CHAPTER III
PRICING OF MILK BY STATE GOVERNMENT

3.1 Introduction:

Since thousands of years milk is being used for infants, young ones and for adult also. Milk has become integral part of food for both vegetarians and non-vegetarians. Therefore prices paid by customers have become economically important. As a result government has also considered prices of milk. In this chapter an attempt has made to evaluate pricing of milk by state government.

Pricing of milk is always based on its cost price and price paid by the customers. Actually cost of milk is a complex phenomena, as prices of material related to cost differ from period to period and market to market.

Pricing structure should be based on the following principles.

i) Prices should be remunerative to producers.

ii) Prices should be competitive to local market prices

iii) Prices should be discourage adulteration and promote quality consequences.

iv) Prices should be based on milk constituents i.e. FAT and SNF.

v) Prices should consider the range of quantitative variation in above constituents of milk.

In Mumbai (Maharashtra) milk scheme took place in 1947. The buffaloes in Mumbai city were moved in Arey in 1951. Since then, Arey milk colony is well known to all basic provision were provided for milk producers by the government. In the beginning, it was a binding for milk producer to give all the milk to Arey milk colony, even though milk was not sufficient to complete the demand of Mumbai city. So the milk was supplied to Mumbai from Gujarat.

Therefore, in 1958, the Government of Maharashtra started Department of Dairy Development. The department also established the market of produced
milk in rural areas, which provide a supplementary business for rural population. Government milk scheme were started in various districts for enhancing milk production in rural areas. The objective behind activity was to provide market for produced milk in all the seasons of the year and provided the cost based milk price to milk producer.

Due to the population growth and increasing demand for milk the government adopted a policy of milk business. Accordingly in rural area primary co-operative milk societies were established. However the prices of milk were unstable. Therefore different committees were appointed by government on 7th march. 1983 the report of milk pricing committee Dravid committees was appointed by government.

In December 1986 the Tata Consultancy Services report was published. It reported that, “all income groups in Bombay find the current price of milk high and would pour more milk if it is priced economically.

In 31.12.1985 the report of the Basak committee appointed by the government of Maharashtra which evaluated the operation flood programme in Maharashtra. Basak committee found that, the district levels unions make unauthorized deductions from the price of milk paid to the producer.

In August 31, 1987 the Dravid committee which was appointed by the government of Maharashtra with regards to revision of sale price of milk, submitted its report. This committee suggested that concentration of milk by adopting reverse osmosis process to remove a part of water from it. As a result cost would be lower and consumer preference for high fat milk would possibly favour its marketing.

The recommendations made by the different committees, even though appointed by government prices of milk were neglected by the ruling government.

3.2 Methods of Milk Pricing

Milk has two major constituents (FAT and SNF) and the pricing can be based either on FAT alone or both FAT and SNF. The milk pricing structure in
the country is based on FAT contents of milk, while this method has provided justified price for buffalo milk. The cow milk has always been paid low price as the SNF contents of cow milk has never been given into consideration. Therefore, various methods were based on FAT and SNF. These contents have been assumed to provide justified and remunerative price to cow milk. Accordingly, three different models of milk pricing are discussed below.

1. **Pricing on Pro-rata Fat Basis**:

   The price of milk is fixed proportional to the fat variation in milk or the price is paid according to the fat percentage present in milk. Guided by the prevailing market forces, the cost of one Kg. of Fat is fixed by the Management and this rate differs from season to season. The formula can be shown as below

   **Formula** :

   $\text{(Kg. Fat Rate) x (\% of Fat Content)}$  

   ...... (i)

2. **Pricing on Two-axis Basis**:

   Pricing on pro-rata Basis, no consideration is given to SNF content of milk. Thus, two-axis Formula was used in which both FAT and SNF contents were taken into account. Considering FAT and SNF as two main milk constituents, the milk price was decided by certain market price of Ghee and SMP as if they are purchased individually. This fixing of price on both FAT and SNF basis was called the two-axis pricing.

   Hence, in this case, the prices of FAT and SNF in milk were different. Keeping the commercial value of Ghee and Skim Milk Powder in mind, depending upon the predominance of cow or buffalo in the milk shed. The price of milk is fixed by using following formula.

   **Formula** :

   $$\text{Price of 100 Kg.} \ = \ \text{Kg. Fat Rate} \times \text{Fat\%} \ + \ \text{Kg. SNF Rate} \times \text{SNF \%} \quad \text{..(II)}$$
3. **Pricing on Equivalent - Fat - Unit (E.F.U.) - Basis**:

This concept is again a part of two-axis-formula with little change. In this case, the SNF Units were converted into Equivalent Fat Units in proportion to the relative market prices of the two constituents. However to work out the cost of Equivalent-Fat-Unit, the average Fat % and SNF % in milk received by the plant in previous year was taken as a base. Thus, the SNF valued at $\frac{2}{3}$rd price of Fat on Unit Basis.

Further a provisional price of buffalo milk on Kg. Fat Rate Basis was declared. On this basis, the price of cow milk was worked out having different percentage of Fat and SNF. Still as determining SNF % was not practical at field level, a minimum specified SNF limit can be taken for cow milk for price calculation.

**Formula :**

**Price of 100 Kg. of Milk = (Equivalent-Fat-Units) x (Rate per E.F.U.).**  (III)

**Solution :**

For example the average Fat and SNF of buffalo milk in previous year was 6.0% Fat and 9.0% SNF and the present buffalo milk fat is Rs. 140/− Per Kg. Fat. As per Formula (III).

The cost of 100 litres of buffalo milk with 6% Fat and 9% SNF' will be Rs. 140 x 6.00 = Rs. 840 For 100 Litres

OR

Rs. 8.40 For 1 Litre

Now SNF Units were converted into Fat Units on $\frac{2}{3}$rd value basis.

Thus, the total Fat Units in buffalo milk which has 6% Fat and 9% SNF will be -

\[ = 6.0 + (9.0 \times \frac{2}{3}) \]

\[ = 6 + 6 = 12 \text{ Equivalent Fat Units.} \]

Rs. 140 x 12 = Rs. 1,480/- For 100 litres

OR

Rs. 14.80 For 1 Litre
In above three methods, the cost of processing, distribution, procurement was not considered. If those factors were taken into consideration, the producer gets less price for his produce. Also these methods decided the price for milk on the basis of the price of Fat in the market, means at First the price for Fat was decided in the market by demand and supply equilibrium. Therefore, we can say that above three methods only consider the demand and supply factors in the market and not the cost of milk production.

3.3 Pricing of Milk in Maharashtra:

There were many shortcomings in the Pricing Models fixed by N.D.D.B. The costs of milk procurement, processing and distribution of milk were not considered. The change in the milk price should be done as per formulas I, II, III. The expenses of the producers were not taken into consideration.

The prices given in the model takes into consideration only the price of Ghee. This price did not take into account, the cost of procurement, processing and distribution cost.

Therefore, many problems were raised in the development of the dairy business. So the Deotale Committee of 1973 recommended that the rate should be based on the cost of production. In 1982 another committee i.e. Nilangekar Committee accepted the formula of milk pricing given by Deotale Committee. But Nilangekar Committee made some new amendments about the rate of milk. The Committee stated that, the rate should be separate in Flush - Season (September to February) and in Lean Season (March to August). Also, there should be separate rates for buffalo milk and cow milk.

The details which taken for consideration in Deotale Formula were as follows:
3.4.1. Cost of Milk For Producer:

A. Total Expenditure For Milk:
   1) Feeds:
      a) Cost of Green and Dry Fodder and food:
         (i) 400 days for cow.
         (ii) 450 days for buffalo
      b) Concentrate:
         (i) 400 days for cow.
         (ii) 450 days for buffalo
      Feed Cost ex-farmer's door step = $a + b$

2. Labour Charges:
   Per day wage of labour 10 catties x 400 days in the case of cows or
   450 days in the case of buffalo

3. Light, water, medicine etc. -

4. Replacement 20% intercalving period -

5. Interest on Capital

6. Miscellaneous Expenses
   (Insurance, Veterinary Aid etc.)

7. Animal Shed Depreciation 6% -

   Total Expenditure of - 1 to 7

B. Less Receipts:
   i) Sale of Manure
   ii) Sale of Gunny Bags
   iii) Sale of Calf

   Total Receipts B = I + II+ III

\[
\text{Cost of Production of Milk for Producer} = \frac{\text{Total of A - Total of B}}{\text{Total Milk in Litres}}
\]
3.4.2 Price of Milk For Consumer :

1. Price of Milk Paid by Milk Union to Producer

2. Cost of Procurement :
   i) Commission For Dairy Co-operatives –
   ii) Cost of Instruments
       OR Depreciation of Instruments, which provided to Primary Co-op. Societies,
   iii) Transportation Charges for Procurement
   iv) Risks, Insurance.

3. Cost of Processing :
   i) Cost of Chilling and Pasteurization, Refrigeration Facilities,
   ii) Cost of Standardization
   iii) Cost of Packaging
   iv) Handling Loss
   v) Cost of Cleaning (C.LP.)
   vi) Quality Control and Lab
   vii) Loss in by-products
   viii) Fuel, Electricity, Water

4. Cost of Distribution :
   i) Commission For Seller
   ii) Transportation upto Seller
   iii) Advertising
   iv) Leakages

5. Essential and Development Activities Cost :
   i) Veterinary Service Expenses -
   ii) Training and Development Programmes-
   iii) Official, Clerical Work Expenses - (Managerial Costs, Stationery, Communications)
6. **Cost of Infrastructure:**
   i) Interest on Capital
   ii) Depreciation of Machinery and Plant
   iii) Maintenance and Repairy

7) **Wage Burden.**

8) **Insurance and Taxes!**

**Conclusion:**-

Thus, the Price for Consumer was total of 1 to 8. After considering the above factors Government of Maharashtra declared the price of milk (For Producers and Consumers) for Government Milk Schemes and also for Co-operative Unions, and Private Dairies also accept this price, because it is beneficial to them.