal interviews of staff members and managers of respective sections of the dairy processing units with the help of well structured and comprehensive schedule exclusively prepared for the study. Twenty five dairy officials and staff members of dairy processing units involved at various levels such as five from village dairy co-operative societies, five from transportation section, five from chilling centres, five from processing section and five from marketing section were randomly selected as respondents from each selected dairy processing unit of Karnataka and Maharashtra respectively. Thus, the total sample size was 450. The constraints faced by selected dairy processing units at each level were ranked by using Garrett’s ranking technique (GRT) and suitable conclusions were drawn to mitigate the problems faced by co-operative dairy processing units of Karnataka and Maharashtra states in the procurement, processing and marketing of milk and milk products in Karnataka and Maharashtra.

Key words: Constraints, Dairy enterprise, Marketing, Processing, Procurement.

INTRODUCTION

Dairy is the main branch of food industry, as like many other branches. It is a business enterprise, in which animal milk is harvested and processed. With industrialisation and urbanisation, the supply of milk became a commercial industry, with specialised breeds of cattle being developed for dairy. In this regard, the dairy co-operatives have played a significant role in transferring the message of urban market demand to the farming community. India has prosperous tradition in dairying since the time of Lord Krishna. Hence, India is the enormous milk producer, with 18 percent of global milk production, subsequently to the United States of America, China, Pakistan and Brazil. Dairying in India, is inter-woven as an essential part and proximate to agriculture, but it did not received as much attention relative to crop production as it strongly deserves. Karnataka stands 11th in the list of top milk producing states in India. (Anonymous, 2015a). It is the second largest dairy co-operative amongst the dairy co-operatives in the country.

On the other hand, Maharashtra ranks 7th in the top milk producing states in India. In 1958, Dairy development department was established in the state of Maharashtra with the objective to increase the production and procurement of milk in the rural areas of Maharashtra. (Anonymous, 2015b). To improve the economic condition of the rural farmers and to supply hygienic milk and milk products to the city consumers at a fair prices. The co-operative units in Karnataka and Maharashtra are playing a vital role.

Out of the total milk produced in the country 80 percent of it is handled in the unorganized sector and the left over 20 per cent is by co-operative and private dairies. (Rajendran and Mohanty, 2004). Hence, there is scope for co-operative dairy industry to centralize around a triangle i.e. proper procurement, processing and marketing of milk and milk products. But dairy co-operatives are coming across the various constraints at all the levels, since from procurement of milk to the marketing of the milk and milk products. Hence the present study was initiated with the objectives-

1) To examine the constraints in procurement, processing and marketing of milk and milk products in selected co-operative dairy processing units of Karnataka and Maharashtra states.

2) To suggest the policies for mitigating the problems occurred in procurement, processing and marketing of milk and milk products in selected co-operative dairy processing units of Karnataka and Maharashtra states.
Materials and Methods
Selection of the study area and dairy processing units
The overall objective of the study was to examine the constraints in procurement, processing and marketing of milk and milk products. For the purpose of study, co-operative dairy processing sectors were considered. The study was conducted in Karnataka and Maharashtra states dairy Co-operative Unions/Units involved in procurement, processing and marketing of milk and milk products respectively. Milk processing units are extensively established in and around every district of Karnataka and Maharashtra. Hence, for the present study random sampling technique was followed in both the states. Nine dairy processing units from nine districts of Karnataka viz., Bangalore, Mysore, Mandya, Tumkur, Hassan, Dharwad, Belagavi, Vijayapura, Bellary and nine dairy processing units from nine districts of Maharashtra viz., Satara, Bhandara, Jalgaon, Sangli, Pune, Kolhapur, Ahmednagar, Aurangabad and Solapur were randomly selected for the study. Thus, the total number of selected dairy processing units for the study was 18. Sampling design is presented in Fig 1.

Selection of the Respondents
To know the constraints in procurement, processing and marketing of milk and milk products, twenty five dairy officials and staff members of dairy processing units involved at various levels such as five from village dairy co-operative societies, five from transportation section, five from chilling centres, five from processing section and five from marketing section were randomly selected as respondents from each selected dairy processing unit of Karnataka and Maharashtra respectively. Hence, in all nine co-operative dairy units from Karnataka 225 respondents, and in all nine co-operative dairy units from Maharashtra 225 respondents were selected for the present study. Thus, the total sample size was 450.

Nature and sources of data
Primary data regarding constraints faced in procurement were collected from the staff members of village dairy co-operative societies as well as transportation section and chilling centers of selected dairy processing units. Constraints faced in processing and marketing of milk and milk products were obtained by personal interviews of staff members and managers of respective sections of the dairy processing units with the help of well structured and comprehensive schedule exclusively prepared for the study. All the related primary data were collected during year 2017-18. The constraints were ranked by using Garrett’s ranking technique (GRT). (Dhanavandan, 2016) and (Zalkuwi et al. 2015) used the similar technique in their studies to rank the various constraints.

Results and Discussion
Constraints of procurement level
Constraints faced by the milk processing units from Karnataka and Maharashtra states at society level
Problem faced by the milk processing units at DCS level from Karnataka and Maharashtra are presented in Table 1. It is revealed from table that members of co-operative society pouring milk to the private vendors was the most serious constraint in Karnataka, whereas less concentration on clean milk production at DCS was ranked as the less serious problem. Lack of infrastructure in the DCS was ranked as second most serious constraint followed by delayed payments by the co-operative society, approach to roads, location of milk producer’s home from DCS and inadequate facilities provided by the DCS.

It could be also observed from table that delayed payments by the co-operative society was the most serious constraint in Maharashtra whereas less concentration on clean milk production at DCS was ranked as the less serious
problem. Members of co-operative society pouring milk to the private vendors was ranked as second most serious constraints followed by inadequate facilities provided by DCS, lack of infrastructure in the DCS, approach to roads and location of milk producers home from DCS.

The most serious problem at the society level in both the states was the members of the society pouring milk to private vendors. Many a times private vendors offer higher prices to the milk as compared to co-operative society. In co-operative society collection centres milk is collected by the members based on the readings of lactometer. Higher fat content milk would fetch higher price. But the private vendors do not look into all these things and offer a better price. So, many of the members of co-operative society breach the co-operative principles for their personal gains. This would affect the business of the processing units which solely depend on the milk supplied by the members. This is one of the evidences for failure of co-operative movement in the country. Educating the members regarding the co-operative principles and effects of such breach of activities would go a long way in protecting the co-operative moment in general and milk processing units in particular.

Lack of infrastructure and delayed payments at co-operative society level were the other serious problems at the society level. The results are in accordance with the enquiry of Rajendran and Mohanty (2004) regarding the constraints and opportunities of dairy co-operatives and milk marketing in India. For the development of co-operative milk processing units these things are to be improved on priority basis. The heads of the respective co-operative societies should think in these angles for the improvement of these processing units. Approach to roads, location of milk producer’s home from co-operative society, less concentration on clean milk production at DCS were the other less serious problems which can be mended at the society level by the efforts of the office bearers of the society.

**Constraints faced by the milk processing units from Karnataka and Maharashtra states at collection centre and transportation level**

It is clearly exhibited from the Table 2 that poor quality of milk was the most serious constraint faced by the milk processing units from Karnataka at collection centre and lack of funds at collection centre was ranked at least serious constraint. Lack of availability of sufficient quantity of raw milk was ranked as second most serious constraint followed by delayed payments by collection centre, higher transportation cost, less capacity utilization of milk tankers, milk spoilage due to vehicle breakdown and sometime late arrival of milk and inadequacy of procurement staff.

It is elaborated from Table 2 that poor quality of milk was the most serious constraint faced by the milk processing units from Maharashtra at collection centre and inadequate procurement staff was ranked as less serious constraint. Higher transportation cost was ranked as second most serious constraint in Maharashtra followed by lack of availability of sufficient quantity of raw milk, delayed payments by collection centre, milk spoilage due to vehicle breakdown and late arrival of milk, less capacity utilization of milk tankers and lack of funds at collection centre.

As revealed by the Garrett scores, poor quality of milk, lack of availability of sufficient quantity of raw milk, delayed payments by collection centre and high transportation cost were the most serious constraints faced by the collection centre and at transportation level. Babu (2010) also made similar observations regarding constraints faced at milk procurement, processing and marketing levels. The researcher identified that, Poor road conditions for milk

### Table 1: Constraints faced by the milk processing units from Karnataka and Maharashtra states at society level. (n=90)

| Constraints                                          | Karnataka    | Maharashtra   |
|------------------------------------------------------|--------------|---------------|
|                                                      | Garrett scores | Ranks | Garrett scores | Ranks |
| Members of co-operative society pouring milk to vendors | 76.18         | I     | 68.64         | II    |
| Lack of infrastructure in the co-operative society   | 65.56         | II    | 54.90         | IV    |
| Delayed payments by the co-operative society         | 57.70         | III   | 74.36         | I     |
| Approach to roads                                     | 49.86         | IV    | 47.90         | V     |
| Location of milk producers home from co-operative society | 43.38        | V     | 47.20         | VI    |
| Inadequate facilities provided by co-operative societies | 33.84        | VI    | 61.56         | III   |
| Less concentration on clean milk production at DCS    | 22.48         | VII   | 25.44         | VII   |

### Table 2: Constraints faced by the milk processing units from Karnataka and Maharashtra states at collection centre and transportation level. (n=90)

| Constraints                                         | Karnataka    | Maharashtra   |
|-----------------------------------------------------|--------------|---------------|
|                                                      | Garrett scores | Ranks | Garrett scores | Ranks |
| Poor quality of milk                                 | 78.56         | I     | 77.12         | I     |
| Lack of availability of sufficient quantity of raw milk | 68.72         | II    | 57.68         | III   |
| Delayed payments by collection centre                | 58.52         | III   | 54.20         | IV    |
| High transportation cost                            | 54.08         | IV    | 70.88         | II    |
| Less capacity utilization of milk tankers            | 47.12         | V     | 39.58         | VI    |
| Milk spoilage due to vehicle breakdown and late arrival of milk | 40.00        | VI    | 47.12         | V     |
| Inadequate procurement staff                         | 31.52         | VII   | 21.62         | VIII  |
| Lack of funds at collection centre                   | 20.48         | VIII  | 32.80         | VII   |
haulage were the main constraint among milk transporters of co-operative plant. Educating the farmers regarding the importance of quality milk and getting better prices for the milk they supplied and also supplying sufficient quantity of raw milk to the processing units and getting of quality processed product for their co-operative society and thereby sustaining co-operative efforts in milk processing is very much necessary at this juncture.

Delayed payments by the collection centres and high transportation cost were again the matter of serious concern, delay in payments in collection centre might be due to delay in receipt of payments for milk supplied by them to chilling centres and intern by processing units. Bulbul (2011) and Michael et al. (2012) observed similar findings related to payment issue at the collection centres. If the processing units want to ensure uninterrupted supply of milk, they need to see that payment at collection centre is paid to the members without much delay. This might also be a reason why the members of the society pouring milk to private vendors.

High transportation cost may be because of hiring private milk carriers for transportation of milk from collection centre to chilling unit. Some of the collection centres are located in very interior locations with improper road connectivity, milk collection from these centres would add to the transportation cost. Other minor constraints at milk collection centre and at transportation level can be minimized by taking proper decisions at each individual level to address the issue on time.

**Constraints faced by the milk processing units from Karnataka and Maharashtra states at chilling centre level**

Among the different constraints faced by the milk processing units from Karnataka at chilling centre level, manpower with lack of skill at chilling centre was ranked first with highest Garrett mean score and lack of quality control measures taken by chilling centres was ranked last with lowest Garrett mean score. Table 3 explained that highest expenditure for repair and maintenance was second most serious constraint in Karnataka at chilling centre level followed by lack of infrastructural facilities, higher cost of raw material used for chilling, frequent power failure at chilling centers and wastage of water, detergent and chemicals at chilling centres.

Similarly in Maharashtra, manpower with lack of skill at chilling centre was ranked first with highest Garrett mean score and wastage of water, detergent and chemicals at chilling centres was ranked last with lowest Garrett mean score. Lack of infrastructural facilities was second most serious constraint in Maharashtra at chilling centre level followed by frequent power failure at chilling centres, higher cost of raw material used for chilling, higher expenditure for repair and maintenance and lack of quality control measures taken by chilling centres.

Unskilled manpower at the chilling centre, high expenditure for repair and maintenance, lack of infrastructural facilities, high cost of raw materials used for chilling and frequent power failure at chilling center were the major constraints faced by the milk processing units of Karnataka and Maharashtra at chilling centre level. Refreshers training for capacity building and skill development need to be organized for the workers at the chilling centers on regular basis to mitigate the problem of unskilled manpower. These findings were in consonance with Sarker and Ghosh (2010) and Mahadeo (2014). They explored that lack of technical guidance and professional management were severe constraint for members of co-operative farms.

High expenditure for repair and maintenance, lack of infrastructural facilities and high cost of raw material used for chilling were the managerial problems of milk processing units. Proper planning in procurement of raw materials and provision of infrastructural facilities would improve the condition at chilling centre. The chilling centres can think of installing high power electricity generators to augment the power requirements at the chilling centre. Recently many industries are employing solar sources as well as wind sources for generating electricity for uninterrupted power supply. These natural resources can effectively be tapped which not only reduce the burden on power grids, reduces the cost of operation appreciably to the chilling centres.

**Constraints of processing level**

**Constraints faced by the milk processing units of Karnataka state at processing level**

It could be inferred from the Table 4 among the different problems faced by the selected dairy processing units of Karnataka High processing cost due to rise in price of raw material was ranked first most serious constraint with highest Garrett mean score followed by maintenance and repairing of cost of old machinery and equipments and rise in the price of raw milk due to competitor private players was ranked last with lowest Garrett mean score of the dairy processing units of Karnataka.

Other constraints faced by the dairy processing units of Karnataka were lack of availability of skilled labor in

**Table 3: Constraint faced by the milk processing units from Karnataka and Maharashtra states at chilling centre level.**

| Constraints                                      | Karnataka Garrett scores | Ranks | Maharashtra Garrett scores | Ranks |
|--------------------------------------------------|--------------------------|-------|----------------------------|-------|
| Manpower with lack of skill at chilling centre    | 71.18                    | I     | 75.14                      | I     |
| Higher expenditure for repair and maintenance    | 69.42                    | II    | 41.52                      | V     |
| Lack of infrastructural facilities               | 55.74                    | III   | 65.06                      | II    |
| High cost of raw material used for chilling       | 53.66                    | IV    | 49.36                      | IV    |
| Frequent power failure at chilling centre         | 39.94                    | V     | 60.80                      | III   |
| Wastage of water, detergents & chemicals at chilling centre | 35.44 | VI    | 24.80                      | VII   |
| Lack of quality control measures taken by chilling centers | 23.44 | VII   | 32.32                      | VI    |

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processing and quality control section followed by irregularity in electricity supply, lack of research and development in relation to processing, under utilization of capacity of processing plant and spoilage of milk and milk products due to less concentration on quality control measures.

**Constraints faced by the milk processing units of Maharashtra state at processing level**

A cursory look of Table 5 has revealed that maintenance and repairing of cost of machinery and equipments in processing units of Maharashtra was the most serious constraint and rise in the price of raw milk due to competitors was least serious constraint faced by the selected dairy processing units of Maharashtra. Under utilization of capacity of plant was second most serious constraint followed by high processing cost due to rise in price of raw material used, irregularity in electricity supply, lack of availability of skilled labor in processing and quality control section, poor hygiene in processing section, spoilage of milk and milk products due to less concentration on quality control measures and lack of research and development in processing industry.

The Garrett mean scores reflected through Garrett ranking technique employed for identifying the major constraints faced by the milk processing units of Karnataka at processing level revealed that high processing cost due to rise in price of raw material, maintenance and repairing cost of old machinery and equipments, lack of availability of skilled labourers in processing and quality control section and irregular electricity supply were the major constraints.

The processing units should employ proper procurement management strategy to identify the alternative sources of raw material and alternative periods of procurement to reduce the cost of raw materials. Purchasing raw materials when there is glut in the market and identifying the regions where they are available in plenty, procuring them at suitable time and place and maintain a backup inventory with proper storage facilities would reduce the cost of raw materials. Unavailability of skilled labour is a human resources management problem which can be effectively addressed by regular induction as well as refreshers training programme.

Certain machineries and equipments become obsolete over time. Repairing such machineries would become uneconomical and therefore it is better to replace them with machinery and equipment with modern technology, these would reduce the operational cost. As discussed in the previous section irregularity in electricity supply can be addressed with the alternative processes discussed earlier other minor constraints can be addressed as and when they occur.

The under utilization of the capacity of the plant which was one of the major constraints in milk processing units of Maharashtra, These findings were conformity with the Babu (2010), less availability of milk from the hinter lands of the processing units was the major reason for under utilization. Poplarization of maintaining dairy animals, training and guidance in herd keeping and regular veterinary facilities on part of the processing units in their hinter lands would definitely improve raw milk production and thereby the capacity utilization. Introduction of high yielding breeds of animals can also be thought of to increase the raw materials supply and thereby mitigating under utilization of plant capacity.

**Constraints of marketing level**

**Constraints faced by the milk processing units of Karnataka state at marketing level**

A perusal of Table 6 reveals that high competition to market the product was observed at the most serious constraint with highest Garrett score and excess marketing staff was the less important problem with lowest Garrett score for the selected dairy processing units of Karnataka. The other constraints like restriction of KMF on milk processing units for fixing prices, higher commission to the agents, wholesaler and retailers, higher transportation and distribution cost, lack of

![Table 4: Constraints faced by the milk processing units of Karnataka state at processing level.](n=45)

| Constraints                                                                 | Garrett scores | Ranks |
|------------------------------------------------------------------------------|----------------|-------|
| High processing cost due to rise in price of raw material                    | 78.32          | I     |
| Maintenance and repairing cost of old machinery & equipment                  | 69.68          | II    |
| Lack of availability of skilled labour in processing and quality control     | 58.16          | III   |
| section                                                                       |                |       |
| Irregularity in electricity supply                                           | 53.84          | IV    |
| Lack of research and development in relation to processing                   | 46.02          | V     |
| Under utilization of capacity of plant                                       | 40.98          | VI    |
| Spoilage of milk and milk products due to less concentration on quality      | 31.18          | VII   |
| control measures                                                              |                |       |
| Rise in the prices of raw milk due to competitor private players             | 21.82          | VIII  |

![Table 5: Constraints faced by the milk processing units of Maharashtra state at Processing level.](n=45)

| Constraints                                                                 | Garrett scores | Ranks |
|------------------------------------------------------------------------------|----------------|-------|
| Maintenance and repairing cost of machinery and equipments in processing     | 79.12          | I     |
| units                                                                         |                |       |
| Under utilization of capacity of plant                                      | 70.22          | II    |
| High processing cost due to rise in price of raw materials used             | 62.73          | III   |
| Irregularity in electricity supply                                          | 55.45          | IV    |
| Lack of availability of skilled labour in processing & quality control       | 50.60          | V     |
| section                                                                       |                |       |
| Poor hygiene in processing section                                          | 43.40          | VI    |
| Spoilage of milk and milk products due to less concentration on quality      | 36.18          | VII   |
| control                                                                       |                |       |
| Lack of research and development in processing industry                     | 32.33          | VIII  |
| Rise in the price of raw milk due to competitors                             | 20.23          | IX    |
refrigerated vans which can be used to enhance the shelf life of milk products, increased maintenance charges of milk parlours, lack of export oriented product diversification and sales on credit basis were having problematic influence on the distribution and marketing of milk and milk products to the selected dairy processing units of Karnataka.

Various problems faced by the milk processing units of Karnataka for marketing of their products were listed and subjected to Garrett ranking technique by obtaining the opinions from the officials of those selected processing units. High competition to market the product, restriction of KMF on milk processing units for fixing the prices, higher commission to agents, wholesaler and retailers, higher transportation and distribution costs were the major constraints faced by the processing units.

Quality of the products and consumer acceptability are the two major strategies for any of the organization to withstand the competition in the market. Therefore, the milk processing unit of Karnataka should not compromise with the quality to reduce the cost of production and thus making the product cheaper compared to the competitors to grab larger share in the market, such strategies would have only short run success. But will become detrimental to the organization in long run. Attractive, safe, convenient packing would improve the consumer acceptability of the products.

Currently, all the milk processing units under co-operative sector in Karnataka are federated to KMF (Karnataka Milk Federation) and KMF is authorized to fix the prices of the products for the state as whole. As it was seen in the price spread analysis, for many of the products produced by the processing units in Karnataka the price fixed was already very high, resulting into low market efficiency. Therefore, restriction of KMF on milk processing units for fixing the prices which was considered as a constraint by the milk processing unit should not be taken as constraint in the larger interest of the society as a whole. On the contrary, the processing unit can persuade KMF to fix scientific prices for the products to improve the market share and reduce the competition from private players.

The study also revealed that margin of agents, wholesaler and retailers were high as opined by the processing units as well. This will result into increased sale price to the consumers and thus affect the marketing efficiency. Establishment of own distribution network till the consumer level on part of processing unit would reduce the margin of commission paid to these intermediaries. The processing units can evolve policy initiations in these lines to reduce the operational costs. Higher transportation and distribution cost which was one of the constraints faced by the processing units of Karnataka can be addressed in similar way. The other constraints of minor importance can be dealt by the milk processing units by drawing proper strategies against those constraints.

**Constraints faced by the milk processing units of Maharashtra state at marketing level**

It is observed from Table 7 that competition from local dairies and less number of outlets of the units for retail sales were the two serious constraints with highest Garrett scores faced by the selected dairy processing units of Maharashtra. Sales of products on credit basis and lack of export oriented product diversification were the least serious constraints with lowest Garrett scores. The other constraints faced by the dairy processing units of Maharashtra at marketing level with less

| Constraint | Garrett scores | Ranks |
|------------|----------------|-------|
| High competition to market the product | 80.04 | I |
| Restriction of KMF on milk processing units for fixing prices | 69.58 | II |
| Higher commission to the agents, wholesaler and retailers | 62.02 | III |
| Higher transportation and distribution cost | 56.24 | IV |
| Lack of refrigerated vans used to enhance the shelf life of milk products | 49.76 | V |
| Increased maintenance charges for milk parlours | 44.24 | VI |
| Lack of export oriented product diversification | 37.70 | VII |
| Sales on credit base | 22.06 | VIII |
| Excess marketing staff | 28.36 | IX |

**Table 6:** Constraint faced by the milk processing units of Karnataka state at marketing level. (n=45)

| Constraint | Garrett scores | Ranks |
|------------|----------------|-------|
| Competition from local dairies | 81.80 | I |
| Less number of outlets of the units for retail sales | 74.20 | II |
| Lack of storage facility at sales outlet | 65.28 | III |
| Higher packaging material cost | 60.72 | IV |
| Localized distribution network for milk products of private units | 56.40 | V |
| Less sales promotional activities of processing units | 52.60 | VI |
| Payment settlement problem with contractor | 47.40 | VII |
| Low salary and incentives to marketing staff | 43.60 | VIII |
| Higher marketing cost due to widespread markets | 38.40 | IX |
| Unawareness among the consumers about brand | 34.60 | X |
| Lack of export oriented product diversification | 25.80 | XI |
| Sales of products on credit basis | 18.20 | XII |

**Table 7:** Constraints faced by the selected milk processing units of Maharashtra state at marketing level. (n=45)
Garrett score were lack of storage facility at sales outlet followed by higher packaging material cost, localized distribution network for milk products of private unit, less number of sales promotional activities, payment settlement problems with contractors, low salary and incentives to the marketing staff, higher marketing cost due to widespread markets and unawareness about the particular brand among the consumers.

The Garrett scores for the milk processing units of Maharashtra with respect to the constraints in marketing front revealed that, competitions from local dairies, less number of outlets of the units for the retail sales, lack of storage facilities at sales outlets, higher packaging material cost, localized distribution network for milk products and less sales promotion activities of co-operative processing units were the major constraints faced by the milk processing units of Maharashtra state in marketing front. Similar findings were observed by Ingavale (2012). He reported that, all the dairy units advertised their product only at local level through local newspapers and TV/radio channels. A few had their own out lets at various places of Maharashtra. Majority of them did not have a wide distribution network.

Local dairies produce limited products in limited quantities. Therefore, to get more market share they will try to manufacture the products accordingly to the needs of local population at competitive prices. The milk processing units of Maharashtra state operating in co-operative lines should also study the local requirement and prepare the products in acceptable quality to the local consumers. Hence, decentralization of processing units would be helpful to meet local needs. With respect to competitive pricing the co-operative units will have an edge over private dairies as they can harvest the economies of large scale operation and thus offer the products at competitive prices to the consumers.

It is learnt from the study that less number of outlets of the co-operative units for retail sales had affected the business of co-operative milk processing units. To sustain and improve the business the co-operative milk processing unit should come up with more number of retail outlets with refrigerated storage facility would certainly improve the marketability of the products, higher packaging material cost, less sales promotional activities of units are the managerial lapses of the processing units which need to be corrected immediately for sustainance of the competition from private milk processing unit. The other constraints faced by the milk processing units of Maharashtra state are of less importance which can be corrected by taking suitable operational decisions as and when those problems are encountered.

CONCLUSION
There is need of educating the farmers regarding the importance of quality milk and getting better prices for the milk they supplied and interlinking of processing units can be done, this will help the moment of milk from one region to another region across the seasons so that the processing units can work efficiently by reducing the unit cost of processing. Infrastructure of the processing plant should be improve by developing efficient milk co-operative societies and transportation networks at farmer’s level. This would help strengthen the linkages between dairy farmers and dairy industry. Co-operative dairy societies should ensure regular payments so as to attract and retain members selling milk to the private dairy plant. Transportation cost can be reduced by establishing Bulk Milk Coolers in rural areas and by detaching that milk procurement route which results in highest transportation cost.

Refresher training for capacity building and skill development need to be organized for the workers at the chilling centres on regular basis to mitigate the problem of unskilled manpower. Dairy processing industries should employ use of solar sources as well as wind sources for generating electricity for uninterrupted power supply. These natural resources can effectively be tapped which not only reduce the burden on power grids, reduces the cost of operation appreciably to the chilling centres. Establishment of own distribution network till the consumer level on part of processing unit would reduce the margin of commission paid to these intermediaries. For sustaining and improving the business the co-operative milk processing unit should come up with more number of retail outlets with refrigerated storage facility would certainly improve the marketability of the products. Maharashtra government should form single brand like Nandini to bring all co-operative processing units under one controlling authority like Karnataka milk federation.

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