1.1 Scope and Importance of Principles of Economics in Dairying.

1.2 Economic viability for different size of Dairy and Enterprise

1.3 Economic Principles involved to Enhance benefits in Dairying

1.4 Economic Institutions Supporting Dairy development Programmes.

1.5 Project reports to be submitted for Financial institutions for 2, 10, 50 and 100 Animal Dairy.

1.6 Project reports for 5000 Litres and 50,000 litres for Processing centres.

Learning Objectives

After studying this unit, the student will be able to

• Understand about principles of economics in Dairying.

• Learn about different size of dairy enterprise.

• Know about Dairy development programs.

1.1 Scope and Importance of Principles of Economics in Dairying.

Farm production economics is concerned with the choice of production pattern and resource uses in order to maximize the objective function of the
farm operator, their families, the society or the nation, within a frame work of limited resources.

The laws of production economics explain the conditions under which the quantities can be maximized (profit, output, national income) or minimized (cost, use of physical input).

The main objectives of production economics are.

1. To determine and define the conditions, which provide for optimum use of resources.
2. To determine the extent to which the existing use of resources deviates from the optimum use.
3. To analyze the factors or forces which are responsible for the existing production patterns and resources use.
4. To delineate means and methods for changing the existing use of resources to the optimum level.

In India the dairy farming is still existing as a subsidiary to the agriculture, which gives additional income to agricultural labours, small and middle farmers. In India growing atleast one or two dairy animals by farmers have many advantages of economic importance.

1. Dairy animals fits well in any diversified farming programmes i.e. it can be clubbed with agriculture, fisheries, horticulture, etc., which helps to give additional source of income.
2. In agriculture different types of roughages as paddy straw, Jawar straw, Wheat straw etc., are bulky fetching less amount and also not possible economical to transport them to long distances. Dairy animals are efficient convertors of roughage to produce milk.
3. The prices of most of the agricultural produce show great fluctuation where as milk will not have such fluctuations in price.
4. The income from agriculture is seasonal and the farmer receives income on harvesting crop only) where as dairy animals give money daily and it is distributed throughout the year. The economics can be calculated daily also.
5. Normally farmers will not take milk by spending money. But the family members will consume certain amount of milk invariably, which improves the family diet in terms of nutrition.
6. Legumes and grasses are grown on farm providing fodder to the animals. These crops are soil conserving and soil building crops. The manure produced will be utilized as natural fertilizers for growing, agricultural crops economically.

7. The male animals are utilized for draft purpose: In India still most of the agricultural operations are carried by use of bullocks power: In India the size of the land holdings are small and it is becoming still smaller portions by divisions and they cannot afford for mechanical farm operations.

8. Even after death, the carcasses are utilized for meat meal production, bone meal production, blood meal production etc., skin is used as hides.

In dairy farming the cost feed accounts for roughly 60-65% of the cost and so the economic milk production mainly depends upon the economic feed formulations. There are other factors also which contribute to the economics of dairy farming. The economic factors in a successful dairying one.

1. The effective breeding policy: Selection of high yielding animals for dairy farming. For breeding high record site or good sites semen for. All should be utilized. Unless the animal have high productive nature, even heavy feeding of balanced nutrition cannot improve the milk production much.

2. Economic feeding practices are important which can alone decrease the cost of production milk appreciably. Feeding of adlibitum of green forages will decrease the feed cost and ultimate less cost of milk production. Feeding of certain amount of leguminous fodders still improve the milk production.

Feeding of certain amount of dry roughages will improve the butter fat content, which again adds to the high payment for the milk.

Among the concentrate feed ingredients, most of the traditional ingredients are competed by human beings, so the cost is increasing resulting high feed cost making dairy farming uneconomical. Use of unconventional feeds which are available at throw away price or less price will decrease the feed cost resulting low cost of milk production.

3. The managerial conditions are cardinal in maintaining the optimum level of production and also to keep up the animal health.
reduces the milk production drastically and, it take more time to reach original production.

4. The optimum use of land, manure resources to produce fodder with less investment, which ultimately affects the economic milk production.

5. The ability to direct and make use of labour efficiently after the economics of milk production.

6. Efficient disposal of milk plays half of the economic role in dairying. Even a small price increase in the sale price of milk, will have much impact on the economics of dairy farmings.

7. Sound business practices appropriate to dairy farming is important at all levels. I.e. purchases of inputs, and also disposal of products and by products.

The main theme of dairy economics rests on maximum reduction in feed cost producing high level of milk production economically and proper disposable of milk.

Postproduction of milk, milk processing and preparation of milk products also comes under dairying. A medium or big size dairy farm simultaneously they can have either processing of milk 1 production of many dairy production. Some times more profit can be obtained in the sale of processed milk / dairy products.

Simultaneous establishment of processing plant will increase the income of dairying 30-40% and establishment of products factory will increase the profit by 40-50 % over dairy farming. If these processing or products factories are established within farm premises it reduces the cost of raw material i.e. milk collection and transportation costs. Further the quality of milk produced in own dairy farm will be superior as it is processed immediately without lapse of time, limiting less processing problems, uniform quality of milk is obtained which troubles less in products preparations compared to wide variation is collected milk from various sources.

1.2 Economic viability for different size of Dairy and Enterprise

1. Economic planning: The following factors requires considerable attention when one decides to go for milk production on a farm.

- Suitability of the farm
- Suitability of farm, buildings and other fixed equipments.
• Supply of right type of labour.
• Availability of capital Capability of the farmer.
• Physical condition of the soil.
• Climate
• Water supply

The basis of economic planning of dairy farm depends upon the following factors.

a. Size of the herd
b. Level of milk yield
c. Feeding policy and stock density
d. Farm area devoted to dairy farm and stocking density
e. Housing facilities
f. Seasonal production policy
g. Raising replacement stock.
h. Watching milk yield
i. Check on food quantity and quality
j. Labour utilization.

a. **Size of the herd**: The result of National investigation of milk i shows that up to the a certain point, herd size has an important influence on the profitability of milk production. No appreciable improvement in profitability was noted with a level of cows above 40. Infact a distinct in profits seemed to result above that level. The greater part of variati profits was found to be due to reduction in costs of labour percent increase in herd size. The size of herd depends upon the foli factors.

  • Method of milking
  • Milking of shed facility
  • Milk yield
  • Cow shed layout
  • Labour efficiency
  • Area under forage
Most of the farmers appear to find that herds of 30 cows with a cowshed layout and 40 with parlour system can be handled conveniently and efficiently. It is assumed that a producer in his interest maintain normally a herd of 130 animals consisting of 40 milking animals, 40 dry animals and 2 bulls and rest comprising followers.

The number of cows to be handled efficiently and conveniently is dictated by the acreage of farm and cow shed accommodation. Every farmer should ascertain periodically whether his herd size could be increased, at the same time, carry out culling process with discretion.

b. **Level of milk yield**: Statistical evidence appear to favours high yielding herd. The upward tendency in profit with the increasing in milk yield is what one should expect but upto certain limit only, because the food cost per cow- also increases due to extra concentrate with the increase in milk yield.

c. **Feeding policy and stock density**: It is observed that feed accounts for 61% in cost structure of milk production in buffaloes, therefore attempts to lower the feed cost will reduce the cost of milk production, which can be achieved by use of less of concentrates and use of more green fodder.

d. **Density of stocking and farm area devoted to dairy farm**: Dairy unit of 3 cows and followers can be maintained on one acre fertile and fully irrigated land.

e. **Housing facilities**: The yard and parlour system requires less capital investment per cow and less labour/cow compared to conventional cow shed.

f. **Seasonality in milk production**: Milk plants offer incentive in the form of or by way of higher price for milk during lean period of summer months so that the farmer may obtain more milk in those months of higher prices.

g. **Raising replacement stock**: Most dairy farmers prefer rearing most of their heifers on their farm to maintain required number because to avoid risk of buying poor quality stock and also it is proved that use of by products and unconventional feed stuff heifer can be raised cheaply.

h. **Watching milk yield**: The dairy milk yield record of an individual cow can be used as a guide for rationing, an indication of status of health on faulty feeding and as a basis culling.

i. **Check on Feed Quantity & Quality**: Depending upon the milk yield and requirements of an animals, farmers must work out the ration for each cow and write it on the chart against the animal. It helps to ensure the supply of right quantities of concentrates, from time to time depending upon the quality and quantity of roughage.
j. **Labour Utilization**: Cost of labour is second to cost of feed in the annual cost of keeping of a cow. Loose housing system saves labour because cows come to milking parlour instead of man going to cow. Manure loader can be used in the loafing area. It is also suggested that labour requirement by following yard and parlour system is less compared to cow shed system.

**Viability for small size farms**: For a family (2) members having 2-5 acres of land for crop production the economically size of dairy farm is 2-5 animals, depending upon their interest, capability, availability of fodder and marketing facilities. These two family members can work for 2-5 animals without engaging any extra labour and also without affecting the routine farm operations. The dairy farming will act as side employment to the main agriculture work. These small farms will be more economical than larger farms due to:

a. No dependence on external labour to work.

b. Agricultural by products I wastes can be utilized to produce more profitable milk item.

c. It helps to increase the fertility of agricultural lands in the way of manure.

d. It gives more income which is daily cash crop to the farmer without waiting for a season to get money.

e. More supervision on the individual animals as animals are less and also the owner will have more enthusiasm and love with animals.

f. No problem with marketing of milk, as the quantity is not bulk.

**Viability for large farms**

The farms having more than 25 animals comes under large/commercial farms and 5-25 animals will come under medium farms. The economic viability of large farms depends on:

a. Effective Management/ supervision on materials and animals.

b. Individual animal feed requirements calculation and feeding.

c. Effective labour use and management.

d. Production of green fodder required.

e. Preparation of nutritive concentrate mixture.

f. Effective breeding management.
g. Effective health control measures.

h. Effective marketing of milk and milk products.

i. Culling and replacement of animals in the farm.

When comparative to small farms, survivability of large farms will be difficult as overhead charges will be more in all aspects, in addition to lack of individual responsibility and care on the animals.

### 1.3 Economic Principles involved to Enhance benefits in Dairying

The various factors that can influence the dairy farms profitability can be enlisted and linked as given below.

- **Gross profitability / acre.**
- **Gross profitability / cow**

<table>
<thead>
<tr>
<th>Milk produced / cow</th>
<th>Milk price</th>
<th>Replacement cost</th>
<th>Variable cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactation yield breed</td>
<td>Quantity of milk</td>
<td>-Replace cow cast</td>
<td>Labour</td>
</tr>
<tr>
<td>Feeding</td>
<td>-Quantity</td>
<td>- cost of</td>
<td>Other</td>
</tr>
<tr>
<td>Management</td>
<td>Of produce</td>
<td>new cow</td>
<td>cost</td>
</tr>
<tr>
<td>Calving index</td>
<td>Advertisement</td>
<td>-cost of</td>
<td>Feed cost</td>
</tr>
<tr>
<td>Decrease incidence</td>
<td>Govt. policies</td>
<td>calves</td>
<td>Fodder</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>concentrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Purchases</td>
</tr>
</tbody>
</table>

By detailed study of the above factors that influence profitability of a dairy farm, the following principles can be drawn to maximize profits.

1. **Selection of good animals**: A good lactating breed and also good animal is that breed will yield more milk production.

2. **Balanced feeding**: Feeding of animals with standard DCP al TDN content of required quantity will increase / maintain the production.

3. **Green fodder feeding**: Feeding of adlibitum green fodder decreases the use of concentrates which ultimately decreases the cost production of milk.

4. **Conservation of greens**: The green fodder will be excess during flush season. It should be converted into silage / hay which preserve its nutritive...
value of green fodder and it can be used during summer in place of green fodder which will reduce the cost of milk production.

5. **Formulation of concentrates with unconventional ingredients:** Certain unconventional feed ingredients are not used for any purpose which can be conveniently used in concentrates formulation to decrease the cost of concentrate, as the cost of concentrates place an important role in the cost of milk production.

6. **Uses of agricultural by products:** The use of agricultural by-products like straws etc will decrease the cost of milk production.

7. **Effective utilization of labour:** The cost of labour ranks second after feed cost in dairy farming. The effective use of labour depends on
   - Proper planning of cattle housing unit
   - Loose housing system saves labour and energy
   - Proper grouping of buildings in layout for saving time of labour.
   - System of tieing is conventional housing system

   Tail to tail tieing will decrease the labour requirement as it is man time is spend in back of the animal for cleaning, which space in tail to tail system.

8. **Replacement of the herd:** After few lactation’s, the animals are culled to remove uneconomical animals, which should be replaced by growing own calves or by purchase. It is scientifically proved that replacement of dairy stock by growing their own calves is more economical and also have the information about the animal.

9. **Milk price:** The profitability of dairy farming mainly depends upon the sale price of milk. Even a marginal extra price per litre of milk will have higher profitability per year. It is better to practice home / Institution delivery of milk to get more price for milk, even a considering the distribution costs.

10. **Advertisement:** Advertisement about the quality and benefits of the milk will give more demand and price ever, after deducting the advertisement costs.

11. **Conservation in to milk products:** During flush season more milk will be produced and also the factories will pay less price. To get maximum profits some milk can be converted into products like cream, ghee, butter, paneer etc., which will also solve the problems of marketing of milk and also gives 30-50% extra profits over the cost of milk.
12. **Good management practices**: Clean environment will produce more milk, when compared to uncleanliness in the sheds. Proper protection of animals against environmental conditions like heat and cold will help to maintain the production, otherwise drastic fall in production is not protected. Maintenance of proper timings of feeding and milking will help in maintaining the optimum production. Maintenance of cattle health by proper vaccination and treatment will definitely help in production of more milk.

1.4 **Economic Institutions Supporting Dairy development Programmes**

For starting any business, the foremost important resource one should give prime importance is finance. One cannot start any business / industry on their own money. The rural people are poor or middle income people and so they cannot afford to invest large amounts for establishment of any size of dairy farms. Several institutions are concerned either directly or indirectly in the activities or providing finance to establish dairy farm, milk collection centres, dairy plants etc. They are

1. **Indian Dairy Corporation**: Earlier it is the financing agency for all the dairy developmental activities i.e. establishing dairy plants, chilling centre, progeny testing farms, formation of dairy cooperatives under Anand pattern. Now there is no- Indian dairy corporation and it is merged with NDDB.

2. **National Dairy Development board**: Earlier it is only implementation agency implementing all the dairy developmental programmes throughout the country. After merging of Indian dairy corporation, now it is acting as financial as well as implementation of dairy developmental activities in the country. It provides finance to all the state owned milk cooperative federations, for the establishing and or increasing the capacity of milk processing dairy products factories; chilling centers, feed factories, establishing progeny testing farms, improving Artificial insemination centers. The NDDB also acts as agent for international business / loan for the development of dairy industry. NDDB will provide finance to the state federations or cooperative society by taking guarantees from the respective state government. The finance will be different types i.e. with nominal interest, no interest and repayment of one scheme to investment for other scheme. NDDB also involved in the research activities of dairying. Eg : Embryo transfer Technology, cross breeding programme, indigenous dairy processing equipment development.

3. **National bank for agriculture and Rural development (NABARD)**: This is the apex bank for refinancing for all types agricultural
operations for the commercial banks. at less interest. Earlier this is a wing in reverse bank as agricultural refinance wing of reserve bank. NABARD will not directly finance to the dairy farms, dairy factories or allied business, but only through commercial banks. For community / social schemes like water shed, small irrigation schemes, tanks rural roads etc., it will finance directly to the state government to provide basic amenities to agriculture and related fields. For community work the interest rate is very low.

4. **Commercial Bank**: In our country there are 28 nationalized banks and many private banks who are financing for dairying. These banks will finance for small to large dairy farms, dairy factories, feed mixing plants other dairy based business. The amount of finance will vary from 75-85% of the cost of project depending upon scheme or non scheme projects. For dairy farms one should have their own land and no loan will be given for land. The interest rates charged will be 12-15.5% P.A. depending upon the amount of loan.

5. **Cooperative bank**: In each state apex cooperative bank will be there, in each district cooperative bank which will have branches throughout the district in rural areas. Just like commercial banks, cooperative banks will give for all dairying projects for both short term and long term loans, the rules and regulations are almost commercial banks with little less interest rates.

6. **Village cooperative societies**: For a cluster of villages cooperative societies will be there, which will give loans for small scale animal husbandry activities. The finance for these societies will be by cooperative banks. The interest rates will be less compared to commercial banks.

7. **State Financial Corporation**: Each state will have state financial corporation (SFC) which will also finance for dairy projects. The interest rates are almost equal to commercial bank: In our state Andhra Pradesh state financial corporation is located at Hyderabad and it is branches in all district head quarters.

8. **Dairy Development Cooperative federation and district milk producers cooperative societies**: The state dairy development cooperative federation will get some loans from NDDB and other agencies for development of dairying, which will be provided to district unions, who will inform will give loans to milk producers. They will not give loans directly to the beneficiaries, but they will procure good genetic high milk producing animals and distributed to the beneficiaries. Part of the amount will be subsidy and the remaining amount will be treated as loan with less interest rates.

9. **District Rural Development agencies**: In each district one DRDA will be there which will operate most of the centrally and state sponsored schemes. DRDA will assist programmes like
a. Draught ‘prone area programmes (DPAP)
b. Small farmers development agencies (SFDA)
c. Marginal farmer and Agricultural labour development agency
d. Integrated rural development programmes.

The (IRDP) DRDA will sponsor the above schemes by sanctioning loans by commercial, banks and provide subsides from 25-50% depending upon the classes of people involved in the schemes.

10. **B.C and SC corporation**: SC and BC corporations will arrange loans for dairy programmes of respective class of people through milker commercial / cooperative banks and provide subsidy of 25-50%.

11. **Tribal development: agencies**: For the development of tribal areas, the government has established tribal development agencies which will give subsidies and arrange loans through financial institutions.

<table>
<thead>
<tr>
<th>1.5 Project reports to be submitted for Financial institutions for 2,10,50 and 100 Animal Dairy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Salient features</strong></td>
</tr>
<tr>
<td>1. Project report should be submitted to the commercial bank / cooperative / scheduled bank for getting loan which in turn is refinanced by NABARD.</td>
</tr>
<tr>
<td>2. <strong>Margin money</strong>: The share of the entrepreneur will be 5-25% depending upon the level of predevelopment return of resources.</td>
</tr>
<tr>
<td>3. Bank loan 75 to 95 % of the total cost of the project.</td>
</tr>
<tr>
<td>4. Interest rates</td>
</tr>
<tr>
<td>Upto 25,000 loan amount- 12% p.a</td>
</tr>
<tr>
<td>25001 to upto 2 lakhs - 13.5 p.a</td>
</tr>
<tr>
<td>Over 2 lakhs - As determined by the bank approximately 15% PA.</td>
</tr>
<tr>
<td>5. Repayment period of loan will be 5 years on monthly / quarterly installment.</td>
</tr>
<tr>
<td>6. <strong>Insurance</strong>: The present rate of insurance premium for scheme and</td>
</tr>
</tbody>
</table>
non-scheme animals are 2.25% and 4.0% respectively. The animals may be insured annually or on long term master policy 8.4% for 5 years.

7. The average milk yield of buffalo is 8-10 liter/day

8. Lactation period of buffalo - 280 days.

9. Dry period - 120 days.

10. Sale price of milk Rs. 11/litre

11. Veterinary aid / animal / year Rs. 300/

12. Labour: Family labour for small size and one worker and one milker for every 12 animals.

13. Cost of electricity and water / animals / years - Rs. 200/

14. Income from sale of gunny bags 20 bags / tonn @ 5/- per bag

15. Sale of manure: Rs. 4001- animal / year

16. Closing stock value Rs. / animals = 6000/

17. Depreciation 5% P.A. for sheds & buildings 10 % PA on equipment

18. Animals will be purchased in two batches at an interval of 6 months at 1 month after calving.

19. It is assumed that expenditure on calf rearing will nullify the sale value of calf heifer.

20. Feeding cost per animal / day.

<table>
<thead>
<tr>
<th>Feed Item</th>
<th>Price 1 kg</th>
<th>Lactation Quantity</th>
<th>Period Cost</th>
<th>Dry period Quantity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green fodder</td>
<td>0.50</td>
<td>25</td>
<td>12.50</td>
<td>25</td>
<td>12.50</td>
</tr>
<tr>
<td>Dry fodder</td>
<td>1.00</td>
<td>5</td>
<td>5.00</td>
<td>5</td>
<td>5.00</td>
</tr>
<tr>
<td>Concentrate</td>
<td>4.00</td>
<td>4.5</td>
<td>18.00</td>
<td>2</td>
<td>4.00</td>
</tr>
<tr>
<td>Total</td>
<td>Rs.35.50</td>
<td></td>
<td>Rs. 21.50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A. Project Report for 2 Animal Unit

I. Capital Cost @ Cost of animals @ 20,000 x 2  
40,000/-  
3,360/-  
———  
43,360/-

Margin money @ 15 %  
Rs. 6500/-

Bank loan @ 85 %  
Rs 36,860/-

II. Lactation money

<table>
<thead>
<tr>
<th>YEARS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lactation days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) First animal</td>
<td>250</td>
<td>280</td>
<td>280</td>
<td>270</td>
<td>240</td>
</tr>
<tr>
<td>b) Second animal</td>
<td>180</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>Total</td>
<td>430</td>
<td>520</td>
<td>520</td>
<td>510</td>
<td>480</td>
</tr>
<tr>
<td>2. Dry days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) First animal</td>
<td>110</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>120</td>
</tr>
<tr>
<td>b) Second animal</td>
<td>—</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>200</td>
<td>200</td>
<td>210</td>
<td>240</td>
</tr>
</tbody>
</table>

III. Cash flow Analysis ( Rupees) Recurring costs

<table>
<thead>
<tr>
<th>YEARS</th>
<th>15265</th>
<th>18460</th>
<th>18460</th>
<th>18105</th>
<th>17040</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Feeding during lactation period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Feeding during Dry period</td>
<td>2365</td>
<td>4300</td>
<td>4300</td>
<td>4515</td>
<td>5160</td>
</tr>
<tr>
<td>c. Veterinary aid &amp; breeding cover</td>
<td>450</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>d. Cost of electricity &amp; water</td>
<td>300</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Total - A</td>
<td>18,830</td>
<td>23,760</td>
<td>23,760</td>
<td>23,620</td>
<td>23,200</td>
</tr>
</tbody>
</table>
### IV. Benefits

<table>
<thead>
<tr>
<th>Description</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sale of milk</td>
<td>42570</td>
<td>51480</td>
<td>51480</td>
<td>50490</td>
<td>47520</td>
</tr>
<tr>
<td>2. Sale of gunny bags</td>
<td>200</td>
<td>250</td>
<td>250</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>3. Sale of manure</td>
<td>600</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>4. Closing stock value</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>12000</td>
</tr>
<tr>
<td>Total returns B</td>
<td>43370</td>
<td>46810</td>
<td>46810</td>
<td>45880</td>
<td>55240</td>
</tr>
<tr>
<td>Gross profit (B-A)</td>
<td>24990</td>
<td>23050</td>
<td>23050</td>
<td>22260</td>
<td>32040</td>
</tr>
</tbody>
</table>

### V. Repayment of load

<table>
<thead>
<tr>
<th>Description</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equated annual installment</td>
<td>10355</td>
<td>10355</td>
<td>10355</td>
<td>10355</td>
<td>10355</td>
</tr>
<tr>
<td>Value of margin money</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13000</td>
</tr>
<tr>
<td>With 15% PA interest</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>13000</td>
</tr>
<tr>
<td>Total repayments</td>
<td>10355</td>
<td>10355</td>
<td>10355</td>
<td>10355</td>
<td>23355</td>
</tr>
</tbody>
</table>

### VI Net Profit

(Gross profit - Total repayments)

14635  12695  12695  11905  8685

### B. Project Report for 10 Buffaloes

#### I. Non Recurring Cost

<table>
<thead>
<tr>
<th>Description</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cost of Animal @ 20,000/-</td>
<td>2,00,000 /-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cost of construction fo shed @ 45 sqft. Animal Rs 100/sft 450 x 100</td>
<td>45,000 /-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Cost of store cum office 200 sq. ft @ Rs 200 /- sq. ft 200 x 200</td>
<td>40,000 /-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Equipment ( Chft cutter, milking pails Cons etc) @ 1500 /- per animal</td>
<td>15,000 /-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Loan 85 %</td>
<td>-</td>
<td>2,55, 000 /-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Margin money</td>
<td>-</td>
<td>45,000 /-</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## II. Lactation chart

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Y E A R S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>a. Lactation days</strong></td>
<td></td>
</tr>
<tr>
<td>First batch 5 animals</td>
<td>1250</td>
</tr>
<tr>
<td>Second batch 5 animals</td>
<td>900</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2150</td>
</tr>
<tr>
<td><strong>b. Dry days</strong></td>
<td></td>
</tr>
<tr>
<td>First batch 5 animals</td>
<td>550</td>
</tr>
<tr>
<td>Second batch 5 animals</td>
<td>—</td>
</tr>
</tbody>
</table>

## III. Cash Flow Analysis

<table>
<thead>
<tr>
<th>Recurring costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Green fodder raising expenses</td>
<td>10000</td>
</tr>
<tr>
<td>b. Feeding during lactation (5 kg of dry fodder @ 1.00kg 4.5 kgs of concentrate@4.0/kg) Rs. 23 / animal / day</td>
<td>49450</td>
</tr>
<tr>
<td>c. Feeding during dry period (5 kg dry fodder 1kg concentrate) @ Rs 9. / day / animal</td>
<td>4950</td>
</tr>
<tr>
<td>d. Veterinary aid &amp; breeding services @ 300 /- animal / yr</td>
<td>3000</td>
</tr>
<tr>
<td>e. Cost of electricity &amp; water @ Rs.300 /- per animal / year</td>
<td>3000</td>
</tr>
<tr>
<td>f. Insurance 4 %</td>
<td>8000</td>
</tr>
<tr>
<td>g. Labour cost Rs. 2000 /- month</td>
<td>24000</td>
</tr>
<tr>
<td><strong>Total A</strong></td>
<td>103900</td>
</tr>
</tbody>
</table>
IV. Benefits

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sale of Milk</td>
<td>212850</td>
<td>257400</td>
<td>257400</td>
<td>254450</td>
<td>237600</td>
</tr>
<tr>
<td>Sale of manure</td>
<td>6000</td>
<td>8000</td>
<td>8000</td>
<td>8000</td>
<td>8000</td>
</tr>
<tr>
<td>Closikng stock</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>60000</td>
</tr>
<tr>
<td>Total (B)</td>
<td>220850</td>
<td>267900</td>
<td>267400</td>
<td>262450</td>
<td>307600</td>
</tr>
<tr>
<td>Gross profit (B-A)</td>
<td>116950</td>
<td>147100</td>
<td>147100</td>
<td>142350</td>
<td>189600</td>
</tr>
</tbody>
</table>

V. Repayment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan principle</td>
<td>60000</td>
<td>60000</td>
<td>60000</td>
<td>60000</td>
<td>60000</td>
</tr>
<tr>
<td>Loan interest</td>
<td>35000</td>
<td>36000</td>
<td>27000</td>
<td>18000</td>
<td>9000</td>
</tr>
<tr>
<td>Margin money with interest 15% PA</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>79000</td>
</tr>
<tr>
<td>Total</td>
<td>95000</td>
<td>96000</td>
<td>87000</td>
<td>78000</td>
<td>148000</td>
</tr>
</tbody>
</table>

VI. Net profit.

Gross profit - Net

Payment  21950  51100  60100  64350  41600

C. Project Report for 50 Buffaloes

I. Non Recurring (Rupees)

1. Cost of animal @ 20000 x 50  10,00,000/-

2. Buffalo shed @ 40 sft / animal Rs 100 / sqft.
   2000 x 100  2,00,000/-

3. Calf shed @ sqft animal @ Rs 50/- sqft 1000 x 50  50,000/-

4. Calving shed @ 50 sqft / animal for 2 animals @
   Rs 100/- sqft . 100 x 100  10,000/-
5. Sick animal shed @ 40 sqft / animal for 2 animals
   @ Rs. 100 sq.ft 80 x 100 8,000 /-

6. Animal padlocks @ 70 sqft / animal @ Rs 15 /- sqft.
   3500 x 15 52500 /-

7. Calf padlock @ 70 sqft / animal for 50 Calves.
   50 x 20 = 1000 sqft @ Rs. 15 / sqft. 8000 /-

8. Chaft cutter shed open shed 200 sqft. @ 40 /- sqf 8000 /-

9. Feed plants room 200 sqft. @ Rs 100/- per sqft. 20000 /-

10. Milk recording room 150 sqft @ 75 /- sqft. 11250 /-

11. Equipment, chaft cutter, grinder and mixer, etc 80000 /-

   Total 1454750 /-

Margin money - 15 % 218000 /-

Bank loan 85 % 1237000 /-

II. Lactation Chart

<table>
<thead>
<tr>
<th>Particulars</th>
<th>YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>a. Lactation days</td>
<td></td>
</tr>
<tr>
<td>First batch 25 animals</td>
<td>6450</td>
</tr>
<tr>
<td>Second batch 25 animals</td>
<td>4500</td>
</tr>
<tr>
<td>Total</td>
<td>10750</td>
</tr>
<tr>
<td>b. Dry days</td>
<td></td>
</tr>
<tr>
<td>First batch 25 animals</td>
<td>2750</td>
</tr>
<tr>
<td>Second batch 25 animals</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>2750</td>
</tr>
</tbody>
</table>
## III. Cash Flow Analysis

<table>
<thead>
<tr>
<th>Recurring costs (Rupees)</th>
<th>50000</th>
<th>50000</th>
<th>50000</th>
<th>50000</th>
<th>50000</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Green fodder raising expenses</td>
<td>50000</td>
<td>50000</td>
<td>50000</td>
<td>50000</td>
<td>50000</td>
</tr>
<tr>
<td>b. Feeding during lactation period Rs 23/- days/ animal.</td>
<td>247250</td>
<td>299000</td>
<td>299000</td>
<td>293250</td>
<td>276000</td>
</tr>
<tr>
<td>c. Feeding during dry period Rs 9 day/ animal.</td>
<td>24750</td>
<td>45000</td>
<td>45000</td>
<td>47250</td>
<td>54000</td>
</tr>
<tr>
<td>d. Insurance premium @ 4 %</td>
<td>30000</td>
<td>40000</td>
<td>40000</td>
<td>40000</td>
<td>40000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Salaries &amp; wages</th>
<th>30000</th>
<th>30000</th>
<th>30000</th>
<th>30000</th>
<th>30000</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Part time Veterinary Doctor @ Rs 2500/- pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Compounder cum milk recorder Rs 4000/- pm</td>
<td>48000</td>
<td>48000</td>
<td>48000</td>
<td>48000</td>
<td>48000</td>
</tr>
<tr>
<td>iii. Chaft cutter cum feed plant operates @ 2000/-</td>
<td>24000</td>
<td>24000</td>
<td>24000</td>
<td>24000</td>
<td>24000</td>
</tr>
<tr>
<td>iv) Labour charges 2 milkers + 2 workers for first 6months and 4 + 4 afterwards. @ 1500/- pm for milker. @ 1200/- pm for worker Veterinary aided</td>
<td>11250</td>
<td>15000</td>
<td>15000</td>
<td>15000</td>
<td>15000</td>
</tr>
<tr>
<td>Total A</td>
<td>5,72,450</td>
<td>6,80,600</td>
<td>6,80,600</td>
<td>6,77,100</td>
<td>6,66,600</td>
</tr>
</tbody>
</table>
IV. Benefits

<table>
<thead>
<tr>
<th>I. Non-Recurring Costs(Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cost of animals @ 20,000 / animals</td>
</tr>
<tr>
<td>2. Buffalo shed @ 40 sq. ft/ animal Rs. 100 sq. ft</td>
</tr>
</tbody>
</table>
3. Heifer shed @ 30 sq animals 50 heifers  
   1500 sq.ft x 100  
   1,50,000 /-

4. Calf shed @ 20 sq. ft @ Rs 50 /- sq. ft  
   1,00,000 /-

5. Calving shed @ 50 sq.ft / animal for animal  
   @ 100 / sq. ft 150 x 100  
   15,000 /-

6. Sick animal shed @ 40 sqft / animal for 3 animals  
   @ 100 / sqft 10 x 100  
   12,000 /-

7. Animal padlocks @ 70 sqft / animal@ Rs. 15 / sqft  
   1,05,000 /-

8. Calf pad lock @ 20 sqft / animal@ Rs. 15 / sqft  
   30000 /-

9. Chaft cutter shed 200 sqft open land @ 40 /- sqft  
   8000 /-

10. Feet plant room and store room600 sqft  
    @ 100 sqft  
    60000 /-

11. Milk recording room 150 sqft. @ 75 /-sqft  
    11250 /-

12. Farm dispensary 200 sqft. @ Rs. 75 / sqft  
    15000 /-

13. Bore well. 7" dia x 200 sqft  
    20000 /-

14. Chaft cutter  
    25000 /-

15. Feed grinder cum mixer 1 ton per hour capacity  
    40000 /-

16. Dairy equipment Rs. 150 /-  
    15000 /-  
    Total  
    2951750 /-

II. Lactation Chart

<table>
<thead>
<tr>
<th>Lactation days</th>
<th>YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>First batch of 50 animals</td>
<td>12500</td>
</tr>
<tr>
<td>Second batch of 50 animals</td>
<td>9000</td>
</tr>
<tr>
<td>Total</td>
<td>21500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dry Days</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First batch 50 animals</td>
<td>5500</td>
</tr>
<tr>
<td>Second batch 50 animals</td>
<td>6000</td>
</tr>
<tr>
<td>Total</td>
<td>5500</td>
</tr>
</tbody>
</table>
### III. Cash Flow Analysis

#### 1. Recurring costs (Rupees)

<table>
<thead>
<tr>
<th>Description</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Green fodder raising expenses</td>
<td>100000</td>
<td>100000</td>
<td>100000</td>
<td>100000</td>
<td>100000</td>
</tr>
<tr>
<td>b. Feeding during lactation period Rs. 23/- per animal per day.</td>
<td>494500</td>
<td>5958000</td>
<td>598000</td>
<td>586500</td>
<td>552000</td>
</tr>
<tr>
<td>c. Feeding during dry period Rs. 9 animal/day.</td>
<td>49500</td>
<td>90000</td>
<td>90000</td>
<td>94500</td>
<td>108000</td>
</tr>
<tr>
<td>d. Insurance premium @ 4 %</td>
<td>60000</td>
<td>80000</td>
<td>80000</td>
<td>80000</td>
<td>80000</td>
</tr>
<tr>
<td>e. Veterinary aid</td>
<td>22500</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
</tr>
</tbody>
</table>

#### 2. Salaries & wages

<table>
<thead>
<tr>
<th>Description</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Part time Veterinary doctor @ 4000 / month</td>
<td>48000</td>
<td>48000</td>
<td>48000</td>
<td>48000</td>
<td>48000</td>
</tr>
<tr>
<td>b. Compounder or junior veterinary officer @ 5000 pm.</td>
<td>60000</td>
<td>60000</td>
<td>60000</td>
<td>60000</td>
<td>60000</td>
</tr>
<tr>
<td>c. Milk recorder @ 2500 / pm</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
</tr>
<tr>
<td>d. Chaft cutter cum feed plant operator @ 25000 / pm.</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
<td>30000</td>
</tr>
<tr>
<td>e. Labour charges 4 milkers + 4 worker in first six months and 8 + 8 afterwards @ Rs. 1500 /- per milker / pm @ Rs 1200 pm for others.</td>
<td>1088900</td>
<td>1325200</td>
<td>1325200</td>
<td>1318200</td>
<td>1297200</td>
</tr>
</tbody>
</table>
IV. Benefits

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Milk sales</td>
<td>2128500</td>
<td>257400</td>
<td>257400</td>
<td>252500</td>
<td>2376000</td>
</tr>
<tr>
<td>@ 9 lit / animal/day @ Rs 11/- per lit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Sale of Gunny bags</td>
<td>20000</td>
<td>25000</td>
<td>25000</td>
<td>20000</td>
<td>20000</td>
</tr>
<tr>
<td>c. Sale of manure</td>
<td>30000</td>
<td>40000</td>
<td>40000</td>
<td>40000</td>
<td>40000</td>
</tr>
<tr>
<td>d. Closing stock value of animal</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total (B)</td>
<td>2178500</td>
<td>2619000</td>
<td>2619000</td>
<td>2565000</td>
<td>3036000</td>
</tr>
<tr>
<td>Gross Profit (B- A)</td>
<td>1089600</td>
<td>1293800</td>
<td>1293800</td>
<td>1246800</td>
<td>1738800</td>
</tr>
</tbody>
</table>

V. Repayment.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan principle</td>
<td>501800</td>
<td>501800</td>
<td>501800</td>
<td>2565000</td>
<td>3036000</td>
</tr>
<tr>
<td>Loan Interest</td>
<td>301350</td>
<td>301080</td>
<td>225810</td>
<td>150540</td>
<td>75270</td>
</tr>
<tr>
<td>Margin money with int. 15% pa</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>773500</td>
</tr>
</tbody>
</table>

VI. Net Profit

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net profit</td>
<td>286450</td>
<td>490920</td>
<td>598310</td>
<td>593460</td>
<td>388230</td>
</tr>
</tbody>
</table>
1.6 Project reports for 5000 Litres and 50,000 litres for Processing centres

A. Project report for 5,000 litres / days

<table>
<thead>
<tr>
<th>Non Recurring costs</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cost of 2 acres land</td>
<td>2,00,000/-</td>
</tr>
<tr>
<td>2. Milk chilling equipment</td>
<td>2,50,000/-</td>
</tr>
<tr>
<td>3. Pasteuizers 1000 lit capacity / hr</td>
<td>2,50,000/-</td>
</tr>
<tr>
<td>4. Cream separator 500 lt / hr</td>
<td>50,000/-</td>
</tr>
<tr>
<td>5. Storage tank 5000 lit capacity 2</td>
<td>2,00,000/-</td>
</tr>
<tr>
<td>6. Refrigeration plant 5 tons / cap.</td>
<td>3,50,000/-</td>
</tr>
<tr>
<td>7. Boiler (coil fixed) 150 kg / hr</td>
<td>3,50,000/-</td>
</tr>
<tr>
<td>8. Prepak machine</td>
<td>2,00,000/-</td>
</tr>
<tr>
<td>9. Cold store</td>
<td>3,50,000/-</td>
</tr>
<tr>
<td>10. Milk weighing scale, dumpingtank</td>
<td>1,50,000/-</td>
</tr>
<tr>
<td>11. Can conveyer</td>
<td>80,000/-</td>
</tr>
<tr>
<td>12. Can washing equipment</td>
<td>2,00,000/-</td>
</tr>
<tr>
<td>13. Milk pumps 2 Nos</td>
<td>50,000/-</td>
</tr>
<tr>
<td>14. Milk cans 250 @ 1000/-</td>
<td>2,50,000/-</td>
</tr>
<tr>
<td>15. Ghee making equipment</td>
<td>50,000/-</td>
</tr>
<tr>
<td>16. Electrical supply and wiring</td>
<td>5,00,000/-</td>
</tr>
<tr>
<td>17. Building, compound wall construction.</td>
<td>25,00,000/-</td>
</tr>
<tr>
<td>18. Water tank</td>
<td>2,50,000/-</td>
</tr>
<tr>
<td>a. Margin money 15 %</td>
<td>9,30,000/-</td>
</tr>
<tr>
<td>b. Bank loan 85 %</td>
<td>53,00,000/-</td>
</tr>
</tbody>
</table>
### Recurring Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity charges</td>
<td>12,00,000/-</td>
</tr>
<tr>
<td>Transportation of raw milk</td>
<td>9,00,000/-</td>
</tr>
<tr>
<td>Transportation of market milk</td>
<td>9,00,000/-</td>
</tr>
<tr>
<td>Salaries &amp; wages</td>
<td></td>
</tr>
<tr>
<td>a. Dairy incharge 9000 / pm</td>
<td>1,08,000/-</td>
</tr>
<tr>
<td>b. Supervisor 2 nos. 3500 /0 pm</td>
<td>84,000/-</td>
</tr>
<tr>
<td>c. Plant operator 2 nos. 3500/- pm</td>
<td>84,000/-</td>
</tr>
<tr>
<td>d. Quality control asst. 4000/- pm</td>
<td>48,000/-</td>
</tr>
<tr>
<td>e. Boiler refrigeration mechanic 3500/- pm</td>
<td>42,000/-</td>
</tr>
<tr>
<td>f. Workers: Rs. 1500 / pm 6 number</td>
<td>1,08,000/-</td>
</tr>
<tr>
<td>g. Accountant &amp; clerk 2 nos 4000 / pm</td>
<td>96,000/-</td>
</tr>
<tr>
<td>h. Office boys 2 nos @ 1500 /- pm</td>
<td>36,000/-</td>
</tr>
<tr>
<td>Packing material cost</td>
<td>4,00,000/-</td>
</tr>
<tr>
<td>Cleaning powders and detergents</td>
<td>50,000/-</td>
</tr>
<tr>
<td>Stationary and printing</td>
<td>1,00,000/-</td>
</tr>
<tr>
<td>Chemical &amp; glass ware</td>
<td>1,00,000/-</td>
</tr>
<tr>
<td>Miscellaneous expenses</td>
<td>2,00,000/-</td>
</tr>
<tr>
<td>Cost of milk @ 11/- per litre + 0.25 paise</td>
<td>1,85,25,000/-</td>
</tr>
<tr>
<td>Commission on an average 4500 lit/per day</td>
<td></td>
</tr>
</tbody>
</table>

**Total (A):** 2,26,81,000/-
Cash Flow

<table>
<thead>
<tr>
<th>Cash Flow</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cost of milk (toned milk) 4350 litres daily after removal of cream @ 12.00 / litre after subtracting agents commission.</td>
<td>1,87,92,000 /-</td>
</tr>
<tr>
<td>2. Sale of ghee by converting ghee 145 kg daily @ 130/- per kg. After deducting agents commission.</td>
<td>67,86,000 /-</td>
</tr>
<tr>
<td>Total (B)</td>
<td>2,55,78,000 /-</td>
</tr>
<tr>
<td>Gross profit (B-A)</td>
<td>28,97,000 /-</td>
</tr>
</tbody>
</table>

Repayment

<table>
<thead>
<tr>
<th>Repayment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Principle amount of loan for 15 years</td>
<td>3,50,000 /-</td>
</tr>
<tr>
<td>b. Equated interest / year @ 15% PA</td>
<td>5,00,000 /-</td>
</tr>
<tr>
<td>c. Depreciation 10%</td>
<td>6,25,000 /-</td>
</tr>
<tr>
<td>d. Repayment of margin money with 15% PA interest</td>
<td>1,30,000 /-</td>
</tr>
<tr>
<td>Total (c)</td>
<td>16,05,000 /-</td>
</tr>
<tr>
<td>Net profit = Gross profit - Total ‘c’</td>
<td>12,92,000 /- /year</td>
</tr>
</tbody>
</table>

B. Project Report for 50,000 Literiday Processing

Centre

1. Cost of land 10 acres @ 100,000/            10,00,000
2. Raw milk receiving section equipment       10,00,000
3. Pasteurization plant with fittings         10,00,000
4. Homogenizer with fittings                  10,00,000
5. Cream separators electrical 2 nos.         5,00,000
6. Prepak machines 4 nos. 12,00,000
7. Milk storage tanks / silos 2 nos. 50,000 lit/ capacity 20,00,000
8. Butter making machine 4,00,000
9. Ghee making equipment 4,00,000
10. Cans 2500 nos. @ 1000/- per can 25,00,000
11. Refrigeration plant with accessories 18,00,000
12. Boiler coil fired with accessories 12,00,000
13. Over head tank 5,00,000
14. Electrical lines, fittings transformer 12,00,000
15. Laboratory equipment 2,00,000
16. CIP cleaning unit 3,00,000
17. Transportation vehicles 4 nos. 26,00,000
18. Jeeps 2 nos. 10,00,000
19. Building 60,00,000
20. Quarters - 20,00,000
21. Compound wall, 12,00,000
22. Effluent treatment plant 5,00,000
23. Office furniture 5,00,000
24. Miscellaneous 10,00,000

Margin money, 15% 50,00,000/-
(rounded) Total: 3,10,00,000

Finance 85% 2,60,00,000/-
### Recurring cost

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Electrical charges @ 5,00,000 pm</td>
<td>60,00,000/-</td>
</tr>
<tr>
<td>2</td>
<td>Diesel, petrol and fuels</td>
<td>18,00,000/-</td>
</tr>
<tr>
<td>3</td>
<td>Packing material cost</td>
<td>18,00,000/-</td>
</tr>
<tr>
<td>4</td>
<td>Cleaning agents</td>
<td>9,00,000/-</td>
</tr>
<tr>
<td>5</td>
<td>Stationary and printing</td>
<td>10,00,000/-</td>
</tr>
<tr>
<td>6</td>
<td>Chemicals and glassware</td>
<td>6,00,000/-</td>
</tr>
<tr>
<td>7</td>
<td>Salaries and wages</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Dairy manager 20,000/- pm including</td>
<td>2,40,000/-</td>
</tr>
<tr>
<td>b</td>
<td>Assistant dairy manager 7,000/- pm 3 nos.</td>
<td>2,52,000/-</td>
</tr>
<tr>
<td>c</td>
<td>Supervisors 6 nos. @ 4500/- pm</td>
<td>3,24,000/-</td>
</tr>
<tr>
<td>d</td>
<td>Boiler operators 2 nos. 4000/- pm</td>
<td>96,000/-</td>
</tr>
<tr>
<td>e</td>
<td>Refrigeration operator 2nos 4000/ pm</td>
<td>96,000/-</td>
</tr>
<tr>
<td>f</td>
<td>Engineering maintenance in charge 2 nos. 6000/- p.m</td>
<td>1,44,000/-</td>
</tr>
<tr>
<td>g</td>
<td>Worker 60 nos. @ 1500/- pm</td>
<td>10,80,000/-</td>
</tr>
<tr>
<td>h</td>
<td>Drivers 6 nos. @ 3500/- pm</td>
<td>2,52,000/-</td>
</tr>
<tr>
<td>i</td>
<td>Quality control incharge 3 nos. @ 6000/- pm</td>
<td>2,16,000/-</td>
</tr>
<tr>
<td>j</td>
<td>Office in-charge Rs. 50001pm</td>
<td>60,000/-</td>
</tr>
<tr>
<td>k</td>
<td>Office assistant, stores incharge 6 nos. 4000/- p.m</td>
<td>2,88,000/-</td>
</tr>
<tr>
<td>8</td>
<td>Cost of milk @ 11.25 litres (including agents commission of Rs. 0.25 litres) 45,000 lit/day.</td>
<td>18,22,50,000/-</td>
</tr>
<tr>
<td>9</td>
<td>Bonus to workers</td>
<td>30,00,000/-</td>
</tr>
<tr>
<td>10</td>
<td>PF Contribution</td>
<td>5,00,000/-</td>
</tr>
<tr>
<td>11</td>
<td>Insurance premium</td>
<td>5,00,000/-</td>
</tr>
<tr>
<td>12</td>
<td>Repair and maintenance</td>
<td>15,00,000/-</td>
</tr>
<tr>
<td>13</td>
<td>Sales tax and other local taxes</td>
<td>1,05,00,000/-</td>
</tr>
<tr>
<td></td>
<td><strong>Total (A)</strong></td>
<td><strong>21,33,98,000/-</strong></td>
</tr>
</tbody>
</table>
Cash Flow

| 1.  | Cost of market milk (toned milk 43,500 lit/day) (after removing cream) @ 12.00 /litre (sold at 13.00 /lit) commission to agent | 18,79,20,000 /- |
| 2.  | Sale of ghee 1400 kg/day @ 130/ (sold at 150/- Rs. 20/kg commission) | 6,55,20,000 /- |

Total (B) 25,34,40,000 /-

Repayments

1. Principle amount for 15 years yearly payment 17,33,000 /-
2. Interest per year, equated installment 19,50,000 /-
3. Depreciation 10% 31,00,000 /-
4. Repayment of margin money with 15% interest 7,10,000 /-

Total: 74,93,000 /-

Profit = Gross profit - Total C = 3,25,49,000 /-

Income tax 35% (30% + surcharge) 1,13,92,000 /-

Net profit / year 2,11,57,000 /-

Summary

Importance of economics in dairying was explained with particular reference to rural areas. The economic viability for large and small size dairying units were discussed. Various important economic principles were given with a primary motto to maximize profit. The various financial institutions are listed. Project reports with their viability are given for 2, 10, 50 and 100 animal dairy farms and also milk processing centres handling 5000 litres, 50000 litres per day. The importance and implications of dairy animal insurance were discussed.

Short Answer Type Questions

1. Define Farm production economics.
2. How much percent of cost will account for feed in dairying?
3. Give important two economic principles to maximize profits in dairying.
4. What is the objective of animal insurance?

5. What is the function of NDDB?

6. How much profit can you expect by raising two dairy animal per year?

7. How much profit can you expect by installing a dairy processing centre of 5000 lit/capacity per year?

8. What is the optimum size of dairy farm with maximum benefits?

**Long Answer Type Questions**

1. What are the economic principles to maximize profits in dairying?

2. Prepare project reports for establishing the dairy farms of the following strengths.
   a) Two animal  b) 10 animals  C) 150 animal  d) 100

3. Prepare project report for establishing milk processing centres of capacity a) 5000 liats/day b) 50,000 lit/day.

4. Explain about various financial institutions involved in dairy development programme.

5. Briefly explain the importance of economics in Dairying?

6. Write about economic viability of large and small size enterprises?

7. Briefly write about cattle insurance.
UNIT 2

Milk Procurement

Structure

2.1 Survey for Milk potential area for Surplus milk (milk shed area)
2.2 Systems of milk procurement
2.3 System of milk pricing
2.4 Principles involved in pricing of milk products
2.5 Planning for Milk Collection and Transportation Routes
2.6 Measures to enhance milk collection during lean season

Learning Objectives

After studying this unit, the student will be able to

- Understand about Milk Procurement and Milk pricing.
- Learn about Pricing of Milk Product.
- Planning about Milk Collection and transportation.

2.1 Survey for Milk potential area for Surplus milk (milk shed area)

To assess, whether any project or industry would be available in a certain area, a survey of available resources in that particular area is carried out. Milk shed generally denotes a district (or) from which area, milk is procured– and processed in the common plant located in the central part of that particular area.
The village in the milk shed area preliminary survey should be conducted for different aspects of milk production procurement.

1. The existing cattle and buffalo population.
2. The production and utilization/disposal of milk and product.
3. Returns from the sale of milk realized by the farmers.
4. Agricultural facilities and production patterns.
5. Basic amenities such as communications links, educational facilities etc.
6. Other sources of income.
7. Performance of other institutions including multipurpose cooperatives etc.
8. Different communities living in a village and their inter-relationship.
9. Other relevant information if any.

Once the milk potential areas are located detailed survey is conducted i.e. door to door survey about the milk to the society, infrastructure needed for enhancement of milk production etc. After detailed survey, possible milk routes of the prime area should be considered so that the vehicle from the starting point loading the milk from different collection centers, reaching milk chilling centers (for) Milk Processing plants within a reasonable time without allowing the milk for spoilage.

2.2 Systems of milk procurement

The success of any dairy project depends on a well planned any as organized system of milk procurement. In the case where procurement system is not well established, dairy plants remain under utilized on the other hand, if systems is well planned the following advantages can be obtained.

• An assured market round the year to the milk producers.
• Full capacity utilization of the dairy plant
• Increase in the milk production through inputs at reasonable cost.
• Planning and scheduling of milk procurement.

Following two aspects should be considered

• Policy decisions at top management level
• Scheduling the actions for smooth running
2.2.1 Policy decisions at top management level

Before starting milk procurement, the following decision should be taken.

1. Price to be paid for raw milk in different seasons
2. The system and frequency of payment for milk - Daily, Weekly, fortnight or Monthly.
3. Reserve funds required to carry milk procurement to avoid hard ships
4. Material, equipment, chemicals and stationary required for collection centres.
5. Transportation of milk – hiring of transporting vehicles better rather than owning the vehicle.
6. Technical inputs i.e. Veterinary aid, A.I, feed and fodder to be given in advance to the producers to get the advantage of favour.
7. Man power required and training and engaged in milk procurement.

2.2.2 Scheduling the actions

Once the above policy decisions are taken, the milk procurement activities are planned. After preliminary and detailed survey of villages, village societies are started. Society staff is recruited and necessary training in the fields related to milk collection, testing, maintenance of records, bank transactions bye-laws etc is given. Transport time table for milk cans and (or) unloading of empty cans is drawn. All the members of the society will be informed about the time of milk collection at the collection centers. Depending upon the quantity of milk collected indent for extra cans or information about the quantity of milk to be procured in future should be reported promptly to the concerned authorities by the society organizers.

2.3 Systems of milk pricing

The pricing of any commodity is always based on its cost price and the price paid by the consumer. Working out the cost price of milk under field conditions is a complex subjects / Any pricing system followed should be.

1. Remunerative to the producers.
2. Competitive to the local market prices.
3. Discourage adulteration and promote quality consciousness.
4. Based on milk constituents i.e. Fat & SNF
2.3.1 Methods of milk pricing

The old system followed in India are volume and weight basis. The volume basis will encourage the adulteration of milk with water and also quality of milk will be affected on, with formation of foam. The weight system will not be effected by foam it also encourages adulteration of milk. The various other pricing systems are

1. Pricing on pro-rata fat basis milk procurement.

In this system the price of milk is fixed proportional to the fat content of milk.

This system will assign practically zero value for value for S.N.F content.

The advantage of this method are

- Easy to calculate the milk price
- Easy to adopt as it requires only fat estimation. Farmer will easily understand the system and it can be adopted to any type of milk.

The disadvantages are

- It encourages adultration of milk with water, as there is no check on S.N.F. This system will encourage buffalo milk and do not provide remunerative price for cow milk.

Pricing on two axis basis

This method is used in pricing cow as well as buffalo milk where both fat and SNF contents are taken into accounts. As the system is based on both fat and SNF, it is called as “two access pricing”. The prices of fat and SNF are fixed depending-upon the market price of GHEE and skim milk power. Normally the price of fat will be declared by thunion for different seasons and the price of SNF will be 2/3 price of the fat. The price is calculated using the following formulae.

\[
\text{Price of 100 kg's milk} = \text{kg fat rate} \times \text{Fat percentage} + \text{kg SNF rate} \times \text{SNF%}
\]

\[
\text{Ex: If the price of kg Fat is Rs. 100 then price of 9% SNF be } 100 \times \frac{2}{3} = \text{Rs. 66.60}
\]

Then the cost of 100kg of milk testing 6% fat an 9% SNF = (100x6) + (66.6x9) = 600+599= 1199 i.e. Rs. 11.99 per kg.

The advantages are no discrimination against cow or buffalo milk as cow milk is reasonably priced due to consideration of SNF content, which is well comparable to that of buffalo milk.
Pricing on Equivalent Fat unit basis

In this method the SNF units are converted into equivalent fat unit in proportion to the relative market prices of fat SNF. The SNF is Value at 2/3 unit of fat. For example: the buffalo milk testing 6% fat and 9% SNF

The total number of Fat units = $6 + 9 \times \frac{2}{3} = 6 + 6 = 12$

If the fat price is Rs. 100/- then the cost of 100kg of milk = $100 \times 12 = 1200$

Or Rs. 12 per kg of milk.

This method will leave the same advantage of two access pricing system.

2.4 Principles involved in pricing of milk products.

While finalizing the price for milk products these six steps are to be followed.

1. Selecting the pricing objectives: Whether the pricing objectives should be or profit oriented service oriented.

   Normally, government agencies, voluntary organizations or cooperative bodies objective will be service oriented with minimum profit, where as private people will aim at maximum profits.

   For any producer aiming at reasonable profit will have many advantages to have in market for longer period with maximum percentage of market share.

2. Determining the demand: By making market surveys. The demand for individual product can be assessed. The heavy demand product should be prepared. The price of heavy demand product will be naturally high.

3. Estimating the cost: The cost of the products naturally at which it can be marketed can be calculated as follows.

   (a) Cost of raw materials used for the preparation of the product i.e. milk, sugar, spices, salt etc.,

   (b) Cost of processing the product: Normally in dairy industry the

   (c) Processing costs will be around 20% of cost of raw packing cost

   (d) Depreciation on the cost of raw material.

   (e) Distribution cost (i.e. transportation)

   (f) Distribution margin (whole salers margin)
(g) Retailers margin.

The total of the above gives actual price for the products. For that add profit margin which may be 10-15% depending upon the demand.

4. Analysis of competitor’s price and offer: the price of products should be competitive and attractive compared to competitor’s product. Sometimes extra quality of products is offered with the same price (Add 100 gms with 500 gms of products) by competitors. That should also be taken into account.

5. Selecting a price method

i.e. Market +

Market - price methods.

Market 0

6. Selecting the final price: After deciding the above factors the final price of the products may be arrived.

For any products price fixation, other factors will also influence like.

1. Season: During summer, demand for flavoured milk, butter milk, cream, kulfi will enormously increase. So the price of fast moving products in summer can be increased.

2. Area of marketing: if the income of people is high, there will be more sale of product.

2.5 Planning for Milk Collection and Transportation Routes

1. Producers having vested interest some persons will try to influence the staff and undesirable things are done to save their personal interest. This should not occur.

2. Some persons will supply adulterated or substandard milk. This should be discouraged.

3. Strict timing for milk procurement- some producers will supply the milk very late, the society will not receive it resulting a direct conflict between the producer and staff. This can be sorted by explaining the farmers about the difficulties.

4. A few producers will think that sample of milk drawn is an extra quantity of milk which is not paid for. This can be explained to the farmer that all the samples are pooled and sold which is distributed to all members as bonus.
5. Some farmers due to many reasons will supply evening milk in the next morning and morning milk in the evening which may cause curding of milk and loss to the quality of milk causing problem in processing of milk. This can be explained to the farmer that milk of morning of evening should not be mixed, as it may lead to loss to all producers.

6. Some staff member will not follow the timings for milk collection, so milk procurement, will get delayed, and that the procedures will have to wait for hours together and lose their interest in society. Maintenance of the time by the staff is essential for improving the milk procurement.

Transportation of milk to the processing center or chilling centre will be undertaken by the Union. Some societies will not have proper routes, it's the responsibility of the society to transport the milk from the collection centre to the nearby village, but the collection centre is interior, in such case also it is the responsibility of the society.

At union level different routes are planned to get the milk from different places to the processing plant. Each routes will be planned in such a manner that it will go through all the society villages or at least nearer to the societies. The routes are so planned that if any damage to the road or traffic occurs, an alternative road is available to the processing center. (The, route map should be supplied in advance to all the societies so that they can plan for amicable pick-up points. the length of the road should be such that from the starting point of the milk collection, it reaches the processing or chilling centre within reasonable time so that the milk may not get spoiled and fit for processing)

The transport vehicles will deliver the empty cans for next collection and lift the can with milk. In case of any break to the transporting vehicles an alternative vehicle or at least the other route vehicle may be diverted.

2.6 Measures to enhance milk collection during lean season.

During rainy or winter season, there will be lot of green roughages which will help in enormous milk production, where, as in summer the most of the fields including grazing lands become dry and green fodder availability adversely affects the milk production. Moreover, no farmer will plan to calve the animals just before or during summer, which will adversely affect lactation yield. Most of the cows will be in dry or late lactation or late lactation with pregnancy. Recent studies indicate 64% that the milk production during rainy and winter seasons, will decreased, by 64% of the milk production during rainy and winter seasons.
Summer, in which low production of milk is seen is called lean season and flush season when high milk production exists.

As the output of milk production is decreased, the demand will be as such for the milk, there will be lot of collection of milk. The competitors of milk, processors will start their own strategies to get maximum share of milk collection by any dairy in season.

**The following are some of such steps.**

1. The milk production during flush season will be surplus, the collection centers are unable to collect full quantity due to varied reason. The processors should regularly collect full quantities of milk from those producers should regularly collect full quality of milk to him during lean season. The producers also remember the at collection centers, who have helped them during flush season. Some processors even declare milk holidays once in a weak, or so during flush season, which will cause economical loss to the producers. If farmers are tackled well during flush season, they will in turn help by giving whole quantity of milk during lean season.

2. Fixing of high price or giving bonus or extra payments for the milk supplied during lean season will also improve the milk collection. As the level of production drops during summer and also most of the dairy animals in dry / pregnant conditions, the cost of the milk production will generally high during summer season, to compensate this high cost of milk production, the processors should chance the purchase price of milk.

3. Advance payment/prompt and regular payments for the purchased milk by the collection center will definitely improve the milk collection during summer.

4. Supply of inputs like concentrate feeds, fodder seeds, fertilizers A. I facilities to the producers in advance and adjusting the cost for the price of milk collected.

5. Satisfying the producers by explaining about the cunning nature of competitors who will give high price of milk during lean season. The collection center people should explain to the producers, that the competitors would not collect the milk during flush season.

6. Especially during festival occasions, school reopening, marriages time farmer need of money and they may come for agreement with milk collection center people, by supplying milk-during lean season, if they finance to them. Any processors can make advance payments during the above occasions to attract the producers, if such facility exists.
7. Training programmes should be conducted on management of animals during summer season without affecting the milk production.

8. The collection center person should respect customs of the local people and they should participate in various social and cultural activities of the village so that the farmers think that these are one among them and definitely they sell milk to them only.

9. Out of their profits, the processors/milk collection center persons should spend certain portion for social activities in the village, i.e. laying or repair of roads, construction of school buildings, maintenance of parks, donation to temples, or donation to any religious/other function will have effect on milk collection.

10. Milk competitions, bull competitions, calf rallies and other groups of animal competition regularly in the village will also increase the loyalty in the villagers.

In addition to the above encouragement points, the processors/collection centre people should not do the following things.

(a) Cheating the producers by taking extra quantity by manipulating the weights and measures.

(b) Showing less readings of fat and SNF levels in the milk.

(c) Wrong calculation in the price fixation of milk.

(d) Utilization of money for personal use and delaying the payments to the producers.

(e) Not paying the bonus after the year.

(f) Not bothering about the collection of milk during flush season.

(g) Not attending to the problems of animals.

Summary

Surveys for milk production potential areas for surplus milk in a particular milk shed area was discussed in detail to enhance milk collection. Different milk procurement systems with advantages were covered. Pricing policy for milk and milk products were explained so that it is useful to select effective pricing policy under different conditions. Planning for milk. Collection and transportation routes was covered extensively, collection of milk during lean season is very difficult, so planning for milk collection during lean season was highly projected.
Short Answer Type Questions

1. Define Milk shed.
2. What is Surplus milk?
3. List out procurement systems for milk.
4. What is two axis system of pricing?
5. Define transport route.
6. What is lean season?
7. Name the best method for pricing of milk.
8. What is the aim of pricing milk products?
9. Why milk production decreases during lean season?

Long Answer Type Questions

1. How do you conduct survey for milk potential area for surplus milk in a milk shed area?
2. Briefly explain about milk procurement system.
3. Discuss in detail about various pricing policies of milk.
4. What are the principles involved in pricing policies for milk products?
5. How do you plan for milk collection during lean season?
6. How do you plan for milk collection?
7.Briefly write about milk transportation routes.
Dairy Development Programs

Structure

3.1 Various dairy development programmes available
3.2 White revolution – Aims-Impact on economy of rural people
3.3 Operation flood different phases- Aims and Achievements
3.4 National Technology Mission for Dairy Development
3.5 Role of voluntary organizations in dairy development
3.6 Concept of socio-economic and cultural changes for dairying programmes

Learning Objectives

After studying this unit, the student will be able to

- Understand about dairy development programmes.
- Know about White revolution and Operation Flood phases.
- Know about Socio-economic and cultural changes in Dairying.

3.1 Various Dairy development programmes available

Milk has emerged as the second largest agricultural commodity next to rice production (1988-89). India ranked world first in milk production in 1996. India’s milk production is 70 million tonnes / annum.
Cross breeding of indigenous cows with exotic bulls/ semen has encouraged for augmenting milk production.

**Government project/programme.**

1. All India key Village Scheme- 1951
2. Intensive Cattle Development Projects (ICDPs) -1964-65.
4. IDA sited Dairy projects.

**1.- Key Village Scheme (KVS).**

It was taken up in August, 1952. Under the scheme a “key village block” consists of one AI center along with four key village unit attached to it. Each key village unit is a compact area of continuous village having a population of about 500 cows and/or she buffaloes fit for breeding and milk supply. Selection of pedigree bulls, proper administration and technical organization consisting of one VAS, one milk recorder and three stockmen had been provided for every centre.

During the third five year plan, the KVS was considered to be the main programme for IDCP. The main activities are

1. To intensify the construction programme in the key village areas.
2. Extending the PTS to the Ongole breed in Andhra Pradesh and Kankrej breed in Gujarat. (PTS- Primary Testing Scheme)
3. Establishing bull-rearing farms
4. Development of grazing areas by setting up two fodder banks and also a grass land and Research Institute.

**Intensive Cattle Development Projects (ICDP’s)**

During the third fourth five years plans, it gained its significance by its activities such as

i. Formation of NDDB.
ii. Establishing progeny testing farms – IV plan.
iii. Establishing frozen semen stations – IV plan.

iv. Institute for Buffalo Research – VI plan.

v. Embryo transfer technology – VII plan.

Progress Review

By the end of 1996, there was an awareness about the success and failures of the government. The review of above revealed the following.

Progress Made Under 5-Year plan.

- Dairying acquired national-level recognition.
- Concept of planned approach was introduced at all levels.
- Organized marketing was adopted by private, public and cooperative sectors.
- The multi-national brands introduced new milk products.
- To overcome the economic barriers, toned milk, with less fat and at comparatively the cheaper price, was formulated.
- India started developing its own cadre of trained technical personnel:
- The concept of intensive cattle development was introduced.

Unfortunate Trends.

Besides above contributions, some negative effects were also observed as listed below.

- Modernization and planning of dairy industry was consumer oriented.
- The package of inputs required for enhancing milk production was left in the hands state Animal Husbandry Department without any correlation with milk industry. Those inputs hardly reached the producers as they were to bear entire burden of maintaining the milch animal.
- The private city dwellers/duhias exploited the consumer due to increased demand as a result of industrial development.
- Cattle colonies, housing large number of good cattle and buffaloes ‘brought from the home tracts got established to meet cities demands ‘Maintenance of these animals thus started finding way to slaughter ‘houses, once these were found uneconomical. Old stock were replaced: by the new ones from villages. This anti-dairy cycle perpetuated.
3. Operation Flood

Operation Flood – the Indian white revolution was launched to overcome the above mentioned unhealthy trends. It is designed to raise milk producer’s income by organizing them into cooperatives and eliminating middlemen; to increase milk production in rural areas creating a food of milk to meet demand on a regular year-round basis; to create a self sufficient dairy industry in India.

Operation Flood I was launched in 1970 following an agreement with the United Nations World Food programme. The European Economic Community was also closely associated with Operation Flood I provide much of the food aid to the World Food Programme.

To launch flood I and finance projects undertaken within its framework, the Delhi Government set up the Indian Dairy Corporation! (IDC) in 1970. The actual implementation of the various projects is left to the village cooperative societies and milk unions which own dairies at, district level.

**Objectives of Operation Flood I**

(a) To increase the capacity of milk processing facilities.

(b) To change urban markets from traditional milk supplies to modern dairy milk supplies.

(c) To make provision for the resettlement of city based cattle in rural areas.

(d) To develop long distance milk transport and storage facilities.

(e) To develop a and pattern of milk procurement system.

(f) To improve dairy farming standards.

**Operation Flood II**

Operation Flood II was started in April 1981 and ended in March 1985 with the expressed intention of creating a viable dairy industry to meet India’s needs of milk and milk products.

India’s While Revolution has not only received support from the European Community and the World bank, but also from a number of Western Governments, the United National food and Agriculture Organisation (F.A.O), the United Nations Children’s Funds (UNICEF) and European NGOs such as the British Relief Agency, OXFAM. It has also been regularly evaluated over the years.
4. IDA assisted Dairy Projects.

The world bank’s assistance to dairy development started with coverage of Karnataka, Madhya Pradesh and Rajasthan. The projects comprises of:

i. Establishment of about 7200 DCS and 12 milk producer’s unions.

ii. Important and multiplication of pure breed exotic breeding stock and an associated A.I. programme of crossbreeding, native cattle with high producing exotic breeds. Provisions extensions programme to encourage production of fodder, mixed farming and improved animal husbandry practices.

iii. Construction of 12 dairy plants and cattle feed mills.

iv. Establishment of one regional diagnostic laboratory and plant for production of training centre for each union.

Objectives of Operation Flood II

(a) To cover 10 million milk producer families in rural areas.

(b) To create National Milk Herd of 14 million cross-bred graded buffaloes.

(c) To strengthen national Milk Grid and by linking milk supply and demand centre

(d) To construct a base structure for National Dairy Industry.

(e) To increase percapital consumption of milk products at 144 gms / day.

Operation Flood III

Operation Flood achieved in operation floods III. Justified the confidence faced by the government in farmer’s own organizations as instruments of dairy development and led to the initiation of operation Flood III which was implemented, covering most of the Anand pattern milk sheds of the country.

Objectives of Operation Flood III

(a) To increase the coverage of milk producers.

(b) To establish an additional 15,500 village Milk Co-operative Societies in 173 Anand pattern milk sheds as constituents of the State Federation.

(c) To increase miulch animals in co-operative ambit.
(d) To strengthen National milk Grid.

(e) For better utilization of technical inputs in co-operatives with state governments.

(f) To develop dairy co-operatives own system of improving health, environmental sanitation, nutrition etc.,

**National Dairy Development Board (NDDB).**

To replicate the Anand pattern throughout the country, National Dairy Development Board (NDDB) was established in 1965. The dairy development programmes are being implemented through a network of milk co-operatives organized on the model existing in Gujarat state namely ANAND pattern.

**programme 3 tier structure**

1. Farming village level primary milk co-operative producer’s societies.

2. District level milk producers co-operative unions.

3. Apex level federation of district co-operative milk producers unions.

**Objectives**

The main objectives are to assure remunerative price for the milk produced by the milk producers through a stable, steady and well organized market support and distribution of milk and milk products at reasonable price to consumers.

**6. Milk and Milk Products Order (MMPO)**

This programme has been issued, by the Government of India during 1992 under the liberalization policies. It empowers those dairy plants exceeding its utilization of 10,000 liters per day must register with Government for its modernization, product manufacturing and collect milk in specified area.

**3:2 White revolution – Aims-Impact on economy of rural people.**

Just like ‘green revolution’ which is intended for over all increase in agricultural produce, white revolution for the increase of milk production tremendously so that sufficient quantity of milk is available for all at affordable price. To tune up the milk production the infra structure required are

1. High yielding genetic potential dairy animal in India. Most of the dairy cattle are native breeds, in which majority are poor yielders of milk. It is not economical to raise the animals with 1-2 liters of milk production. The milk potential of animals can be improved by.
(a) **Introduction of Exotic cattle**: Exotic breeds like jersey, Holstein Friesian, Brownswiss etc. are excellent milk producers. These breeds can be introduced to some extent throughout the country to increase the milk production.

(b) **Cross breeding programme**: Purchase of exotic breeds are costly and mass introduction is not possible. The semen of exotic breeds can be utilized on native breeds to produce superior offsprings. With little investment, the future herd will be cross breeds having good milk production capacity. Massive cross breeding programme should be undertaken.

(c) **Selective rearing of native breeds**: Under native breeds there are some breeds which are yielding optimum milk production. These breeds can be maintained by maintaining pure breeding programme.

(d) **Up grading native buffaloes**: Murrah buffalo breed is the good breed under buffalo which can be utilized for upgrading native buffaloes. Slowly the future stock will become graded murrah buffaloes.

2. **Animals Husbandry activities**: Veterinary doctor should be there in and around- at least within a reasonable distance, who will take care of the animals in the following activities.

   - To maintain the health by doing vaccination. To treat the diseased animal.
   - To inseminate the animals and confirming pregnancy diagnosis, attending dystocia.
   - Maintaining reproductive health.
   - Advising on balanced nutrition and manage mental tips.
   - And many other activities concerned with animal husbandry.

   Now a days trained personal are involved in door step Artificial Insemination Rural unemployed people will under go short duration training on Artificial Insemination and they will do door step A.I on payment.

3. **Improving the fodder**: The fodder crops development in India is not favorable. Most of the farmers are opting for commercial crops: not leaving any land for fodder crops. Green fodder is necessary to increases the milk production economically and also maintains goods health and reproductive status. Those who are maintaining dairy animals they should allot some land for fodder production. High yielding fodder crops like Napier Bajra, para grass, leucerne, cowpea, Berseem, and other grasses can be grown whose yield is more and also give cuttings. In India the grasses can be grown for grazing. These grazing lands can be improve by sowing with high yielding grass varieties.
4. Establishing of feed plants: The availability of good quality of concentrate feeds in India is not satisfying the needs. Modern feed plants, should be established especially under cooperative system, to produce well balanced ration for high milk production and also to keep the price of concentrate feed at minimum affordable level. As the human being are competing for the most of the feed ingredients, much emphasis should be given for use of unconventional feed ingredients. To avoid wastage of feed in dust form, it is better to go for palletization process. Many agricultural by products and unconventional feed ingredients can be included without affecting palatability by using palletization process. Molasses are used both as sweetening as well as energy supplements.

5. Formation of Cooperative on three tier system: The development of milk production under government has not given boost. It is proved in our country in Gujarat, that only cooperatives will perform better to boost up milk production cooperatives system. Advantage is the milk producers will manage all the activities i.e. milk production, collection, disposal and providing basic requirements. Anand pattern of three tier system is successful system. In this, in a village all the milk producer will form village cooperative society. In a district, all the village cooperative societies will form district milk producers union. All the district union in the state will form state. Federation, which is the apex body to take policy decision. Village societies will collect the milk and send to district union where milk is processed and milk products are prepared. Liquid milk and products are marketed by the district union. In all the villages village milk producer’s cooperative societies should be formed to enhance the milk production.

6. Providing inputs to the milk producers: The district union should provide the input like artificial insemination facilities, supply of balance concentrate feeds, fodder seeds on subsidized rates, fertilizers and arranging for loans for purchase of dairy animals. Training programmes should be conducted periodically in the subject of dairying, so that the farmers will get sufficient knowledge in the management of dairy animals and also in milk production, economically.

7. Improving the rural Transport: The roads are in very poor condition in the rural areas. The milk collected at rural cooperative.

8. Processing centre/product factories: The milk processing centre/products factories should have the sufficient capacities and sufficient number to deal with surplus milk during flush season. The surplus milk should be converted into products. If the processing centres are at long distance from collection points, chilling centers can be established in which the milk is chilled and transported to processing centre by refrigerated thermo packed road tankers.
9. **Marketing facilities**: For the sale of liquid milk and milk products, marketing infrastructure should be developed. i.e. C & F agents, distributors, wholesale retailers, Mobile quality checking teams should be provided to check the quality on the spot, if any complaint comes, to get consumer’s satisfaction. A poor marketing structure, will easily damage the business. Now a days, any body can produce any product, but viability depends on efficient marketing.

- Other basic infra structure includes.
  - Electricity
  - Water supply
  - In the villager. Drainage.

### 3.3 Operation flood different phases- Aims and achievement

Operation Flood is a project designed by the National Dairy Development Board (NDDB) in three phases. i.e. Operation Flood-I, Operation Flood-II and Operation Flood-III.

- **O.F-I Duration**: 1970 to March 1981
- **O.F –II Duration**: 1981 April to March 1985
- **O.F-III Duration**: 1985 April to 1990

#### 3.3.1 Operation Flood-I

**The objectives**

(a) Expansion of dairies in four major metropolitan cities namely Mumbai, Calcutta, Delhi and Chennai (Madras).

(b) Organization of milk cooperatives in 18 milk sheds in 10 states.

(c) Skim milk power and butter oil were received from the Untied Nations world flood programme and F.A.O. The funds generated amounting to over Rs. 100 crores by selling the recombined milk were to be spent towards technical input for milk production.

(d) The target of milk production by 1984 -85 was 38 million tones.

(e) The Co-operative structure under this programme would provide fair price to the farmers for their milk produce. Supply good quality milk at reasonable price to the Consumer in urban areas and stimulate enhancement in milk production.

#### 3.3.2 Operation Flood - II

The outlay under O.F –II was 485.5 crores, the following were the objectives,
(a) To extend dairy co-operative structure to cover some 10 millions rural milk producer’s families.

(b) To develop 16 millions cross bred cows and up graded buffaloes by mid 1985 to form the national milk grid by building up the infrastructure for breeding programme.

(c) To link all urban centers, 1148 cities and towns with a populations of over 1 lakhs into a national milk grid.

(d) To augment dairy processing capacities.

(e) The per capita availability of milk is expected to increase to 144 gr by end of OF-II.

3.3.3 Operation Flood -111

O.F – III being implemented during the 7\textsuperscript{th} five years plan (1985-90) seeks primarily to consolidate the extensive milk procurement and marketing base built during the earlier two phases.

Remunerative prices and marketing opportunities created under O.F have enabled small dairy farmers to look after his milk animals and use them as a major resource for increasing income.

Operation Flood Phase – III would endeavor to develop strong farmer’s organization in 136 milk sheds built during 2\textsuperscript{nd} phase. These organizations controlled by member of producers through their elected representatives at all the 3 tiers (village milk co-operative societies district milk Co-operative unions, State Diary Development Co-operative Federation) and manage their milk procurement, processing, and marketing and inputs supply functions.

The Objects of O.F-III are as follows

(a) OF –III aims at increasing rural milk procurement to peak of 18.3 million liters from over 8 million milk producer families by 1990.

(b) Over 12 million liter are proposed to be sold as fluid milk through urban market.

(c) It is visualized an increase in milk procurement by about 132\% and milk marketing by about 148\%.

(d) Farmers will be paid almost Rs. 20.000/-millions, annually for milk by the Co-operative structure by 1990.

(e) To achieve, the above targets a rational pricing policy was evolved at both farm and urban market level.
(f) Much greater emphasis was placed on the marketing of fluid milk.

(g) Expanding marketing infrastructure in all major linking them to milk sheds through the National milk Grid (NMG) to ensure year round stable milk supply in these markets.

(h) NMG ensures improved available price to the consumer and a remunerative price to the milk producer by balancing without regions and seasonal imbalances in supply and demand.

(i) Provision has made in OF-III to establish 10 cattle feed plants each with a capacity of 100 tons/day. Provisions are also made to extend the capacity of the selected existing cattle feed plant. Rs. 147 million would be invested on this account.

3.4 National Technology Mission for Dairy Development

The government of India has formed a body “Technology mission“ to coordinate the activities of various institutes concerned with dairy development such as NDDB, IVRI, Agricultural universities, state government department working for dairy development with the ultimate objective to promote dairying on “Operation Flood“ model for the welfare of millions of milk producers in the country. Most of the above institutions are working piece meal and in isolation. This body was established in 1988 to 1994 (7 years programme) with headquarters at Anand in Gujarat State.

This body also sets targets, monitor the progress and advise government on policies and status. This will help to promote institutional based dairying in India moiré rapidly during the nineties, in comparison to what we have achieved in the seventies and eighties.

The idea of mission was conceived by the then prime minister of India, Sri. Rajiv Gandhi during his visit to Anand, head quarter of National Dairy development (NDDB) during 1986.

Mr. Gandhi felt that, the pace of the dairy industry growth under Operation Flood was not fast enough and that there was a need for technological intervention. The mission would accelerate the pace of rural employment through Dairy development and bring about effective coordination among various government programme and agencies for optimum use of resources.

The mission was launched by the Advisor to the prime minister of India on Technology mission Mr. Sam Pitroda. Dr V.Kurean, Father of India’s White revolution was the chairman of the mission.
The main objectives are.

(a) Under the Technology mission the milk production in the country is expected to go up from 44 million tones in 1987 to 61 mmt by 1995.

(b) To increase the per capital available of milk from 158 to 186 gr / head/ day.

(c) The average lactation yield of the cow is expected to be increased from 390 to 640 lit. and in buffaloes from 900 to 1010 lit per lactation.

(d) Number of districts covered by dairying would go up from 242 to 270.

(e) Number of village milk co-operatives to increase from about 49000 to 50000. These include about 21,000 additional village cooperatives planned under of phase III.

(f) Milk marketing facilities will go up along with processing capacity.

(g) Various government Departments associated with the mission.

Indian council of Agricultural research (ICAR) Central Scientific and industrial Research (CSIR) Agriculture universities and NDDB will be involved with the mission.

(h) The mission plants to set up large energy efficient dairies and lacto peridase system to preserve milk quality.

(i) The mission would have a total outlay of about Rs. 1070 crores including 915 crores under OF–III.

3.5 Role in voluntary organizations in dairy development

Social institution may be defined as any voluntary, private, cooperative or sponsored organization for poor people who are under below poverty. Social institutions are service oriented organization are sponsored by voluntary organization. Eg: Awane, Artic etc.

The various types of social; institution are

1. **Voluntary Organization**: The persons who are interested in rural development and social activities will from a social institution and registered with central Government under ministry of human resource development. The finance sources for this organization are.

(a) Funds from human resource development ministry.

(b) Foreign bodies donations.
(c) Donation from industrial/business/individuals.

(d) Income on donated properties.

1. The organization is organized by a committee. They will take the help of any volunteers of different professionals, who will work voluntarily, or they will appoint persons on honorarium basis. The Govt. of India will audit the accounts and take necessary actions, if any miss happening occurs.

2. Promoted by industrialists/business people: Some of the industries/business people who are interested in rural development/social work will from a “trusty”. The will also collect donations for people, for which also tax is exempted. It is also managed by a committee. They will take the help of different professions and also employees of their group of companies to do the work.

3. Promoted by cooperatives: Milk producers cooperatives or compounds live stock feed manufactures associations or breeding associations etc will organize social institution. They fertilizer.

4. Promoted by banks Nabard and other commercial/cooperative banks will sponsor service centre to promote rural development. Funds are financed by respective banks.

5. Qiftas-4ndo Swiss project: Jointly organized by Switzerland and Indian governments. Some are organized by PJRI person ect.

Activities of Social Institution Concerned with Dairying

1. They will adopt some village where poor, people are dominated under poverty line.

2. They will identify the beneficiaries by their own surveys and gathered information.

3. They will select the people of 25-40 members per batch as beneficiaries.

4. They will provide training to those beneficiaries on daring by professional experts, they

5. They will help in formulating dairy project.

6. They will assist in getting loans from commercial banks and subsidies from government.

7. They will develop community facilities which are useful for most of the beneficiaries. The cost for these facilities will be borned by them. Eg: Community fodder crops, water supply, vaccination programme.
8. They will supervise the dairy farms frequently to see that is properly running properly.

9. They will provide veterinary aid freely/with low fee by appointing their own doctors.

10. They will help in marketing of milk and milk products. Some times they will take marketing work to benefit milk producers.

11. They will supply inputs like concentrate feeds, fodder seeds, fertilizers on actual cost which can be repaid in installments.

3.6 Concept of socio-economic and cultural changes for dairying programmes

Society is group of people in more or less permanent association who are organized for their collective activities and who feel that they belong together. Important aspects of society is not the strict, it is the system of relationship. Society exists only when members known to each other and possess common interest on subjects. The likeness, cooperation, inter-dependence are the important elements to constitute a society.

Community is a social group that have some degree of co-operation, likeness, inter-dependence and living in a specific area. Community is a natural group of people residing in particular locality permanently with a feeling.

Eg :

(a) Amul pattern of Milk society : Cultural change, social change

(b) Ox drawn plough to tractors.

Animal husbandry cooperatives as an instrument of social and economic change.

The advent of dairy and other animal husbandry cooperatives has been a boon for farmers especially those who are traditionally weak. It provided year round income to the farmers 60-65% of income of the group come from animal husbandry.

Social Impact :

Membership is open to all regardless of caste and creed barrier. Untouchability is reduced. Other impacts are

- Age old superstition of selling milk as a social evil is removed.
- Democratic election procedures of societies increased awareness of the farmers about their vote.
• Enable adoption of better managemental practices,
• Portion of cooperative profit can be spent for improvement of road conditions, establishment of small libraries and educational units, helping establishment of hospitals, schools etc.

Interaction with educated society improves the lives of farming community.

Economic Impact

(a) Direct Impact: Large number of youth especially women, widows are given employment. Farmers have become self reliant by regular in flow of money from urban to rural areas,

(b) Indirect impact: Financial position of farmers is improved by increase in milk yield, low expenses on A.I. Veterinary aid., Middle man and exploitment of farmers are checked. Gainful employment, family and agricultural by products are also utilized efficiently.

Summary

Various dairy development programme started so far and its impact on dairy development was discussed in detail. The infrastructure required for white revolution listed step wise, which will increase milk production. Three phases of operation flood programmes, their aim, objectives, and achievements were discussed. Technology mission for dairy development was highlighted. Social institution has been defined and explained in detail about their role in dairy development. Concept of socio-economic and cultural changes explained in detail.

Short Answer Type Questions

1. What is key village scheme?
2. Define intensive cattle development project.
3. What do you mean by White revolution?
4. Mention the year of starting three phases of operation.
5. What is the main objective of Technology mission for dairy development?
6. What is Social institution?
7. Define society.
8. What is culture?

9. What is the direct economic effect by animal husbandry activities?

**Long Answer Type Questions**

1. Explain different dairy development programme started in India.

2. Briefly write about white revolution and infrastructure required for it.

3. What are the aims and achievements of different phases of operation flood programmers?

4.Narrate the aims, functions and services of technology mission for dairy development.

5. Briefly write about the role of social institution in dairy development.

6. Briefly explain the concept of socio-economic and cultural change in dairy development.
UNIT 4

Dairy Cooperatives

Structure

4.1 History of Cooperative movement in India
4.2 Cooperative movement in dairy industry
4.3 Milk cooperatives – Anand pattern
4.4 Aims, and functioning of village milk cooperative society
4.5 Structure and activities of district Milk Union
4.6 Role of state milk cooperative Federations
4.7 Records and registers in a milk society
4.8 Coordination with other institutions concerned with dairy development
4.9 Insurance of dairy animal

Learning Objectives

After studying this unit, the student will be able to

- Understand about Cooperative movement in Dairy industry.
- Know about Anand Pattern.
- Learn about activities of district Milk Union and Cooperative Federations.
4.1 History of cooperative movement in India

India is a country of villages. Our farmers have small land holding. Intensive cropping therefore has been the way of farming. Use of production enhancement inputs went on increasing. Thus the input-output ratio started getting imbalanced. The need of cash was more felt to inputs. To meet these needs, farmers had to borrow money at a very high rate of interest. Money lenders exploited the farmers who were poor and in debt.

A large number of farmers at Pune and Ahmednagar area in Maharashtra rose in open hostility against money lenders in 1879. Subsequently, Land improvement Loans Act in 1883 and Agriculture Loans Act 1884 were passed to advance loans at reasonable rate of interest to the farmers.

At this juncture, the Government realized the need of cooperative movement therefore appointed a committee under the chairmanship of Edward Law to make suitable proposals for enacting a separate legislature Act.

The Act had however following shortcomings.

• Only credit societies could be registered

• Classification of societies into urban & rural was unscientific

• It was silent about distribution of profit.

Thus another Act, named as ‘the Cooperative societies Act’ of 1912 was enacted. The Act took care following institution like Central Banks, Supervising unions and other non-Credit societies.

In the year 1919, Cooperative became a state subject and fell within the scope of provincial legislature. Each province then started formulating their own co-operative societies Acts to suit these requirements Bombay state had taken the leads by passing the Bombay Co-operative Society Act in 1925. Other acts such as

Madras Cooperative societies Act of 1932

Bihar and Orissa Cooperative societies Act of 1935 Bengal Cooperative societies Act of 1940

Coorg Cooperative societies Act of 1936, also enacted.
After Independence the Co-operative movement made rapid strides. Government adopted the policy of utilizing the Cooperative movement for establishing democratic economic order in the country. The government of India appointed a committee in 1956 to review cooperative Acts in different states and prepared a model bill on the basis of this model bill acts such as.

The Mysore Cooperative societies Act of 1959.


The UP Cooperative societies Act of 1965.

The Rajasthan Cooperative societies Act of 1965.

The A.P Cooperative societies Act of 1964, came into existence.

4.2 Cooperative movement in dairy industry

Before Independence there is no system of organized milk collection and distribution, which had major effect both on the milk producers as well as milk consumers. On November 15th 1945, Aarey milk colony was established by Bombay Government under greater Bombay Milk Scheme.

This is the first scheme in India which benefited partly milk producers and milk consumers. In 1946, the farmers of Kaira district of Gujarat state have realized that they were exploited and had no choice but to sell their product (milk) at throw away to the government approved contractors they approached Vallabhai patel.

Shri Morarji Desai, one of the lieutenants of Sardar, moved the farmers to established village co-operatives. Subsequently, at a meeting held at Samrkha village on January 4, 1946, it was resolved that the milk cooperative could be organized.

It was also decided that, the government should arrange to buy their milk. Which could be processed at the dairy owned by the Union. And in case, it was not acceptable to the government, the farmers would refuse to sell milk to any agency.
Village Level Co-operative, their district unions and their Federations

Fig 4
The government turned down these proposals and farmer went on 'Milk Strike’ which lasted 15 days. During this fort night, not a single drop of milk reached Bombay from Anand and the Greater Bombay Milk Scheme virtually collapsed. The milk commissioner of Bombay then visited Anand After assessing the situation accepted the farmers demands. This marked the beginning of kaira District Milk Producer’s Ltd union on. October 26th 1946. First milk co-operative society formed in hadgud village and on the same day 1st milk collection by Kaira district co-operative milk producers union Ltd was started on 14-12-1946. Amul Union was ‘’registered on 1-06-1948.

4.3 Milk cooperatives – Anand Pattern

The foundation of Anand pattern of milk cooperative was laid with the organisation of the kaira dist. Co-operative Milk Producer’s Union limited at Anand. In this pattern, all the functions of dairying – milk production, procurement, processing and marketing are controlled by the milk producers themselves. In addition to this, all the facility related to milk production and procurement are provided at farmer door steps. The ‘Anand Pattern in three tier system i.e. village Cooperatives, District Union and state Federation were formed. The basic unit in the Anand Pattern is the ‘Village milk producers co-operative-a voluntary association of milk producers in a village, who wish to market their milk collectively. All the village milk producers cooperatives in a district are member of their district Co-operative milk producer’s Union.

Every milk producer can become a member of society. At a general meeting of members representatives are elected to form a managing committee, Which manages the day-to-day affairs of milk collection, and it’s testing for fat content, Sale of cattle feed etc., each society also, provides Artificial Insemination Services and veterinary First-aid.

A key element in the Anand pattern of dairy co-operative is that all registered village milk societies are members of a district co-operative milk producer’s Union which enable them jointly to own a dairy processing factory and a cattle feed plant. In order to become members of the Union, a registered society must purchase at least one share of Rs. 100/-and Pay Rs. 5/- as entrance fee.

The District Dairy Cooperative Unions became member of a cooperative milk marketing Federation by Subscribing to it at Rs. 20,000 each as share capital. The federation is responsible for all member Union, liquid milk and milk products, deciding the product - price mix, ‘cooperative provision of joint services (AI, breeding) and cooperatives’ marketing of technical inputs to members.
4.4 Aims and functioning of Village Milk Cooperative Society

After the completion of survey of the village about milk production and related items, the supervisor/office from the union organizes Gramsabha. If the villagers decide to form society, an organizer is selected from amongst them. The organizer is authorized to collect the share money @ Rs. 101 each for share subscription and Rs. 1/- for share. All the milk producers who are interested in society will be registered with Dept of Cooperative. One member will be elected as chairman and he appoints secretary who will look after day to day work.

Functions and activities of the society

The basic unit of Anand Pattern structure is village milk producer cooperative society. The Functions of society can be classified into

• Managerial
• Operational and
• Input services.

Managerial: All the members of the society form the general body of the society which has supreme power, the society and this number of staff depends upon the size of the business. One third members of the committee retire every year by rotation. The rotation retirement helps bringing new faces and continuity in the management. The chairman is elected every year in the management committee meeting. The committee decides policy matters and frames guide line for efficient running of the society. The committee holds its monthly meeting to discuss issues pertaining to society, producers asper guidelines provided by the union etc.

Operational

It can be classified into two groups.

(a) Milk Trading
(b) Marketing of inputs
(c) Milk Trading: this involves the following works

1. Reception of milk: Milk is received from the producer both morning and evening. Sample of milk is collected for testing.

2. Testing of milk: The individual samples are tested for fat and SNF and recorded sample from pooled milk is drawn and tested.
3. **Dispatch of milk**: All milk cans are covered tightly by lids. Filled milk cans are loaded on the hired own truck and empty cans are unloaded for society use for next milk collection.

4. **Payment for the milk**: The price of milk remains uniform throughout the district irrespective of village district from union head quarters. Both quality and quality form the basis for the payment. Price chart will be supplied by the union. The society pay the producer’s morning milk price evening and evening milk price next day morning.

5. **Accounting**: Separate account books are maintained for different transactions and the relevant postings are made on the same day of operation. A person from the same village is appointed as internal auditor to check the account.

6. **Distribution of profits**: The society, from its profits distribute bonus to the producers in proportion to the value of milk supplied by the years be undertaken.

7. **Other duties**: like sample milk disposal, local sales of milk, standardization of testing equipment and chemicals etc., will all be undertaken.

**Input services**

1. Providing Artificial Insemination services
2. Providing veterinary first aid.
3. Society purchase cattle feed from the union and supplied at cost or subsidized rate.
4. Provides quality fodder seeds to the producers at cost or subsidized rate.
5. It also distributes news letters. Educational material, meetings organizations, tours to dairy plant, cattle feed plant etc.: 
6. It will also help in cattle insurance and some strong societies will give subsidy on insurance of cattle.

4.5 **Structure and activities of District Milk Union**

Once sizeable number of societies (40-50) are organized and registered in milk shed, the district level milk union can be started. The chairman’s of all village milk cooperative societies forms are the members of the district milk producers unions. In order to become members of the district milk producers unions. A registered society must purchase at least one share of Rs. 100/- and 5/- as an entrance fee. They hold the meeting and resolves the formation of District Cooperative Milk Producers Union.
The union will be registered with the cooperative department. They elect the Board of Director who will inturn elect chairman. One third of elected board members retire every year by rotation. Each district union is professionally managed by a Managing Director, who reports to the elected chairman and board of Directors. The number of board of director will be sixteen to seventeen of the village societies. The remaining five comprise managing director as a member secretary, one or two representatives of the financing institutions, a representative of the registrar of cooperative societies and representatives of the Federation.

These five numbers are not eligible for contesting to the post of chairman. The general policy for the union is framed by the board. The board employees the Managing Director/ General Manager, but his removal will be done by only generally body. The board determines the number, type and scale of the posts and Managing Director/ General Manager makes appointment.

**Functions and activities of the District Milk Producers Union**

In general union carries five important functions.

1. **Procurement of milk**: Milk will be collected from all the member societies of union by engaging hired vehicle. Different routes are formed to cover the societies so on to enable the milk to reach the union plant with in reasonable time.

2. **Processing and marketing of milk and milk products**: The milk is processed and liquid milk products are produced and kept in sale through own shed area. Different milk products are produced and kept in sale through own or distribution outlets.

3. **Providing Technical inputs**: The union appoints veterinarians who will provide Artificial Insemination service, treatment of diseases etc. on free cost or charging subsidized rates. Emergency services will be provided. Liquid nitrogen will be supplied regularly to field AI Centers Supply of feed and fodder seeds to village societies on cost or subsidized rate is taken up. Establish the dairy and fodder demonstration farms.

4. **Strengthening of milk cooperative movement**: The union will formulate the strategies for strengthening of cooperative, in dairy industry.

5. **Organization of extension activities and rural development service**: Under this, field visits will be arranged for milk producers to dairy plant, cattle feed plant, semen production stations etc. so that producers will get some scientific and profitable method in milk production. Milk yield competition
will be organized to build competition among the producers. Screening of different educational films related to dairying will be undertaken.

6. In addition to the above: Union carries research and other promotional activities for overall benefit of farmers. The union owns and operates' dairy plant, cattle feed plant, fodder and bull mother farms, semen collection station, head quarters centre for animal husbandry activities.

On the net profit earned by the union, 25% is carried to its reserve funds and not exceeding 12% per annum is paid to the member societies as dividend on their paid up share capital and small contribution is made to education funds. Out of the remaining profits, up to 80% is paid as bonus to the members in propaganda and other funds.

4.6 Role of state milk cooperative federations.

The district Dairy cooperative union become members of a cooperative milk marketing. Federation. Each union should subscribe at least Rs. 20,000/- as share capital. The Federation is responsible for evolving and implementation of policies on cooperative marketing union liquid milk and milk products.

The Federation Board consists mainly of the elected Chairman of the entire all the Member of Union and the federations Managing Director. Other members are of representatives of Registrar, Cooperative societies; from representative of financing agency, nominee of NDDB and one nominee union of the State Government (Dairy Development Department). The members elect a chairman of the board. The board evolves by the amount of milk procured by each union in the previous year and profit distribution is done on the same basis.

The Federation Board is advised by its managing committee, which is composed of each member unions chief executive, chief quality control officer and one more non voting coopted technical representatives of NDDB. The Federation Managing Director will be the committee chairman. The committee meets once in month and is also responsible for day to day implementation of the board’s policies and plans.

Out of the total profit earned by the Federation, 25% goes to reserve fund, not exceeding 12% as dividend, remaining as bonus to member union and little to education fund and Research and Development.

4.7 Records and registers in a milk society

Records to be maintained

The society will be required to maintain and periodically update a number of records. The records would be in a bound form and initial supply would come
from the client organization. Their subsequent replenishment / replacement from
the records can be classified in to the following groups.

(a) **Organizational Records**

i. Membership record

ii. Share ledger

iii. Proceedings

(One for general body meetings and other for Managing Committee meetings).

(b) **Financial Records.**

i. General Ledger

ii. Cash Book

(c) **Procurement Records**

i. Milk Purchase register

ii. Milk test record

iii. Dairy register

iv. Sample milk sales record

In the following pages, the format of each form and instructions for
filling them up are given.

<table>
<thead>
<tr>
<th>Name of the Society</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proceeding Book for general body / Managing Committee</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Proceeding</th>
</tr>
</thead>
</table>
Membership record

1. Purpose

To record the membership details of each member of the Primary Milk Producer’s Cooperative Society, originating from Secretary of the society and authorised by the Registrar, coop Societies or the Managing Committee of the Society.

2. Distribution

One copy to be retained at the society

3. Frequency of recording of the updates

Initially at the start of the society, subsequently whenever a member joins the society or levels the society.

4. Information details

i. Date of joining as member

ii. Date of paying entrance fee

iii. Name and Address of member with father’s name

iv. Age of the member

v. Occupation of member

vi. Heirs/Nominee’s name and address

vii. Age and relation of heir

viii. Member’s signature or thumb impression.

ix. Data of leaving membership.

x. Remarks.

Share Ledger

1. Purpose

To record the detail of share purchased by each member of each member of ten primary milk procedure’s cooperative society.

1. Originating from

The secretary of the society

2. Authorized by

The Register cooperative department / managing committee of society
<table>
<thead>
<tr>
<th>S.no</th>
<th>Date of joining as member</th>
<th>Entrance fee paid</th>
<th>Name &amp; address</th>
<th>Occupation</th>
<th>Age</th>
<th>Nominee Relation</th>
<th>Member signature</th>
<th>Date of sig. or leaving thumb membership impression</th>
<th>Remarks</th>
</tr>
</thead>
</table>

Members Details
3. Distribution

One copy to be retained at the society

4. Frequency of Recording

Each time a share is purchased/ returned/ transferred by a member, it is recorded on record for each member.

5. Information Details

i. Name of the society

ii. Name of the share holder

iii. Date of purchase/ return transfer of share


v. The no. of shares issued to member along with serial number of share certificates.

vi. The number of share returned or transferred by the member along with serial number of share certificate returned/ transferred.

vii. Balance number of shares held.

viii. Balance (Rs) deposited as share money.

ix. Amount returned/ transferred to member.

x. Remarks.

7. Processing details

Information recorded here is used in completing individual records.

Name of the Society

Share Holder:

Name of the share holder: Address:

________________________

________________________
**Bonus and Divided Registers**

1. **Purpose**
   Detail of business transacted by an individual producer member over period of one year.

2. **Originating from**
   The managing Committee of the society

3. **Authorized by**
   The Managing Committee of the society

4. **Distribution**
   One copy to be retained by the society.

5. **Frequency of Recording**
   At the end of every month for one year. One record of each member.

6. **Information Details**
   i. Name of producer member and Address
   ii. Period of accounting – from (data and month) to (date and month)
   iii. Quantity of milk supplied and its value (Ref. No. Col. 4&6 of purchase register). The total for the accounting period to be recorded here
   iv. Rate of bonus declared.
   v. Bonus payable.
   vi. No. of share held by the producer (Ref. Co. VII of share letter)
   vii. **Dividend payable** : Amount payable is worked out according to the number of shares held by the producer.

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Cash book folio no</th>
<th>Shares Issued to members</th>
<th>Returned/ transferred</th>
<th>Balance shares held (Nos)</th>
<th>Share money Deposited Rs. Ps</th>
<th>Returned Rs. Ps</th>
<th>Transferred Rs. Ps</th>
<th>Balance Rs. Ps</th>
<th>Remarks</th>
</tr>
</thead>
</table>

**Sl.no**

**Cash book folio no**

**Shares Issued to members**

**Returned/ transferred**

**Balance shares held (Nos)**

**Share money Deposited Rs. Ps**

**Returned Rs. Ps**

**Transferred Rs. Ps**

**Balance Rs. Ps**

**Remarks**
viii. Signature of the secretary.
ix. Signature of receiver on receipt of amount.

7. Processing details

Bonus amount and dividend amount payable: milk supplied and number of shares held by all members may be totalled while preparing financial statements and the annual report of the working of society.

**Bonus and Dividend Registers**

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>A/c period</th>
<th>Milk supplied</th>
<th>Rate of bonus declared</th>
<th>Bonus payable</th>
<th>No. of shares held value</th>
<th>Rate of dividend declared</th>
<th>Total amt. payable</th>
<th>Signature of secretary</th>
<th>Sig. of member</th>
</tr>
</thead>
</table>

**Cash Book**

1. **Purpose**

To record the daily financial business transactions of the society

2. **Originating from**

The Secretary of the society

3. **Authorized by**

The Registrar Cooperative department/ Managing Committee of the society.

4. **Distribution**

One copy to be retained at society.

5. **Frequency of Recording**

Daily

6. **Information details**

This book will have both pages of the register (left and right) for one entry. The page on the left will have entries for the income (credit side) whereas, the right side will have the entries for the expenditure (debit side).

Every day the first entry on the left side with opening balance and with closing Bal. On the right side with cash in hand, is recorded. The cash in hand on the close of the particular day should tally with the opening balance of the next
day and the total income (total of all credit entries) and total of the expenditures and cash in hand should tally.

For any withdrawal or receipt through cheque, the cheque no. and the date is to be entered.

i. Page no

ii. Date and month of transaction.

iii. Ledger folio no. of the head of account.

iv. head of account and particulars of transaction.

v. Receipt no.

vi. Amount of money spent or received.

vii. Total processing details. Bears a cross reference to the general ledger

<table>
<thead>
<tr>
<th>Date and Month</th>
<th>Ledger Folio No. Particulars</th>
<th>Receipt No.</th>
<th>Amount Rs. Ps</th>
<th>Total Rs. Ps</th>
</tr>
</thead>
</table>

**Dairy Register**

**Purpose**

Dairy register helps the management of the society in finding out, on shift to shift basis the economics of the operations of the milk business. The faulty working of the society results in excessive profits. Low and sour age or curdling of milk can be immediately traced and remedial measures can be taken.

Since, the economics is worked out a day –today and shift loss or abnormally large profits due to excess or underpayment suppliers can be immediately checked and the operating profits kept.

**Originating from**

The Secretary of the society

**Authorized by**

The Managing Committee, 4. Distribution; One record kept by society.

**Frequency of recording**

Twice daily update separately for morning and evening shifts.
Information details

<table>
<thead>
<tr>
<th>Column No.</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of the society-month, year.</td>
</tr>
<tr>
<td>2</td>
<td><strong>Date</strong>: One page is for use for 10 days. Dates are given as 1/10, 12/11 etc. During fortnight, strike out dates, 10, 11 etc., and second fort night strike out dates 1, 2, etc.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Shift</strong>: 'M=Morning, E=Evening Number: Number of member suppliers who poured milk.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Quantity</strong>: Liters of milk poured by member supplier.</td>
</tr>
<tr>
<td>5</td>
<td><strong>Amount</strong>: Amount in Rs. &amp; Ps. Paid to member supplier.</td>
</tr>
<tr>
<td>6</td>
<td><strong>Number</strong>: Number of non-members supplying milk.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Quality</strong>: Liters of milk poured by non-member.</td>
</tr>
<tr>
<td>8</td>
<td><strong>Amount</strong>: Amount of Rs. &amp; Ps. Paid’ to non member supplier.</td>
</tr>
<tr>
<td>9</td>
<td><strong>Quantity</strong>: Liters of milk poured by member supplier.</td>
</tr>
<tr>
<td>10</td>
<td><strong>Amount</strong>: Amount in Rs. &amp; Ps. Paid to members supplying milk.</td>
</tr>
<tr>
<td>11</td>
<td><strong>Number</strong>: Number of non-members supplying milk.</td>
</tr>
<tr>
<td>12</td>
<td><strong>Quantity</strong>: Liters of milk poured by non-members.</td>
</tr>
<tr>
<td>13</td>
<td><strong>Amount</strong>: Amount of Rs. &amp; Ps. Paid’ to non members.</td>
</tr>
<tr>
<td>14</td>
<td><strong>Quantity</strong>: Total of columns(4)and(7)</td>
</tr>
<tr>
<td>15</td>
<td><strong>Amount</strong>: Total of columns(5)and (6)</td>
</tr>
<tr>
<td>16</td>
<td><strong>Fat %</strong>: General fat test of the sample drawn from total milk poured.</td>
</tr>
<tr>
<td>17</td>
<td><strong>CLR</strong>: Corrected Lactometer Reading of the sample drawn from total milk poured.</td>
</tr>
<tr>
<td>18</td>
<td><strong>Price payable per litres</strong>: Price from ready reckoner based on fat and CLR recorded in columns 11 and 12.</td>
</tr>
<tr>
<td>Column No.</td>
<td>Information</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>19.</td>
<td><strong>Total amount payable on general test</strong>: Price payable in column 13 x total quantity recorded in column.</td>
</tr>
<tr>
<td>20.</td>
<td><strong>Sasti</strong>: If amount in column 14 is more than amount in column 10, record the difference in sasti column.</td>
</tr>
<tr>
<td>21.</td>
<td><strong>Mahangi</strong>: If amount in column 14 is less than amount in column 10, record the difference in mahangi column.</td>
</tr>
<tr>
<td>22.</td>
<td><strong>Quantity</strong>: Litres of milk sold locally.</td>
</tr>
<tr>
<td>23.</td>
<td><strong>Amount</strong>: Amount in Rs. &amp; Ps. realised from local sale.</td>
</tr>
<tr>
<td>24.</td>
<td>Quantity of milk sent to plant in litres.</td>
</tr>
<tr>
<td>25.</td>
<td><strong>Good milk quantity</strong>: Quantity of good milk received by the union.</td>
</tr>
<tr>
<td>26.</td>
<td><strong>Fat %</strong>: Of the sample of good milk received by the union from the society.</td>
</tr>
<tr>
<td>27.</td>
<td><strong>CLR</strong>: Corrected Lactometer Reading of the good milk.</td>
</tr>
<tr>
<td>28.</td>
<td><strong>Kg. Fat</strong>: Amount of fat in the total quantity of good milk received by the union = Fat% /100 x Litres of milk.</td>
</tr>
<tr>
<td>29.</td>
<td><strong>Rate per kg. Fat or / litres</strong>: Rate payable by the Union to society for one kilo of fat or one litre of milk containing fat, record in column 21 and CLR recorded in column 22.</td>
</tr>
<tr>
<td>30.</td>
<td><strong>Amount</strong>: Rate per kg. In column 24xkg. fat (column 23) or rate per litre in column 24xqty (col. 20).</td>
</tr>
<tr>
<td>31.</td>
<td>Information recorded in column 20-25 for good milk is repeated for sour milk, if any received by the union from society.</td>
</tr>
<tr>
<td>32.</td>
<td><strong>Quantity</strong>: Total quality of milk received by the union = total of columns 20+26+32.</td>
</tr>
<tr>
<td>33.</td>
<td><strong>Amount</strong>: Total amount payable by the union to society = total of column 25+31+37.</td>
</tr>
<tr>
<td>34.</td>
<td>Quantity of sample milk sold.</td>
</tr>
<tr>
<td>Date</td>
<td>Shift</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
4.8 Coordination with other Institutions concerned with Dairy Development

The dairy cooperative societies should have good cooperation with other departments which are full or partially concerned with dairy development. Any society or organization cannot provide the entire requirement. For some requirement it will be dependant on other organization. The dairy co operative societies should have coordination with following organization to mention afew.

1. Dept. of Animal Husbandry : Local veterinarian, who is looking after the veterinary hospital is the key man in the maintenance, of health, reproduction and production aspects of the dairy animals. The Local veterinarian will project the health by doing vaccination. Treat the sick animals, maintains reproductive status, do artificial insemination, pregnancy diagnosis and advises on growing of fodder crops. In each mandal animal husbandry extension officer or mandal veterinarian will arrange subsidized fodder seeds, and other inputs for cattle health.

2. Commercial, Cooperative bank and cooperative societies : The finance required for dairying will be provided by various commercial cooperative banks, and village cooperative societies. The milk producer’s cooperative society should maintain good rappourt with banks, to get loans.

3. District Rural Development Agency : The dairy societies should maintain good relation with DRDA. DRDA will operate many rural development programmes, i.e. Integrated rural development programme, Draught prone area programme; Small farmer’s development activities. If the society maintains good relationships with DRDA, there is every possibility in getting above schemes, which will have even subsidy of 25-50% depending upon the class of beneficiary.

4. Cooperative registrar office : All the cooperative societies of any nature should be registered with cooperative registrar office present in the district head quartes. They will check the counts and mis needs, if happens, regularly. They have to certify that the society is running as per the rules and regulations stipulated. any misunderstanding with them create problems.

5. Revenue Department : Most of the relief operations, matters dealing with lands, law and order will be normally dealt by revenue dept. Eg : village Asst, Mandal Revenue Officer, Revenue Divisional officer. Joint collector and Collector. In Most of the schemes beneficiaries will be selected by the revenue department so cooperation with revenue department is a must.

6. Panchayat Raj System : Gram panchayat is the most essential part of the panchayat raj system which is the base level of this system. Any dairy society is formed in the village. This society should fulfill and obey the rules and
regulations of the Gram panchayat Approach roads, drainage, water, electricity and other basic amenities will be provided by ‘Gram panchayat. Sanitary milk collection can be checked by the Gram panchayat. So the dairy society should maintain coordination with panchayat raj system.

7. Voluntary organisations: In our country numerous voluntary organizations are existing who are working for rural development. The funds for this organization comes from abroad and partly provided by the central government. Some of these organizations are taking up animal husbandry activities. These organizations will select the beneficiaries and provide training with experts on their cost and even fodder crops, for which initial expenses will be borne by them.

4.9 Insurance of Dairy Animals

Insurance is a contract between two parties, where by the insurer under takes in consideration of certain periodical fixed amount called premium to indemnity the other called insured against a certain amount of risk or loss to life or property insured. Cattle insurance has gained importance in recent years. The country is heading for white revolution with introduction of massive cross breeding programme to increases the productivity of the animals.

The financial institutions are pressing for security for loans for the purchased animals, the land less laborers does not possess the necessary property to offer as security. The insurance of animals which are hypothecated to the financial institution is the only security, which encourages live stock loans.

In spite of its importance in national economy, cattle insurance has not gained momentum in the country. The various causes for this are

- Enormous Cattle, population in India
- Cattle ownership is widely dispersed among millions of farmers.
- Low productivity of animals
- Acute shortage of feed and fodders
- Lack of effective disease control
- Lack of awareness

However increase, of cross breeding, scientific farming and dairy farming, and demand created by lending policy of financial agencies has resulted in cattle insurance popularization. The following four subsidiaries of General, insurance corporation are providing cattle insurance.
• National Insurance Company
• New India Assurance Company
• Oriental Insurance company
• United India Insurance company
• The premium for cattle insurance is 4% of the cost of animal insured.

4.9.1 Type of Cattle Covered
1. Milch Cows and Buffaloes
2. Calve/heifers
3. Stud Bulls
4. Bullocks and castrated male buffaloes.

Scope of Cover: Policy provides indemnity in the event of death of insured cattle due to:
1. Accident (Inclusive of fire, lightning, flood, cyclone, famine)
2. Surgical operations.
3. Strikes, Riots, Civil commotion.
4. Diseases (inclusive of anthrax, Black quarter, Foot and Mouth disease, hemorrhage Septicemia, Rinderpest, and Thelariaslis), contracting or occurring during the period of policy, and shall be subject to exclusion as under.
   1. Theft and clandestine sale
   2. Partial disability
   3. Wax, inclusion

N.B:- Excusion No. 3 can be deleted on payment of 1% extra premium.

Age-group covered
1. Milch cows 2 years (or age at 1st calving)
2. Milch buffaloes 3 years to 12 years.
3. Stud bulls 2 years to 8 years.
4. Bullocks 2 years to 8 years.
5. Indigenes Cross bred/Exotic female calves heifers from 4 months up on the date 1st calving.

**Premium Rate depends on**

1. Cattle owned by individuals / institution / Bank financed
2. Bullocks and male buffaloes
3. For all dairies operating under NDDB all over India

**For extra covers age and premium**

1. **Relaxation of maximum age limit for**
   
   Milch cattle and small bulls
   
   By one year 0.5%
   
   Extra premium
   
   By 2 years 1.00%
   
   Extra premium.

2. **Permanent total disability cover 1% .**

   **Under IRDP : Premium 2.25%**

   **Claims :** After the death of animal, the insured has to furnish duly, completed claim form and certificate of death given by qualified veterinarian for animals covered under market agreement scheme. In case of IRDP project cattle, claimant has to furnish information in following forms.

   i. Duly completed claim form.

   ii. Certificate of death given jointly by any two of the following:
      
      1. Sarpanch of village.
      2. President or any other officer of co-operative credit society.
      4. Supervisor / inspector of Central co-operative bank.

   iii. Post martum report, if conducted.
Summary

The entire history of cooperative movement in India was discussed to know about different phases of development of cooperatives. The, cooperative movement in dairy industry was very well illustrated. The three tier Anand pattern of milk cooperative system was explained. The structure and three tier Anand pattern of milk cooperative system, district milk union and state federation were detailed. The different registers and records to be maintained were listed to help the smooth running of a milk society. The coordination of milk society with other departments concerned with dairy development is explained.

Short Answer Type Questions

1. In which year, cooperative credit society’s act was enacted.
2. In which year, cooperation became state subject.
3. In which village the first milk cooperative was formed.
4. What is Amul?
5. Define Anand pattern of milk cooperatives.
7. What is district Union?
8. How much percentage of state Federation profit goes to reserve.
9. Give three departments concerned with dairy development to which milk society to be coordinated.

Long Answer Type Questions

1. Briefly explain the cooperative movement in India.
2. Explain about cooperative movement in Dairy industry.
3. With the help of schematic diagram, explain Anand pattern.
4. Write about structure, functions and activities of districts milk unions.
5. Briefly write about state cooperative milk Federation.
6. What are the registers and records to be maintained in milk society?
5.1 Principles of Marketing

The word ‘market’ comes from the Latin word ‘Marcatus’, which means merchandise or a place where business is conducted. The various definitions for market are.
A market is the area within which the forces or demand and supply coverage exists to establish single price.

The term market means not a particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such a free interaction with one another that the prices of the same goods tend to equality, easily and quickly.

Market means a social institution, which performs activities and provides facilities for exchanging commodities and buyers, sellers in free interaction with one another.

A market exists when buyer’s wishes to exchange the money for goods or service are in contact with sellers, who are willing to exchange goods or services for money.

**Components of a market**

For a market to exist, certain conditions must be satisfied. These conditions should be both necessary and sufficient. They may also be termed as the components of a market.

1. The existence of goods a commodity for transactions.
2. The existence of buyers and sellers.
3. Business relationship or intercourse between buyers and sellers.
4. Demarcation of area as people, region, country or the whole of the world.

The existence of project competition or a uniform price is not necessary.

**The dimensions of a market are.**

1. Location.
2. Area of coverage.
3. Time span.
4. Volume of transaction.
6. Number of commodities.
7. Degree of competition.
9. Stage of marketing.
11. Type of population served.
12. Accrual of marketing margins.

Classification of Markets

1. On the basis of Location.
   (a) Village market: Located in a small village
   (b) Primary market: Located in big town
   (c) Secondary wholesale market: Located in district head quarters
      Important trade centre/near railway stations and transactions take place between
      villagers and wholesales.
   (d) Terminal markets: From where the produce is disposed to consumers.
   (e) Seaboard market: Located near seashore for import/export of goods.

2. On the basis of Area/Coverage
   (a) Local/village market: Buying and selling activities are confined among the local villagers.
   (b) Regional market: Buyers and sellers are drawn from longer area.
   (c) National market: Buyers and sellers are at national level.
   (d) World market: Buyers and sellers are drawn from the whole world.

3. On the basis of volume of transactions
   (a) Wholesale market: The commodities are bought and sold in large lots or bulk.
   (b) Retail market: The commodities are bought and sold to the consumers as per their requirement.

4. On the basis of number of commodities in which transaction takes place.
   (a) General market: All types of commodities are bought and sold.
(b) Specialised market: Transaction takes place only one or two commodities.

5. On the basis of degree of competition

(a) Perfect market: All buyers and sellers are knowledged people and there will be uniform price at any time.

(b) Imperfect market: Where conditions of commodity monopoly on price exists.

(c) Duopoly market: Two sellers/buyers only for a commodity. They may have some understanding on firm prices.

(d) Oligopoly market: More than two sellers of a commodity.

6. On the basis of nature of commodities.

(a) Commodity market: Dealings with goods and materials.

(b) Capital market: Dealings with bonds, share etc.

7. On the basis of nature of transactions.

(a) Spot or cash market: Goods are exchanged for money.

(b) Forward market: Purchase and sale of a commodity will take place at time and exchange of the commodity takes place on some specified date.

8. On the basis of Time span

(a) Short period market: Market exists for short time/season.

(b) Long-period market: Held for longer period.

(c) Secular market: Permanent market.

Marketing

Marketing is a science which deals with the disposal of finished products through various channels and service that are essential for the disposal, until it reaches the consumer.

Marketing also deals with the supply of raw material used for the production of a product. It also deals with the working out the demand, fixation price also producers to increase sales.
Difference of marketing milk compared to manufactured goods

1. **Perishability of the product**: Life of milk is very less and so it should be marketed quickly, while maintaining acceptability to the consumer.

2. **Seasonal variation**: During winter (flush) season more milk will be produced whereas in summer production will be less and demand will be increase.

3. **Bulkiness of milk**: Due to bulkiness, packing and transportation problems arises.

4. **Variation in quality preference by the consumers**: Some consumers like whole milk whereas other favors toned, double toned or standardized milks.

5. **Small size of holdings and scattered production**: In India still dairy is with small farmers with less number of animals, who are scattered over the village and it becomes a problem in collection and transportation while maintaining the quality.

6. **Processing**: Milk has to be processed before marketing which increases the price for transportation, plant for processing and distribution costs.

**The services required for milk marketing:**

1. Timely distribution of monthly milk cards/coupons.
2. Distribution of milk at door step.
3. Collection back of bottles (If bottles are used).
4. Receiving complaints.
5. Establishing pick up booths.
6. Appropriate steps to prevent leakages and perversions.
7. Effective availability of marketing people to the consumers.

**5.2 Marketing of dairy animals**

Marketing of dairy animals is entirely different from marketing of any other product or items. Animals will be purchased from the popular dairy farms, individual farmers. The price of dairy animals are depends upon the individual animal. ‘No common price will be there for all animals. At important places, animal markets are organized on specified days. The dairy animal owners will bring their animals to these markets which are popularly known as “sandies” or “santha”. The animal purchasers will come to the market and they will select the
animals. For getting goods price for the dairy animals, the record about the animals, ancestry particulars, production and other particulars are maintained.

The animals displayed in the market for sale should be washed and prepared so that it will give good look and appearance.

- The entire body should be washed to remove dung, dust, or dust using light detergent solution.
- If the hair on the body is length, hair may be clipped.
- Horns are trimmed.
- Blanketing: i.e. Rubbing the body with blanket or cloth to bring look.
- Trimming of tail hair if too long.

**Determination of the value of the animal**

The value of the dairy animals will depend on the following factors.

- Breed
- Age
- Health
- **Soundness**: Sound body, free from excess fat, dairy type, graceful look.
- **Condition**: Good flesh prior to calving, in cow’s, good growth and development in young animals.
- Present production.
- Past production history.
- Pregnant will fetch more.
- **Calving time**: Winter, rainy or summer. The time of calving, which buyer needs gives more price.
- If pregnant, service sire
- Ancestry
- Type and confirmation
- Type of breed, good capacious udder, wedge shaped body, good size, chest and barrel, well developed and balanced quarters.
- Disposition and other—Quite docile, good temperament, easy milker, Free from vices, teats functioning, free from mastits.
• Expected producing ability- should be high

**The seller should furnish data of the animal as given below, while selling.**

i. Breed

ii. Date of birth

iii. Health condition

iv. No. of lactations

v. Current lactation number

**Lactation yield**

While comparing the production of different animals with different fat percentages, the milk yield should be converted into 4% or 3.5%. Fat corrected milk by the following formula.

\[
4\%\text{FCM} = 0.4 \times \text{milk production in the lactation} + 15 \times \text{amount of butterfat in the lactation.}
\]

\[
3.5\%\text{FCM} = 0.4324 \times \text{milk production} + 16.21.8 \times \text{amount of butterfat in the lactation.}
\]

The average rate of the animal is generally calculated as follows.

**Cow Value** = Average Amount of milk yield per day x 2000

**Buffalo value** = Average Yield of milk / day x 2500.

In big dairy farms/research stations, once or twice in year open auction will be conducted in their own campus. The price of the animals will depend on the competitive bidders.

vi. Average calving interval

vii. Peak yield and day recorded

viii. Total butter fat yield in a lactation

ix. Temperament of the animal

x. Vices in the animal

xi. Physical defects and abnormalities.

xii. Average service period.

xiii. Average no. of services / conception.
xiv. Age of first calving  
xv. Body weight at first calving  
xvi. Major diseases affected so far.

Before purchase of any dairy animal, its health, and reproductive status, pregnancy should be properly checked by a veterinarian. If the animal is suffering from any reproductive disorders, the animal may not conceive, if at all conceives, it may lead to abortion.

5.3 Marketing plans for liquid milks

Some factors which help in deciding the mode of distribution of milk are:

- Keeping quality and kind of milk  
- Perishable nature of milk and its products.  
- Possible contamination  
- Proper supervision and control in distribution  
- Cost of distribution / delivery of milk  

Distribution of pasteurized milk

The deterioration of quality of pasteurized milk is mainly due to post pasteurization contamination. The pattern of its distribution to public is affected by the following factors.

1. Building density in particular locality  
2. Topography of the area.  
3. Number of customers.  
4. Distance of the area from dairy plant.  
5. Temperature of milk at delivery.  
6. Type of delivery vehicles,  
7. Shop distribution vs. home delivery.

Containers for milk distributions

1. Dispensing in sealed cans.  
2. Dispensing in bottles  
3. Distribution by polythene bags or tetra packs
System of distribution of milk

Sound system of milk distribution is essential for

(a) Efficient well organized retail marketing of milk.

(b) Simple, convenient for both farmer and customer,

There are three system of distribution

1. Cash and carry system: The customers are required to pay the cost of milk to vendors at the time of delivery of milk.

Merits

Maintenance of account of sale proceeds of milk is easy.

- Commission of vendors can be calculated easily and promptly
- Account of each calendar month can be closed in time.
- No extra cost involved in printing coupons / cards.

Demerits

Handling of huge amount of coins and currency is a problem.

- Daily counting of money is cumbersome.
- Risk of embezzlement of money by vendors, chances of loss of money due to theft or pick-pocketing.
- Non availability of coins, difficulty for willing customers in purchase of milk.

2. Coupon system: In this system, a set of coupons are issued to the customers on advance payment. Customers receive milk in exchange of coupons and purchases new booklet of coupons, when they run short of it on advance payment.

Merits

- Chances of loss of money are eliminated.
- Money on dairy farm is received much in advance which can be profitably utilized.
- Sale of milk in uniform even at the end of month.
- Counting of coupons is not cumbersome.
Demerits

- Value of unredeemed coupons cannot be ascertained easily.

- Account of sale proceeds of milk at the close of calendar month cannot be as clear.

- Chances of recirculation of redeemed coupons.

- Forged printing of similar coupons is eminent.

Sample of the coupons

Front cover

<table>
<thead>
<tr>
<th>Book No.</th>
<th>Sl. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

... Liter of Milk

The Dairy Farm

Sold to Shri Dairy Officer

Leaf of the Coupon

<table>
<thead>
<tr>
<th>Book No.</th>
<th>Sl. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The

Will exchange the coupon

For Litres the coupon Dairy officer

3. Card system: Milk cards are printed and sold to customers on advance payment. Validity of milk cards is limited to a month. Date of issue is not fixed but expiry of all sold cards is fixed. Customers who could not take milk for a day or days together are liable to get the cost of milk refunded. Immediately after supply of milk is made, the quantity of milk is noticed at the back of card on each date.
Card can be issued from the dairy office. One day time is allowed for customer to register. At the time of issue of card, timings of milk delivery are notified. Usually yellow cards are issued for cow’s milk and blue cards for buffalo milk. It is also made available through E-Seva centres.

Merits

- Cost of milk is received in advance which can be utilized advantageously.
- Trouble of dairy counting of money / coupons eliminated
- Market for milk is assured.
- Chances of loss of money eliminated.

Demerits

- Refunds for non-supply of milk causes great inconvenience to both customers and organization.
- Monthly accounts of actual sale proceeds of milk cannot be closed on account of refund.
- Vendors and booth men may sell out milk to non-bonafide customers other than card holders.
- Printing and issue of cards and refund involves a good deal of labour and time.
- Customers have to pick up milk only from assigned places.

**4. Push button mini dairy:** This is designed or installed on NDDB designed coin (TOKEN) operated milk vending machine, popularly known as “push button mini dairy”. The milk holding capacity of these machines varies from 1000 to 3000 lit large enough to hold the milk required by him/her. Also called Bulkvending machines.

For marketing of liquid milk, a market survey should be conducted about the following items

1. Total liquid milk demand.
2. Complaints about the competitive product
3. Type of milk, the consumer prefer, i.e. Toned milk, Double toned milk, standardized milk, whole milk, low fat milk etc.
4. Income details of the consumers.
5. Selling points which will be more convenient to maximum people and trustworthiness on the seller.

After getting the survey results, the areas are divided into number of zones. In each zone milk distribution/ selling points are located.

**Points to be considered in marketing of liquid milk.**

1. Depending upon the income of consumers, type of milk should be prepared.
2. Depending upon the need, the size of pocket i.e. 200ml, 500ml, 1 liter etc should be prepared.
3. The pick up / selling points should be convenient.
4. 24 hours availability of milk, will definitely increases the sales.
5. Receiving complaints about leakages, quality, availability, price, timings should be taken care and necessary prompt action may be taken.

**5.4 Strategy for marketing of milk products**

For marketing of any product the following steps are followed.

I. **Market survey:** Marketing of any product requires market survey to produce a products. The market survey for the marketing of milk products should be based on the following points.

   (a) Economic status of the people in the area.
   (b) Purchase power of the people for the milk products.
   (c) Present consumption of different milk products.
   (d) Packing size required.
   (e) The competitors in the market.
   (f) The price and offers of the competitors.
   (g) No. of dealers / retailers required.
   (h) Details of already established distributors / retailers.
   (i) Consumer’s growth.

Marketing survey people will be appointed or survey work may be given to some firm to get the information about the above information.
II. Market measurement: By analyzing the above demand and position can be analyzed as followed.

(a) Present demand and supply of the product.
(b) Price existing.
(c) No. of consumers with quantity required in each area.
(d) Packing size required in area / consumer wise.
(e) Effective distribution channels / sellers
(f) Weakness in competitors products
(g) Service given by competitor / service required.

III. Selection of product: After making survey and analyzing the data of product which are in demand are selected. The availability of raw materials (milk) and price of collection will be surveyed and if these are favorable manufacturing of the products will be started.

IV. Price of the products: Price of the product will directly influence on the marketing of any product. The price of the product will be calculated as follows.

(a) Calculating the cost of production of the product,
(b) Distribution cost (Transportation cost) (1-2% of the product)
(c) Distribution margin (2-3% of the cost of product)
(d) Retailer margin (5-8% of the cost of product)
(e) Marketing expenses (sales personnel) (1% of cost of products)
(f) Advertisement expenses (2-5% of the cost of the products)
(g) % of profit desired. Generally at 10%.

While estimating for profit, it should be reasonable. The reason for aiming a reasonable profit are.

1. It will prevent entry of competitors into the market. It will project a favorable public image. Brand name image.
2. It will restrict the trade union demands.
3. It will maintain relation with customer goods will be available at reasonable quality at reasonable price by giving service facilities.
After calculating the production cost (including marketing advertisement) the following price method is followed. i.e, 0 market method which is the price of the cost do production or competitors price or market + in which price is fixed above the production cost or competitors price or market – less than production cost competitor price.

For a new firm, to compete the competition the products should be sold at market – ve price to get market share. After entering into market slowly switch over to market 0 and afterwards to market + price.

V. Market forecasting and target fixation: Forecast the sales volume of the product in the – market depending on the preliminary market survey and fix the target.

VI. Marketing strategies to achieve target

The marketing strategies are.

(a) Appointing sales officers/ marketing people to promote sales.

(b) Advertisements in the form of pamphlets, wall posters, holding and even in electronic media.

(c) Offering discounts/ offers.

(d) Attending the complaints or any service required.

The marketing expenses will be high in the initial stage. One should not bother about initial marketing expenses. It is very difficult to enter in competitive market. Once the product is entered into the market, growing in market share will not be a problem.

VII. Review of policies

After entering into the market and gaining customer faith about the quality and services, the prices may be slowly increased and it should be comparable with the competitor’s price. Within a short time, the price may be fixed to made + price.

VIII. Social activities

To gain confidence of the customers, some programme in the localities of the people may be sponsored like cultural programmes, games and sports, offering scholarships to meritorious students, maintaining parks, roads, school etc. For these functions company logo can be utilized for sponsoring which will help in increasing the sales, meeting expenditure from promotional budget.
Marketing systems.

I. Producer- Consumer

The producers directly sell the products to the consumer. No middle man in the marketing. In this any problem will be immediately tackled.

II. Producer- Retailer- Consumer

The producer will supply the products directly to the retailer, who will in turn, will sell the products to the consumers. If the business terms between the producers and retailers fail, he will take lead role in marketing. If any sales promotion benefits in the form of gifts, cash etc., will give boost to the retailer to improve the marketing.

5.5 Role of advertisement for market promotion

In modern marketing system, there is stiff competition for any item in the market. To compete in the market with competitors, advertisement is the main instrument. It is not uncommon in market, that many of the manufacturers spending lot of money on the advertisement. Even, the excellent quality product cannot enter in the competitive market, without advertisement.

The various means of advertising for promotion of sales.

1. Pamphlets, bulletins etc : Pamphlets of different sizes, attractive colors are printed for distribution to the customers. The matter is so framed highlighting the worth of the product compared to other brands of competitors. A comparative statement can be prepared containing extra. Quality in the product, keeping quality, effect on health, and under lining the cost comparing with other products in the market. Directly the competitors name or brand should not be mentioned, but only mentioning the other product containing ‘x‘ composition, colors or any specific or separate qualities. The format may be like the character.

   **Our products :** competitors / CX CY CZ etc.

   1. Composition
   2. Extra contents
   3. Keeping quality
   4. Taste flavor
   5. Energy
   6. Other nutrients
   7. Price
In the pamphlet figures, cartoons etc can be printed which will give impression about the product. The running matter should be very less and only highlights should be mentioned. The matter should be in regional or popular language on one side national/international language and other side regional language. These pamphlets can be distributed to all the houses through newspapers, or appointing boys. The pamphlets can be made available in popular shops.

2. Posters: A poster is designed to make a public announcement of a special idea. It includes only a few words with an illustration. To catch the attention of the viewers and to pass a simple message at a glance, it should be attractive, brief and clear. If the poster is attractive, then people will look it for a longer time. It should have caption which should be as small as possible. It should be printed in bold letters. If necessary include the picture which can give eye catching to the people., use attractive bright color. Do not use more than three colors. Normally the back ground colors mostly preferred are yellow green, light blue and dark blue. Plenty of space between letters, words, lines and illustrations must be given. The layout of the poster should be well balanced so that viewer’s eye can smoothly travel. The style of giving message should be dependent on the type of customers.

3. Holdings: Holders are permanent boards made of iron and placed on elevated heights with the help of strong stands or located on top of the buildings. The advertising material is painted or poster is posted to the board. These holders are placed in important junctions or on highly ways or busy centers. Lighting facility will be there to facilitate at night times. The matter / figures will be almost the same as guidelines followed for posters. The holders are easily eye catching type and give wide publicity about the product.

4. Newspapers, periodicals and Magazines: Newspapers, periodicals and magazines are good media for advertising about the product. Most of the people will read newspaper. If not all most of the people with read magazines and periodicals. If advertisements about the products are given in newspapers and periodicals, people will go through this information and definitely increase the sales. There, advertisements should be captioned with interesting caption and the information about the product with photograph should give good opinion about the product over competitor’s products.

5. Cutouts and Banners: Big size cutouts with product information can be kept at important places. Banners made of cloth or plastic materials containing the information about the products may be arranged facing main roads. These cut outs and banners will improve the sales.
6. **Railways and Transport Vehicles**: Railway bogies, Buses, Lorries and other commercial vehicles can be painted with the information about the product. When the people are waiting for buses and trains, will definitely see the matter and will have some effect on the sales.

7. **Slides in Cinema halls**: Slides can be prepared with the information about the products, which can be displayed in cinema halls at the beginning and interval timings.

8. **Electronic Media**: In modern era electronic media plays an effective role in advertising among the various electronic medias.

   (a) **Radio**: Advertisements can be played on radio during break time, before and after any programme. The advertisement programme prepared for radio should be preferably in songs style of popular songs or talk style of very important persons. The audio giving persons should have clear and melodious voice.

   (b) **Television**: Television advertisements films can be prepared and the advertisement material can be displayed with athletes or any other important People. These advertisement will have more impact on the people as it is seen in films. The famous personalities will be delivering the matter as they are using that product with good results. These Television advertisement can be displayed either in Doordarshan or any local channels. The rates for these advertisement depends on the time of display, the programme in which it is displayed.

   (c) **Electronic Display boards**: Electronic display boards can be displayed in the railway platforms, Bus station, important junctions, stadiums parks and public places. The features of the product will be displayed as running matter.

   In electronic media, audio- visuals are more effective than only audio or video separately.

9. **Sign boards on the road-dividers or traffic islands**: Sign boards can be placed in the place of roads dividers. These boards will be painted with the information.

10. **Appointing advertisement persons**: Appointing advertisement people both men, women who will explain about good qualities of the product, at door step. They will wear dresses and caps containing information about the product, which will definitely attract the customers. Friendly walk, run on the main roads wearing logos of the company and product will definitely have the impact on sales.
5.6 Analysis of consumer demand and acceptance

The term ‘demand’ refers to the quality demand of a commodity per unit of time at a given price. It also implies a desire for whose fulfillment a person has ability and willingness to pay. Mere desire of a person to purchase or to consume a commodity is not his demand. He must possess adequate resource and has always a reference to “a price”, a period of time and ‘a place’ without these no meaning for demand. The term ‘market’ may refer to a particular section of consumers classified under age groups, sex, social status, income groups, geo-graphical etc.

Type of Demand

1. Individual and market demand for a commodity: The quantity of commodity which an individual is willing to buy at a particular price of commodity during a specific time period.

Taste: taste and price of other commodities is known as individual demand for a commodity. Individual demand depends on price, income taste and prices of the substitutes. The total quality which all the consumer of any commodity are willing to buy a given price per time unit, given their on the money income, taste and price of other commodities is known as ‘market demand’.

2. Demand for firm’s products and Industry products: The quality of a firm products that can be disposed at a given price over a time period will be for the product of the demand for the firm’s product, where as the aggregate of demand product. It feels the share of a firm in total demand for an industry’s product.

3. Autonomous and desired demand: Autonomous is one that arises boards independent of the demand for any other commodity, where is derived is one that is tied to the demand for some of the biological or physical needs of the human being may be considered as autonomous. Eg: Milk Demand that arises out of demand for some other commodity as derived of the demand eg. Cow, feed etc.

4. Demand for durable and non durable goods: Durable goods are those whose total utility not exhausted by single use and can be used repeated eg. Cloths, shoes; etc. non durables goods egg. All food items.

5. Short term and long term demand: The commodity is demanded and only over a short period. Eg. Woolen clothes, long term demand which is having continuous demand eg. Cloths,
1. **Law of demand**: Gives the relationship between the price and quality demand. It states that the quality demand of a product/unit time increases when the price falls and decreases when the price increases, while other factors are constant. This assumption implies that all other factors include:

- The income of the consumer
- The price of the substitute.
- Complimentary goods
- Consumers' taste and preference are constant.

*Example*: The demand for milk is as follows.

2. **Substitution effect**: Any substituted products will decrease the demand.

3. **Utility maximizing behavior**: It can be studied with a decrease of the demand.

4. **Increase in the population**: Consumers will increase the demand.

5. **Credit facility**.

**Analysis of consumer behavior and acceptance**: Consumer behavior in physiological and psychological phenomenon.

- **Physiological**: Need food, clothes
- **Psychological**: Luxury (false prestige), new modern designs of cloths, shoes, etc.

The consumer acceptance depends upon psychology. It depends upon customs, norms, and values of consumers. A change in these factors like religious values, social habits, general lifestyles, age, sex, new fashions will change the behavior and affect the acceptance by the consumer. The consumer will expect maximum satisfaction with spending the least possible price.

Some times, the demand will be shifted due to

1. Fall in consumer’s income.
4. Change in the –technology of the products.
The elasticity of demand is the degree of responsiveness of demand to the change in its determinants like price, income, advertisement, difference between original and inferior goods.

**Market survey**

Market survey is the survey conducted among consumers about their needs, income, and purchases capacity, present using product, their satisfaction about present products and its supply, their expectation, their life style etc. Market people will be appointed to get the above information which on analysis gives about the consumes demand and also his acceptance or satisfaction about the product. These survey are helpful in:

1. Knowing about the consumer. Demand about a particular product.
2. To know the price of product at which they can afford.
3. To know consumer expectation and requirements in the products.
4. Any improvement needed for the product.
5. To know any difficulties in distribution and selling persons.
6. To know about the quality of the products when it reaches the consumer.

### 5.7 Role of salesman and marketing personalities in marketing of dairy products

Any person who is employed to sell the product is known as Sales man. Now a days the art and profitability of business mainly depends upon the marketing. Any body can prepare any product, but the profitability and survivability depends upon effective marketing. For effective marketing, salespeople are necessary. Depending upon the organization and level of working they are named as salesman, Sales representatives, marketing manager, sales coordinator etc. The art of selling is termed as Salesman ship.

**Activities of Salesman**

1. He will be in touch with distributors/Whole Saler/retailers regularly to know about the movement of the stock
2. Sales people will approach the important and active people, who will influence others in purchase of particular brand of the product he will explain with them, about all the good qualities of the product comparing other similar products.
3. Sales people will approach the individual customers, and explain the advantages of their product over other products available in the market.

4. After sales service is an important item in the marketing. The sales people will highlighted about the after sales services by their company, which is not attempted by others or giving inferior services.

5. He should speak good language without any breaks. His talk should be very impressive and people should be attracted to hear his speech.

6. Directly he should not introduce the product to the consumers. He should give his introduction from which company names etc.,

7. He should wish the customers in local language and traditional. Types and he should enquire the welfare of the family members so that at end the customers are satisfied.

8. Sales people will take samples of the product with them and they give the live demonstration before them. Which have much effect on the customers They will carry other company’s product with them and compare the qualities before customers.

9. Sales people will try to impress the customers by enquiring children education and giving best medical facilities available if any family member is sick. Then they will talk about their products.

**Skills of a Sales Man**

Any sales person should have the following skills to improve the sales of the product.

1. The sales man should wear well fitted and attractive dress and he will use tie and look trim so that he will look active and pleasing personality.

2. First he should start about the necessity of particular product and then he should introduce his company product which is superior than any other similar products available in the market.

3. He should patiently and interestingly hear, what the customers are feeling and he should not directly give controversy over their feeling. He should support their feeling and then slowly tell them that use of his company product will improve the condition or facilitates further.

4. If the customer offers any hospitality, he should agree for that and he should appreciate hospitality repeatedly, so they show same inclination towards his products.
5. He should tell some interesting examples in the beginnings or about the famous personalities or jokes or any other interesting topics so that the customers will attract to salesman talks, depending on condition.

6. He should give a sample of the product to the customers and he can challenge about the good qualities of their product.

7. Sales people may attend the family functions, religions and cultural functions so that the customers are impressed by sales people.

**Summary**

The concepts of markets and marketing were presented well. “marketing of dairy animals, liquid milk products was discusses detail which helps the business to enter into good profit. The various methods for finding consumers demand and acceptance of a product fully explained. Salesmanship activities and skills of a salesman detailed to enhance the sales of the product.

**Short Answer Type Questions**

1. Define market.
2. What is marketing?
3. What is FCM?
4. Give formula for 4% FCM.
5. Give formula for 3.5% FCM.
6. What is coupon system?
7. Mention various system of milk distribution.
8. What is demand?
10. What is Salesmanship?
11. Define consumer acceptance.
12. Define advertisement.

**Long Answer Type Questions**

1. Briefly explain concepts of markets and marketing.
2. Explain marketing of dairy animals.
3. Briefly write about marketing of liquid milk.
4. Discuss in detail about marketing of milk products.
5. What are the ways and means of advertising for promotion of sales?
6. What are the method of finding consumer demand and acceptance?
7. Briefly explain about activities and skills of a salesman.
Dairy Accounts

Structure

6.1 General principles of account keeping
6.2 Single and Double entry system
6.3 Various records pertaining to financial aspects
6.4 Preparation of balance sheet
6.5 Auditing

Learning Objectives

After studying this unit, the student will be able to

- Understand principles of Account keeping.
- Know about Single and Double entry systems.
- Learn about preparation of Balance Sheet.
- Learn how to conduct Auditing.

6.1 General principles of account keeping

Accounting is of vital importance to any business. The proper account helps the management to take many important decisions. Marketing a right financial decision is the key to successful business operations. In order to make right decision, financial information must be readily available. If the accounts are kept properly, the manager can get immediate information as following.
• The cash position of a day
• Cost of a unit of product
• Amount owed to creditors
• Profit made
• And any other information he desires

Objectives

I. To know the number of transactions: made during a particular period of time.

II. To know the total amount received or paid during a particular period, of time, an particular item or “accounted”

III. To know the credit or debit balances of particular heads of accounts.

IV. To know the investments; cash on hand in bank.

V. To have the idea of overall business.

VI. To prepare the annual statements of accounts i.e. Trial Balance, Trading account, profit and loss account and balance sheet and to send it before the auditors and Annual General body Meeting for approval.

6.2 Single and Double entry system

There are two systems of accounting i.e.

Single entry system.

Double entry system.

Single entry system

Every transaction has two aspects i.e. receiving aspect and giving aspect. But only one aspect is, tabe recorded in single entry system.

This system has not been proved to be systematic and scientific. Joint stock companies should not be followed in this system asper, India Companies Act of 1.956. This system may be followed by soltrade and partnership firms.

Double entry system

The most popular and convenient system of accounting, is Double entry system which is universally adopted. Under this system, each transaction is to
be recorded on both sides, i.e. debit and credit sides. The fundamental principles for double entry are.

i. **Debit** : What comes in (goods)
   
   **Credit** : What comes out (goods)

II. **Debit** : Receiver
   
   **Credit** : Give

III. **Debit** : Expenses, Losses
   
   **Credit** : Income, gains

   **Examples are** : Cash book / day book, Ledger, Trial Balance, account, Profit and loss account and Balance sheet.

**Stages of Double Entry System**

The following are the three stages of complete system of double entry book keeping.

1. **Recording**
   
   Recording of transactions in the journal or subsidiary books.

2. **Classification**
   
   Classifying the transaction by posting them to the appropriate ledger account and preparing a trial balance.

3. **Summarization**
   
   Closing the books and preparing the final accounts.

**Advantage of Double Entry System**

1. **Scientific System**
   
   This system is only scientific system of recording business transactions as compared to other system of book keeping. It help to attain the objectives of accountancy.

2. **Complete record of transactions**
   
   This system maintains a complete record of all business transactions.

3. **A check on the accuracy of accounts**
   
   By the use of this system the accuracy of the accounting work can be established, through the device of trial balance.
4. Ascertainment of profit and loss

The profit earned or loss suffered during a period can be ascertained together with details by preparation of profit and loss accounts.

5. Comparative study is possible

Results of one year may be compared with those of previous years and reasons for the change may be ascertained.

6. Acknowledge of financial position of the firm

The financial position of the firm or the institution concerned can be ascertained at the end of each period, through preparation of balance sheet.

7. No scope of Fraud

The firm is saved from fraud, misappropriations, since full information about all assets and liabilities will be available.

8. Full details for purpose of control

This system permits account to be kept in as much detail as necessary and afford of significant can information for the purpose of control etc.

9. Help management for Decision making

The management will be, able to obtain good information for its work, specially for making: decisions.

6.3 Various records pertaining to financial aspects

Financial Records

Cash book/ Day book /General Ledger Receipt Book Payment Register

Cash Book / Day Book

The cash book is the in which all transaction including cash credits, counter entries etc., are made. One has to bear in mind the following principles while writing cash book of the primary Dairy Co-operative.

1. There are two sides of the cash book. The left side is known as receipt side or credit side and right side is known as payment side or debit side.

2. Both these sides together, make one page of the cash book.

3. All the day to day transaction are entered in the cash book.

4. All the cash as well as credit transaction are entered in the cash book.
5. If there is a cash transaction, the entry will be on one side only.

6. If there is coming in the entry will be on the receipt side / credit side of the cash book.

7. If the cash is paid or going out, the entry will be on the payment side/ debit side of the cash book.

8. Credit all the incomes and debit all the losses.

9. If there is a transaction which does not affect the cash, the entry will be on both sides of the cash book.

10. Credit the sales and debit the purchases.

In this way, all the transactions of a particular day will be entered in the cash book and at the end, both side of the cash book will be totalled. The excess of the receipt side over the payment side will represent cash in hand and closing balance of the day. And the same shall be verified with the actual cash in hand – cash in box. This balance will be written to equalize by the total on both the sides. This closing balance of the day shall also be written authorized person / chairman of the society.

**General Ledger**

<table>
<thead>
<tr>
<th>Page No</th>
<th>Account</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date &amp; Month</td>
<td>Particulars</td>
</tr>
</tbody>
</table>

**General / Miscellaneous Records (Other records)**

I. Indent Book

II. Stock – cum purchase register

   (Consumable and dead stock)

III. Cattle stock – cum – sale register

IV. Society letter head.
<table>
<thead>
<tr>
<th>S No</th>
<th>Name of Record</th>
<th>Originating from</th>
<th>Purpose</th>
<th>Authorized by</th>
<th>Distribution</th>
<th>Frequency of record</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Indent book</td>
<td>Secretary of the society.</td>
<td>For requesting the union to supply material, for stores, issues depending upon the business of the society.</td>
<td>M.C. of the society.</td>
<td>Original go to the stores union duplicate to be retained by the society in the book itself.</td>
<td>Every time when society require any article.</td>
</tr>
<tr>
<td>2.</td>
<td>Stock cum purchase register</td>
<td>Secretary of the society</td>
<td>To record all purchases and stock of material along with issues and balances. The balance drawn within register are used in preparing final accounts also.</td>
<td>M.C of the society.</td>
<td>To be retained at society.</td>
<td>Every time when any purchase is affected or material is issued for used breakage etc.</td>
</tr>
<tr>
<td>3.</td>
<td>Cattle feed stock cum sale register</td>
<td>Secretary of the society</td>
<td>To record all purchase opening and closing of stock</td>
<td>M.C of the society.</td>
<td>To be retained at.</td>
<td>When the purchase or sale is affected only total sale figure are to be</td>
</tr>
</tbody>
</table>
6.4 Preparation of Balance Sheet

The balance sheet is the statement which the complete financial position of the organization from the beginning of the organization upon the date of which the balance sheet is prepared. The balance sheet consist of two sides, namely “Asset” are more than liabilities of the financial position of the organization can be called as sound and if the total liabilities of the organization are more than total. Asset the financial position of the organization is called as ‘weak’ or unsound.

The Balance sheet is very useful statement of account in getting a clear picture of the organization. It shown what total capital is, how much is due to an organization and how much the organizations owes to others, what is the total profit or loss during the year, what is the financial progress of the organization. It also shown the total fixed and floating assets and stock and bank and cash balance of the organization. On the top of the balance sheet, it should be mentioned that upon, which period the balance sheet is prepared. If all the final account are correct, the two sides of the balance sheet will tally.
We will require the balance sheet of the last period for preparing the balance sheet as most of the accounts are connected with the previous period. We also require the closing stock, closing cash balance at the end of the period over and above the trial balance for preparing the balance sheet.

The share capital, of all outstanding funds borrowing, loans, creditors, and net profit are including on the liabilities side of the balance sheet and fixed and floating assets such as Land, Building, Dead stocks investments, debtors, Bank and Cash balance, stock in hand etc., are included on the Asset side of the balance sheet.

**Benefits**

I. The rate of profit on sale can be known.

II. The pricing structure can be revised, if needed.

III. The variations and its reasons for lower profits/loss can be known.

IV. The purchase made during the year can be maintained. Stock in the beginning of the year and at the close of the year can be compared.

V. The organization can assess the efficiency of its business—whether it is progressing to there, is any set back compared to the previous years.

VI. Business turnover for the year can be known, and also help in fixing the production cost.

**Balance Sheet Proforma**

<table>
<thead>
<tr>
<th>Liabilities</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share Capital</td>
<td>Share Deposits</td>
</tr>
<tr>
<td>Other Funds</td>
<td>District cooperative union</td>
</tr>
<tr>
<td>Reserve Funds</td>
<td>District cooperative bank</td>
</tr>
<tr>
<td>Building fund</td>
<td>Hyderabad Fertilizers</td>
</tr>
<tr>
<td>Cattle Development fund</td>
<td></td>
</tr>
<tr>
<td>Charity fund</td>
<td>Other Fertilizers</td>
</tr>
<tr>
<td>Coop. Propaganda fund</td>
<td></td>
</tr>
<tr>
<td>Depreciation Fund</td>
<td></td>
</tr>
<tr>
<td>Dead Stock</td>
<td></td>
</tr>
<tr>
<td>Other Debit</td>
<td></td>
</tr>
<tr>
<td>Special visit fee</td>
<td></td>
</tr>
</tbody>
</table>

**Dead Stock**

Dead stock
Testing material
A.I. Dead stock
Library
6.5 Auditing

Audit means checking and the auditor is considered to be a fault finder of fraud – detector. The responsibility of an auditor is not confined to find of faults. (Or) irregularities. He has to verify whether the books of account and other records maintained by the organization are with sufficient detail and cover all types of transactions. He is responsible to see whether the final account show a true picture of the state of affairs of organization.

6.5.1 Objectives and functions of Audit

Objectives

1. Verification of account and statements.
2. Detection of errors and frauds.
3. Prevention of accuracy and errors and frauds.
4. To a certain extent the exact errors and frauds.

Functions (General)

1. To examine the system of internal check.
2. To check the arithmetical accuracy of the books of accounts and the

<table>
<thead>
<tr>
<th>Staff bonus</th>
<th>Other Deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff provident fund</td>
<td>District cooperative union</td>
</tr>
<tr>
<td>Share deposit</td>
<td>A.I.</td>
</tr>
<tr>
<td>Member’s bonus</td>
<td>First Aid</td>
</tr>
<tr>
<td>ARDA member fee</td>
<td>Bank</td>
</tr>
<tr>
<td>Net profit</td>
<td>Interest</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stock on hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk bill due</td>
</tr>
<tr>
<td>feed stock</td>
</tr>
<tr>
<td>Ghee stock</td>
</tr>
<tr>
<td>Provident fund due</td>
</tr>
<tr>
<td>Land purchase</td>
</tr>
<tr>
<td>Balance in bank</td>
</tr>
<tr>
<td>Cash on hand</td>
</tr>
</tbody>
</table>

| Chairman | Secretary |
verification of postings, casting, balancing and by tallying the receipt and payment statement of trial balance.

3. To verify the authenticity and validity of transactions by a examination of the entries in books with relevant support documents.

4. To ascertain that a proper distinction has been made between items of capital nature and those of revenue nature.

5. To confirm the existence and value of asset and to verify liabilities.

**Specific function to primary milk producer’s co-operative society:**

1. To check that all members have been issued a pass-book and proper entry is made therein, each time when milk is brought to the society.

2. To see that registers of purchase, fat test, local sales and sales of milk to dairy are properly maintained.

3. To ensure that the members are correctly paid for the milk of the basis of its quality.

4. To see that payment for milk is made to members regularly as per schedule.

5. To check whether the fat tests of the sample of milk of previous shift is correctly entered in the purchase – register and member pass book.

6. To examine the method applied for local sale of milk and see that all local sales are duly accounted for.

7. To see how the sample milk is disposed off and whether the system adopted is fair and equitable.

8. To verify that system for transportation of milk from society is as per rule and regulations prescribed in bye- laws of the society or duty completed with.

9. To confirm the existence and value of asset and to verify liabilities

**Summary**

General principles of account keeping were explained which helps in maintaining accounts in dairying business. Single and double entry systems were dealt with examples. Principles in maintenance of financial, goods and other records were discussed. Steps in preparation of balance sheet were shown which helps in development of balance sheet of the business. Auditing, which helps to know the deficiency was discussed in detail.
Short Answer Type Questions

1. What is a ledger?
2. Define trial balance.
3. What is single entry system?
4. What is double entry system?
5. Define balance sheet.
6. What is Auditing?
7. Define Accounting.
8. What is heading account?
9. What is Cash book?
10. What is the objective of auditing?

Long Answer Type Questions

1. Explain general principles of account keeping.
2. Briefly write about single and double entry system.
3. How do you maintain financial, goods and other records in the business.
4. Explain about objectives and functions of auditing?
5. Briefly write about the balance sheet.
UNIT 7

Dairy Extension

Structure

7.1 Role of extension in Dairy development
7.2 Dairy Extension - Methods
7.3 Role of audio visual in dairy development.
7.4 Selection of extension methods for effective transfer of technology
7.5 Communication process - Aims, objectives and Problems
7.6 Organisation of training programmes, cattle shows, exhibition etc.
7.7 Evaluation of training programmes

Learning objectives

After learning this unit, the student will be able to

- Understand about role of extension in Dairying.
- Learn about Dairy extension methods.
- Know about Audio Visuals in Dairy development

7.1 Role of extension in Dairy development

Dairy extension is a special branch of animal husbandry extension which deals with the people. The people through education procedures, in improving dairying farm and / or dairy industry methods and techniques, increasing the
Dairying

452

milk production and/or processing and efficiency, increasing the income and stepping up the level of living and elevating the social and educational standards of rural life.

**Importance of Dairy Extension**

The majority of the dairy industry is with illiterate people. They have dairying as subsidiary to the agriculture. The knowledge in dairying to the rural farmer is very less and the production of milk is very low quantity. To improve the milk production, the dairy extension plays a vital role. The dairy extension will help the rural farmers in the field of dairying in the following areas.

1. Selection of good dairy animal
2. Construction of comfort and economical cattle housing
3. Economical feeding systems
4. Improving the milk production with better management
5. Management techniques to combat the effects during different seasons
6. Formulation of feed with locally availability ingredients
7. Development of Fodders
8. Good milking techniques
9. Prevention of diseases
10. Cross breeding programme
11. Preservation of milk
12. Preparation of indigenous milk products
13. Marketing of indigenous milk products
14. Insurance of animals
15. Management of different classes of animals

**7.2. Dairy Extensions - Methods**

The various Extension methods are classified into 3 groups.

1. Individual contact methods
2. Group contact methods
3. Mass Contact methods
A. Individual contact method: it is a face to face type of individual contact by the extension worker with an individual (farm, farm women, youth etc) or the members of the family for a special purpose. The various individual contact methods are.

(i) Farm and home visit

It is a face to face type of individual contact by the extension worker with the farmer and or the members of his family on the latter’s farms or at home one or more specific purposes. It is intended to give first hand information to the farmer relating to the development of farm and house, and identify the local leaders.

Advantages

i. Extension worker develop good rapport with farmer
ii. Extension workers gets first hand information on rural problems
iii. Help in locating local leaders and cooperation
iv. Percentage of adoption is high
v. He develops confidence when his ideas are accepted by the farmers.

Disadvantages

i. Limited contacts of farmers
ii. Some times vision may not be opportunistic to the farmers
iii. Chance for favoritism

(ii) Office call

It is a call made by a farmer or a group on the extension worker at his office for obtaining information and for inputs or other farm help needed or making acquaintance with him. The volume of office calls is related to the degree of public interest in the program of the extension worker and their villages and accessibility of his office to rural people.

Advantages

1. Economic use of extension worker and energy.
2. The farmer is in receptive stage of mind and ready to follow or put the new idea in practice
3. It is sign of confidence that, the farmer has in the extension worker and respect for ability.

4. A careful record of office calls provides a basis for follow up activity

**Disadvantages**

1. It is not possible to get detailed first hand knowledge of the farmer’s problems and activities.

2. Limited contact with farmers.

3. Waiting for visitors who are not turning up is wasted time

4. Unbusiness like handling of office call with result in un concerned person, using the office as longing place.

(iii) **Personal letter**

It is a personal and individual letter written by extension worker to a farmer in connection with extension work. In practice, letters are used to answer enquiry from farmers regarding specific problem.

**Advantages**

1. Cheap and useful to educate farmer.

2. Best method to reach farmers who could not be reached by above two methods.

3. Percentage of adoption is high and extension. Worker get first hand information about rural problems.

4. To develop good relations and confidence, this is one of the best method.

**Disadvantages**

1. It is time consuming method

2. Since majority of the farmers are illiterates, this method has limited usage.

3. It is difficult for extension worker to write to each and every individual problems.

4. Only few members can be contacted.

(iv) **Phone Calls**

It is a direct contact between the extension worker and farmer over the telephone for one or more specific purpose.
Advantages

1. Although face to face contact is missing, they have the advantage that they may be initiated by either the farmer or the extension worker.

2. They are useful in society and giving specific information such as first-aid treatment of animals before arrival of veterinarian, control of lice infection, stress medication in poultry farms etc.

3. They provide a mean of follow up and evaluation of the effectiveness of radio broadcasts or television telecasts.

4. It is necessary to employ special telephone number and tape recordings to answer the flood of inquiries after especially interesting programme or announcements.

Disadvantages

1. Use of telephone is very limited in our country.

2. The extension worker cannot see the farmers face and his farm.

(v) Result Demonstration

Result Demonstration is a demonstration conducted by farmer or other under direct supervision of an extension worker to prove the worthiness of a recommended practice or combination of practices.

Advantages

1. It appears to the eye and effectively reaches the farmers.

2. Increases his confidence and also more number of people will understand.

3. Useful for introducing new technologies

4. Contributes to discover the local leader and help in developing local leadership.

Disadvantages

1. Requires lot of time and costly method

2. Difficult to find good demonstrator who will help perfect records

3. Unfavorable weather and other factors may destroy the value.

4. Unsuccessful demonstration may create strong unfavorable conditions
(b) Group Contact Methods

A group is a body of individuals drawn together around a common interest. The various group methods are.

(i) Method Demonstration: it is relatively short time demonstration given before a group to show how to carry out an entirely new practice or old practice in a better way.

Advantages:

i. It is very effective in teaching new skill

ii. It stimulates action and build confidence

iii. It introduces a change of practices at low cost

iv. Saves publicity purposes.

Disadvantages

i. Suited only to the ‘Skill involving technologies’

ii. Transporting the materials and equipments to the demonstration site is difficult.

iii. It causes a setback of whole programme if improperly coordinated

iv. Field trip and tours: A group of interested farmers, accompanied and guided by extension worker goes on tour to see and gain first hand knowledge of improved practices in their natural setting i.e., research farms, demonstration plots, farmer and institution.

Advantages

1. Participants gain first hand knowledge of improved practices and are stimulated to action.

2. Best suited to the ‘show me’ type of people

3. Widens the vision of farmers and adoption

4. It has entertainment and site seeing values

Disadvantages

1. Most expensive method and involves time, transport and number of preparations.

2. It is difficult to fix season and time suitable to all
3. Recreational aspect may mask the educational aspect
4. Frustration may result if the tour is badly conducted.

**Meeting**: Meetings are one of the oldest and most important group methods of extension teaching. The various types of meetings are general meeting, lecture meeting, extension talk, and discussion meeting etc.

**Advantages**

1. Large number of people can be reached.
2. Group psychology can be used in promoting the programme.
3. Reaction of the people to a programme can be assessed.
4. Adoption of practices can be accomplished at low cost.

**Disadvantages**

1. Handling the topic becomes difficult because of mixed composition of audience.
2. Circumstances beyond control like factions and weather might reduce the attendance.
3. Difficult to avoid unconnected persons attendance.
4. Traditional leaders who are not functional come in the way of group activities.

(c) **Mass Contact Method**

Individuals, face to face methods and group methods cannot read everyone who needs information. So mass methods like exhibition, Radio talk, TV talk, motion pictures, printed method (Eg : Leaflets, folders, phamplets booklets etc.) This method makes large number of farmers aware of new ideas and technologies. The above mass contact methods can be used singly or in combination.

Exhibition is a systematical display of models, specimens, charts, and poster etc in a sequence participant members. Radio talks are prepared subject wise and transmitted. TV talk are prepared just like radio talks, with an advantage of seeing. Motion pictures on latest technologies are be prepared. Printed media like leaflet, folder, phamplets, bulletin, booklets, news-articles, wall news paper, circular letter, Feature stories are prepared on different topics necessary to the farmers, photographs are also printed to give more impression.
Advantages

1. Suitable for mass scale adoption of an improved practice in the shortest time possible.
2. Provide clean information of the technologies.
3. Easy for retention and recall.
4. Promotes literacy and awareness.

Disadvantages

1. It will lose its significance if not are full prepared and used.
2. Requires much preparation and investment.
3. Not suitable for individual problems.
4. Less useful in low literacy areas.

### 7.3 Role of Audio visuals in Dairy development

Audiovisual aids are the instruction devices, in which by audio aids the learners can only hear the information, by visual aids the learners can only see the information, by audiovisual aids the information can be heard and as well as seen.

Importance of A.V aids in dairy development

Research and experience have shown that, audiovisual techniques can significantly increase and reinforce learning. All dairy development activities to increase milk production can be prepared into programs and the programmers can be disseminated to the farmers using different audiovisuals at frequent intervals. The farmers will learn the new techniques through various audiovisual aids and by following the new techniques will improve the milk production in quantity as well as quality.

The various audiovisual aids are classified into three group i.e... Audio aids visual aids, audiovisual aids.

Audio aids

The various audio aids used in extension are

(a). Public address system: used to enable the extension workers to be in more than one place at a time. It can be used for recording radio play and other group discussions and meeting. Films and still projections can be synchronized with sound. Public address system consists of mike, amplifier and speaker. Mike and speakers are connected to amplifier using wire.
(b) **Tape recorder**: The messages can be recorded in cassettes and played before farmers. Tape recorders will work on both A.C & D.C. For inserting cassettes press the eject button and insert the cassette and it is ready and turn over the cassette and insert it. Recording can also be done with microphone after pressing the record button. When the recording is over, press stop button. Recording of cassette can be done by pressing rewind button.

Other audio aids are. Telephone, Radio and Gramophone record.

**Visual Aids**

Visual aids are of two types i.e. projected and non projected / display aid. under projected visual aids examples are
Overhead projector

It projects the image over the head of an instructor. Matter is written on transparency and placed on glass stage of over head projector with the bottom of the image the words can be screen. Raising or lowering the image on the screen may be accomplished either by filling the front surface mirror by means of a leaves. To get clear image, focusing is done by tuning.

Slide projector

Slide is a small piece of film or other transparent material containing matter or figure. Manually operated and automatic slide projectors are available. Hand slides can be prepared using positive film. If not available negative film can be utilized which can be transferred to positive film afterwards.
Opaque projector

This is based on reflection projection rather than transmitting light through it. The matter on opaque materials like newspapers, textbooks etc., can be projected. Operation is very simple. First, open the stage properly, place the materials and close the stage and operate.

Film projectors

Film projectors are classified as 70 mm, 35 mm, 16 mm and 8 mm and in class room teaching 16 mm and 8 mm projector is commonly used.
Computers

The computer message can also be projected by using special equipment to the computer. Lessons are prepared and incorporated in the floppies.

Under non projected visuals examples are –poster, flash cards, bulleting board, photographs, models, exhibits and display charts, flannel graphs, specimens, real object etc.

Flannel board or felt board consists of stiff board covered with felt material on one side. Flannel strips in a graphic or written strip which is backed with rough texture so that they adhere to the flannel board. Any message or picture in strips is used.

Bulletin boards are boards made up of soft wood, ply board covered with cloth. The materials like booklets, circular letters, bulletins, cartoons, maps, charts, news paper clippings etc can be fixed in order with the help of push pins, thorns, tape or glue.

Magnetic boards graphic representations. Various types of chart used as flip charts, sliding chart, pull chart, window chart, spiral chart, slit chart, bar chat, pie chart, tree chart, flow chart, etc.

Flash cards are the series of illustrated cards flashed before the learners in proper sequence. Photographers, models (replicas of real object) specimens (real objects) and real object will also be used as visual aids.
Films are projected on the screen which have background of sounds.

Television is an important audiovisual aid used for mass communication. The program is telecasted into air by converting the audio and video waves into electromagnetic waves, which are then received in the TV set. Recorded program as well as live telecast can be done through TV.

The term video is used to denote picture which have been converted into electronic signal. The video produced can be telecasted through. Video cameras are utilized to record the program in video cassettes which can be played by using video player.

Computer multimedia is computer based teaching method, in which the lessons are prepared with computers, stored and displayed before learners.

### 7.4 Selection of extension methods for effective transfer of technology

While selecting the audio visual aids, three points must be kept in mind.

- a. Decide what you want to say and what is important to say.
- b. Outline the subject matter point by point.
- c. Visualize the key points in the outline. Make aids or select them from commencing.

**Points should be kept in mind while selection.**

- a. According to the situation, extension workers should choose the right aid which is best for the particular situation. There is no best teaching aid suitable to all situations.
- b. The teaching objective i.e... What are the changes in behavior to be brought about usually change in skill, knowledge and attitude.
- c. The subject matter to be taught.
- d. The nature of the learners. According to his age, education. Interest, experience, knowledge and intelligence.
- e. Cost of the aid.
- f. Effectiveness of the aid. Audio and video
- g. The teaching – his familiarity skill in handling that aid, originality and skill in the selection, preparation and use of aids.
- h. Availability, when the teaching aid he would like to use is not available.
Effective use of aids

1. Planning help to solve anticipated problems.
2. Make sure the aids are suitable for the audience size. Ensure that the learner at the last row of the class must be able to see the aid.
3. Use of variety of well compared visual aids to hold audience interest.
4. Do rehearsal in order to make a smooth presentation.
5. Choose the place, where the presentation is be made in convenient and comfortable manner.
6. Arrange your visuals in sequence.
7. Make sure that, all aids are in good working condition before the presentation is started.
8. Display only one side at the crucial moment.
9. Present aids at the crucial moment.
10. Keep aids out of audience,
11. Stand beside the aid.
12. Speak to the audience.
13. Remove all unrelated material.
14. Avoid any misunderstanding by discussion and application.

7.4.1 Criteria for selection of extension methods

The selection of appropriate method is not an easy one. There is no single thumb-rule for selection. In order to get more effective results, the extension worker should

i. Select the appropriate methods.
ii. Have a suitable combination of selected methods and
iii. Use them in proper sequence so as to have repetition in a variety of ways.

Factors influencing the selection

The audience: Educated to illiterate, we select personal visits and to highly educated the written materials.
Size of audience: The group methods can use for the participant size not exceeding thirty:

The teaching objective: If we want the attitudinal change we go in for the group discussion and for skill change the method of demonstration.

The subject matter:

If single technology, which is new it will be told through the news article, where as for complex one, face-to face contact or audio-visual aids will be used.

The state of development of extension organization: if the organization is new and yet to gain the confidence of the people, the result demonstration will be selected. The well established organization can even use the circular letter.

Size of the extension staff: Large number of staff, more of direct contacts.

Extension workers familiarity: The training of the extension workers for the proper handling of the selected methods. The teacher should know his own capabilities while making selection.

The length of time: The length of time the program has been going on in the area.

The significance of the program: Depending upon the importance of the program the methods may be selected.

Combination of methods

Each extension methods have its own advantages and disadvantages. To continue it, combination of two/ more methods will mask the disadvantages of the individual methods. One method supplements and complements other methods. Hence more than one method is necessary to bring about adoption by majority of farmers. The rate of adoption of new methods by the farmer is very high when new information comes from more sources. For communication, micro computers multimedia etc should be used along with different methods of extension.

7.5 Communication process-Aims, Objectives and Problems

The communication process has five steps as shown below.

1. The source: The source or origin of the message occupies the first step in the communication process. The source controls the type of message sent, the construction used and frequency, the channel through which the eventual message passes.
2. **Encoding the message**: It involves transmission of some form or verbal or nonverbal symbol that is capable of transferring meaning such as spoken or written words, gestures or actions. From among the available symbols, the person transmitting a message selects the ones that will fulfill a specific need and arrange them in some sequence of how it will be presented to have the desired effect on the receiver. The symbol selected should give message to receiver. So that they can easily understand. E.x. no smoking symbol, danger symbol etc.,

3. **Transmitting the message**: This reflects the communicator’s choice of medium or distribution channel. Oral communication may be transmitted through many channels— in person, by telephone, or videotape. Written communication may be transmitted through channels such as memos, letters, reports, notes, bulletin boards, communicator’s choice of medium or distribution channel. Oral communication gives opportunity for interaction and feedback, whereas written communication provides a record for future reference.

4. **Receiving the message**: Basically, the people receive the message through their five senses seeing, hearing, tasting, touching and smelling.

5. **Decoding the message**: It involves giving meaning to the symbols the receiver receives. The receiver searches his memory bank for translation of the symbols received. There is always the possibility that the source’s message, when decoded by the receiver, will yield a meaning for different from the one the sender intended.

**Feedback**: After the massage has been received and translated, the receiver may transmit a return message that stimulates the original communicator or someone else. Thus communication is a continuous and never ending process. The response is called “feedback”.

7.6 **Organization of training programs cattle show, exhibitions etc.**

7.6.1 **Training**

Training means to educate a person so as to be fitted, qualified and (proficient in doing some job).

While, the education is primarily concerned with opening out world to the students, so that he can choose his interests and career. Training is primarily concerned with preparing the participant for certain lines of action which are delineated by technology and by the organization in which he works and which also improves his performance in it. Education deals mostly with knowledge and understanding whereas training deals mostly with understanding and skill.
According to Collins, training must include the instruction, and other learning experience, which purport to fit the worker into the service so the he competently meets the demands of his job, as determined by the changing needs of people.

**Need for Training**

Human knowledge like machines, can rapidly become obsolescent. Training is a means to reduce the obsolescence among the people and organization in the face of relentless technology innovation.

Training improves a person’s skill, his power of intelligence and develops in him the desired attitudes and values required for his work.

Training helps the new entrant to acquire occupational work-skill and the latest knowledge in agriculture, Animal husbandry, home science, health and sanitation.

**Types of Training**

Training of extension workers can be classified as:

1. **Pre-service Training**: Education at high school, college namely agriculture. College; vetomery. College etc.

2. **In-Service training**: This is to keep an worker known about of the latest knowledge or giving him special training in a new job.

This may be

a. **Orientation training**: Where a new entrant is oriented to the organization setup, the philosophy, code of conduct etc.

b. **Induction Training**: Where workers’ can be given the knowledge of the working and organization of the community development- and extension service, his place of work and his place in the work team.

c. **Short range training**: Training of certain period in the field of Agriculture or Vet, in a concerned college i.e agriculture college or veterinary. College.

d. **Job Training**: Special job work may be imported by sending the person to a specially designated centres. Eg : RSFPD, HYD, I.L.R.I, HYD, etc.,

e. **Periodical Meetings & conferences**: Rabi & kharrtf meetings and workshops, Conferences, Refresher training and programmers, ORTS, at fixed intervals/ season where review orientation and problem solving / technical sessions will be conducted.
Training process

Principles of training

1. Motivation is basic: Create a feeling of need or want in the trainee.
   a. Desire for security
   b. Desire for new experience
   c. Desire for affection and response
   d. Desire for recognition
2. Clearly defined and specific objectives.
3. Must accomplish educational changes in the subject matter learnt.
   Change in knowledge, skills, and attitudes of understanding.
4. Effective learning situation comprising-Teacher, learner.

Subject Matter- environment class room etc.,

Teaching aids and physical facilities

5. Should provide effective learning experience to the trainees.
6. Should provide a combination of techniques – by engaging maximum number of ranges – such as oral, visual, audio visual and doing things.
7. Training should be challenging and satisfying.
8. Requires careful evaluation of results.

Assessment of Training needs is a requisite for organizing a training programmes.

For farmers training, following points are to be kept in mind.

1. Time of holding the training: Lean season, free from rush of agriculture operations.
2. Duration of Course: 2-3 days on a topic like plant protection, poultry-chick care, Dairy calf management or up to 1 week on crop management, soil conservation, Animal feeding and management etc.
3. Venue of Course: realistic venue – field or shed to provide practical exposure.
   Production – cum – demonstration and discussion group: R.D. plot in village before each main season.
7.6.2 Exhibits:

An exhibition is a systematic display of models, specimens, charts, information, posters etc., in a sequence so as to create interest in the participant members. It covers three stages viz. Arousing interest, creating desire to learn and providing a chance to take a decision.

Exhibitions are generally three dimensional while display is mostly two dimensional.

Points for arranging

- Decide about the audience, message and suitability message to audience.
- An exhibit should be built around a single ideal. Understandable, portable and impressive in size.
- Arrange the exhibition in a sequence and continuity.
- Use few rather than many objects.
- Make it durable, attractive and action exhibits.
- Label legibly and briefly.
- Spacing and decoration should have an appeal to the eye and to tell the story without an interpreter.
- Display for exhibit not below 2 feet and above 7 feet floor load, i.e. at eye level.
- Give adequate publicity.
- Evaluate effectiveness.
- Provide relevant literature.
- Use local material.
- Take advantages of local festivals and fairs.

7.6.3 Organization of cattle shows

Purpose

1. To create a spirit of healthy competition for developing best cattle breeds.
2. To provide an opportunity to exhibit best type of animal and select best suitable type of improving the herd.
3. To popularize animal and to get best market price for good animals.
4. To increase pride of farmers.
5. To help and assess the livestock breeding programme in operations and success achieved.
6. To encourage dairy farmer to produce best type of cattle.
7. To get opportunity of learning improved techniques of breeding and management.
8. To provide opportunity to exchange ideas and improvement.

Materials needed
1. Suitable group
2. Funds
3. Organizers.
4. Decoration
5. Judges for separate rings
6. Prizes.
7. Exhibits for a)feeds b)breeds c)Veterinary. Breeding methods.
8. Intimation for advertisements invitations to authorities for visits

Procedure
1. Prepare plan help for show of animal and make different committees.
2. Allocate the funds for various expenditure.
3. Select the date and time when most farmers can participate:
4. Allot the job/terms of each committee and to persons under convenor of the committee.
5. Select the team of judges in advance.
6. Communicate in advance to all the judges and get consents of their participation
7. Give wide publicity well in advance through various media-radio, T.V. leaflets, printed letters, news paper etc.,
8. Arrange for entry records on show day.

9. Arrange animals according to class or age into groups.

10. Put labels of identification strip for each animal,

11. Arrange feed and water for animals

12. Make arrangement of a veterinarian for inspection of cattle entering the show.

13. Arrange for medicated foot bath for all animals for show.

14. Announce the timing of show for different class of animals.

15. Allow animals with their owners into the respective rings.

16. Keep animals under observation of judges.

17. Sort out and record the winner of awards or prized animals.

18. Arrange for consolation prizes to next nearest rivals of winners animals.

**Note:** (a) Invite the local press and Radio station authorities for wide publicity.

a. Make arrangement for film, show of all departments, extension and publicity departments.

b. Animals suspected of having contagious disease should not be permitted.

**Observation**

1. List of breeds of animals participated.

2. Number of farmers participated

3. Number of animals class

4. List of V.IPs visited

5. List of judges.

**7.7 Evaluation of training programme**

Evaluation or appraisae of training programmers is to ascertain whether the programme has achieved its objectives and whether these objectives could have been achieved more effectively in some other way.
Objectives

1. Assessment of progress and impact
2. Ascertain the merits and demerits
3. Measuring the success or failure in implementation
4. Analyzing the reasons for success or failure
5. Deriving lessons for improvement in the formulation and execution of programme.

Types of Evaluations

The various types of evaluation are

1. **Formal and informal evaluation**: it contains five point content of degrees of evaluation i.e. casual, every day evaluation, self checking evaluation, do it yourself, extending evaluation, studies and scientific research.

2. **Formative and summative evaluation**: Formative attempt to assess the demerits of the programs during implementation stage and summative evaluation assesses the worth of the final results of a program. Earlier more importance was given to summative and now to correct mistake, more emphasis was given to formative evaluation.

3. **Ongoing and Ex-post facto evaluation**: Ongoing evaluation is an action oriented analysis of a project’s effects and impacts compared to anticipations, to be carried out during implementation. Ex-post facto evaluation would resume the effect several years after completion of the investment, to review comprehensively the experience and impact of a project as a basis for future policy formulations and project designs.

Steps in Evaluation

1. **Plan for evaluation**: It indicates what should be done, why it need to be done, how it will be done, who should. Planning helps to collect data for evaluating with in limitations.

2. **Purpose of Evaluation**: The purpose of the evaluation, will determine which data have to be collected for evaluating any programme.

3. **The reason for evaluation**: The reasons for evaluation which may, appraises progress and impact, to judge the methods and devices, to
improve on going programme and to have basis for future programme. The evaluation should fix priority for the above.

4. **Respondents to Evaluation**: Respondents are the audience consisting of farmers and his families, Local leaders, NGO’s authorities etc. The evaluator should select the primary respondents according to the reasons for evaluation.

5. **Standards for evaluation**: Standards are the yardsticks or criteria applied to measure the impact of a programme.

6. **Levels of evaluation**: In early stage we can evaluate how the programme was planned, and after completion of programme, the impact on the farming community.

7. **Evidence for evaluation**: Evidence means information about a standard or criteria. To finalize which type of evidence to use, adjustments must be made between what is the best to use and what is possible to obtain.

8. **Designs for evaluation**: The survey is the most commonly used design for evaluation. In this sampling is done first. Questionnaire, interviews and observation techniques are applied to collect data. The other designs like case study design, experimental design etc, are rarely used.

9. **Conduct evaluation**: It has three steps analyzing, reporting and applying. After collecting the data it is analyzed properly using device like value scales, opinion polls etc. The findings of evaluation need to be presented either by talk or written form. The implications, and recommendations drawn from evaluation needs to be presented either by talk or written from. The implications and recommendations drawn from evaluation should be use to improve the ongoing or in planning future programmes.

The various problems which can in counter in planning future programme are

- a. Error of observation
- b. Error of measuring instrument
- c. Error of measurement
- d. Error of qualification
- e. Error due to lack of control
- f. Error of true response
- g. Error of operation difficulties.
Summary

Dairy extension was well defined and the importance of dairy extension in dairy development was well covered. Various types of extension methods were clearly explained. The various types of audio visuals were discussed and its importance in dairy-development was explained. The criteria for selection of audio-visual aids and extension method for effective transfer technology was presented. The nature, importance, steps in communication process and problems in communication discussed, the procedure for organized of training programmes, exhibits are explained systematically. The objectives and various types of appraisal of training programmes are presented.

Short Answer Type Questions

1. Define dairy Extension.
2. What are the groups of extension methods?
3. List various individual contact methods of extension.
4. Define farm and home visit.
5. Mention various group contact methods.
6. Define mass contact method of extension.
7. Define audio visual aids.
8. List various audio aids.
9. Mention various visual aids.
10. List various audio visual aids.
11. Define communication.
12. Mention the steps in communication process.
13. Mention two types of barriers in communication.

Long Answer Type Questions

1. Define dairy extension and give the importance of dairy extension
2. Classify different extension method and give example.
3. Explain various individual contact methods.
4. Briefly explain about group contact methods.
5. Write about mass contact methods.

6. Define audio visual, aids Give its importance audio of classify and visual with examples.

7. Write in detail different audio aids.

8. Explain about visual aids.

9. Write about the audio cum visual aids.

10. Explain the criteria for selection of A.V. Aids and extension methods for effective transfer of technology.

11. Explain the nature and importance of communication.

12. Briefly write about communication process.

13. What are the problems in communication?

14. How do you organize training programme?

15. How do you organize exhibits and shows?

16. Briefly write about appraisal of training programme.
UNIT 8

Dairy Entrepreneurship

Structure

8.1 Entrepreneur - His behavior
8.2 Dairying as self employment
8.3 Entrepreneur cycle for dairying
8.4 Entrepreneur development for rural youth
8.5 Programmes for entrepreneurship in dairying
8.6 Risks in self employment and remedies

Learning Objectives

After studying this unit, the student will be able to

• Understand about Dairying as Self Employment.
• Learn about Entrepreneur development for Rural youth.
• Know about Risks in Self employment and remedies.

8.1 Entrepreneur – His Behaviour

8.1.1 Entrepreneur is the person who seeks self employment under which one perceives / innovates an idea, organizes production / services by mobilizing resources and finally market the products and services to earn profits, and opt for challenging career options that involving initial risk with promising rewards.
Entrepreneur is a person or a group of people who initiates and manages an entrepreneurial venture and what an entrepreneur does is an entrepreneurship.

**Characteristics of Entrepreneur:**

1. Initiative
2. Sees and acts on opportunities
3. Persistence
4. Information seeking
5. Concern for high quality innovation and efficiency
6. Commitment to work contract
7. Systematic planning
8. Problem solving
9. Self – confidence
10. Persuasion
11. Use of influencing strategies
12. Goal setting
13. Risk taking

**Motivation:** A human being is governed by motives, which direct him/her to act in certain direction. Motivation is a process of activity. The important motives are:

   a. **Need for achievement:** It is referred to as one’s desire for some standard to excell in performance related situation.

   b. **Need for power:** It is one’s desire to control or influence as on going situation. The people with a high need for power seek position of leadership.

   c. **Need for affiliation:** It is one’s concern to establish, maintain and sustain affective relationship with others. They tend to reflect concern for others love.

   d. **Achievement Motivation:** Achievement motivation is the desire to do well, not so much for the sake of social recognition or prestige but to attain an inner feeling of personal accomplishment.
Characteristics of persons with high need for achievement

1. A person with higher achievement likes to take personal responsibility.
2. He likes to take moderate risks.
3. He wants to know the results of one’s efforts.
4. He tends to persist in the facts of adversity.
5. He tends to be innovative.
6. He demonstrates some interpersonal competence.
7. He is oriented towards the future.
8. He tends to be mobile.
9. He is not completely content (not satisfied with what he has achieved).

8.2 Dairy as Self Employment

Nowadays, the Government policy is encouraging self-employment rather than creating salary jobs. Self-employment practice for rural education and uneducated youth creates self-sustaining, which decreases unrest among them. Self-employment opportunities are available in all fields. However, for rural-based people, self-employment in dairying is most suitable, as dairying becomes a subsidiary and additional income for those who are in agriculture. The various opportunities in dairying for self-employment are:

1. Establishment of dairy farms (e.g., 2, 5, 10, 50, 100 or more animals).
2. Calf rearing programme, rearing calves, and selling.
3. Heifer rearing programmes: Heifer calves are maintained and pregnant heifers are sold.
4. Purchasing dry animals, marketing pregnant and selling milk animals.
5. Rearing of bulls and selling.
6. Green fodder growing programme.
7. Paddy straw / any other dry roughages selling business.
8. Establishment of feed plant.
9. Selling of concentrates.
10. Doing job work of grinding and mixing of feed.
12. Milk chilling center.
13. Milk processing plant.
14. Milk product factory.
17. Individual dairy products preparation like softy ice cream, Khoa, based sweets, channa based sweets, kulfi, Kalakhand gulab jamun, Rosogolla, paneer, ghee, butter milk powder etc.,

For the above opportunities in dairying, the entrepreneurs are selected depending upon their interest. Basic theory class will be undertaken common to all and specialized training classes will be conducted separately for each group. All details about the product preparation from selection of raw materials, processing, preparation packing and marketing of the particular products.

Practical classes are conducted taking the entrepreneurs to the factories and showing all steps of operation. The process and difficulties in each steps of products all the steps of operation will be explained.

Marketing principles, marketing techniques to be following to overcome stiff competition steps to improve the quality, if any problems arises in marketing will be explained.

8.3 Entrepreneur cycle for dairying

Various Entrepreneur opportunities in dairying were listed in chapter 8.2. These opportunities in dairying will be advertised in the villages. Stimulation of the rural youth to come forward to take self employment with dairying is under taken. Separate list of entrepreneurs for each opportunity in dairy is prepared. Motivation, among rural youth to take up dairying will be initiated by organizing meetings. The organizing people guide the people to select appropriate programme suited to them, depending upon their human resource, finance, land availability, water source marketing facilities etc. the income out lays for different opportunities of dairy will be placed before the youth.

After selecting entrepreneur for dairying, they will be given foundation training which will be common to all opportunities of dairying. In this training basic points like creating infra structure facilities, availability of animals at different places, fodder production, etc, will be dealt.
After foundation training, special training will be conducted in groups of common opportunity selected people. Eg. Feed manufacturing unit, heifers & calves management, marketing of milk etc. In this all aspects relating to that particular field will be dealt by highly qualified practical professionals. Practical training will also be undertaken by taking the trainee to dairy farms, feed plant, dairy plant etc. and detailed training will be giving in the line of entrepreneur is interested. The pros and cons of that opportunity will be well explained. The difficulties encountered and solving tricks will be explained.

After this training, the entrepreneurs are brought in to line of implementation step. As the entrepreneurs are new, support will be given in the following lines.

- Preparation of project
- Availability of land
- Arrangement of finance
- Marketing avenues
- Growing of fodder crops
- Construction of animals sheds / feed plants etc.,

A service center will be installed to help them in the above activities. The persons will give free hand to entrepreneurs at all the stages, but they will guide them to be in proper route.

By establishing dairy farm, plant etc., will not complete the entrepreneurship programme. They should see that these people will sustain initially to grow well. Unless the entrepreneurs are established in their business, it is not fruitful. The organizers will give services for sustaining the business like.

- Expansion of business
- Diversification of business
- Arranging addition capital
- If any problem in repayment of loans, helping by different repayments/ methods.
- Quality testing
- Providing need based common facilities
- Explaining changed rules and regulations
Once the entrepreneur is established in his line of activity the entrepreneurship programme is completed for that batch of entrepreneur.

### 8.4 Entrepreneur development for rural youth

The permanent solution to the rural poverty has to be promotion of self employment in rural areas, which is in other words, would mean entrepreneurial development among the rural poor. A natural scheme i.e. “training of rural youth for self employment” (TRYSEM) was launched on 15th August 1979 as a centrally sponsored program. Under this scheme rural youth 18-35 years of age among the families living below poverty who have an aptitude for self employment are identified as the target group. Some of the trades identified are production of mushroom, honey processing cultivation of medicinal herbs and plants, poultry farming, fruit plants – nursery, processing of fruits and vegetables, veterinary service, collection, storage and marketing of live stock products, sericulture, farm equipment repairing, installation and maintenance of biogas plant, water pumps, rural transport, masonry, tailor, small business and retail traders.

The youth are trained either by specially identified institutions or through mobile training. Much emphasis on practical training where the youth learn by doing so that skills are developed with selected youth are also offered. As incentives, monthly stipend is given during training which, ranges from 3 to 6 moths.

Projects for self employment are expected to be discussed and prepared by the youth with the help of development officials. Marketability, feasibility, break – even levels, credit needs, rates of return etc, are to be considered in preparing these project profiles. All TRYSEM projects are loan based ventures. The beneficiaries are given an investment subsidy by the district rural development agency (DRDA). TRYSEM envisages that the banker is involved in the scheme right from the beginning i.e., Identification of the beneficiary, the trade and the project so that it is not difficult to make a realistic assessment of the aptitude, performance and credit worthiness of the youth. Raw material support to the youth is extended through rural marketing and service centers.

Entrepreneurship promotion under self employment (TYRSEM) is significantly different from the same under any other entrepreneurial development program. The risk bearing ability and resource mobilization capacity are poor. His family depends on his income and they are precarious about the outcome of his enterprises. The rural youth prefers regular income rather self employment.

The beneficiaries are often guided by the success of local entrepreneurs in which field already saturation is reached. The functional coordination among the various agencies i.e., banks, District Industries Center, DRDA, development
offices and the trainers is rather poor. The present training system are formula, oriented and not that much oriented for self employment. The trainers are not bothered about the help and guidance after training. To solve the above problem introduction of vocational training as an integral part of school curriculum and which enable the people to acquire technical development policy is developed. It no longer relies on wage employment. As a permanent solution to the problem of rural employment, the new thrust is for, discovering avenues of self employment.

8.5 Programmes for entrepreneurship development in dairying

The entrepreneur cycle will have 3 phase i.e.

1. Stimulator phase
2. Support phase
3. Sustaining phase

1. Stimulatory phase: The stimulatory phase consists of the following steps.

a. Entrepreneurial education: In rural areas meetings should be conducted so as to get the information about dairying as an alternative opportunity for taking up self-employment.

b. Planned publicity for entrepreneurial opportunities: Wide publicity should be given about dairying as an alternative opportunity for taking up as self – employment.

c. Identification of potential entrepreneurs through scientific methods: Good entrepreneurs should be selected by interviewing the candidate about his interest his capabilities, resources etc..

d. Motivational training to new entrepreneurs: A motivational training to new selected entrepreneurs should be given, so that the entrepreneurs will take the challenge both physically, mentally and economically.

e. Help and guidance in selected products and preparing project reports: Necessary training may be given to select the size of dairy farm or type of milk processing plants and to prepare necessary project reports.
f. **Making available techno-economic information and project reports:** Necessary technical, economic and project reports information should be provided to the entrepreneurs.

g. **Evolving locally suitable new products and process:** Training should be given to evolve new technicians for better management of dairy farm.

h. Availability of local agencies with trained personal for entrepreneurial counseling and promotions.

i. Creating entrepreneurial forum.

j. Recognition of entrepreneurs:- After giving all the information real entrepreneur should be identified.

2. **Support phase**

Under this following steps are followed

a. **Registration of unit:** The dairy a or processing centre should be registered with appropriate authorities.

b. **Arrange finance:** Finance for the unit should be arranged from the local banks.

c. **Providing land, shed, power and water etc:** The necessary inputs in the form of land, sheds, power supply, water and necessary items should be provided in market or subsidized price.

d. **Guidance for selecting and obtaining machinery:** Necessary guidance should be given to select dairy animals, machinery like chaff cutter and processing equipment etc.

e. **Supply of scarce raw materials:** The inputs like life saving drugs, mineral mixtures, concentrates should be supplied, which is not easily available in the rural areas.

f. **Getting licensees / import licensees:** Necessary licences may be given to start the enterprise.

g. **Providing common facilities:** Common facilities like availability. Of grazing lands, fodder, veterinary. Hospital, milk society should be linked.

h. **Granting tax relief / subsidy:** the subsides for the enterprise may be arranged from the concerned authority.
i. Offering management services: Management consultancy may be provided for better management.

j. Help marketing products: Necessary help may be provided to help in marketing of milk and milk products.

k. Providing information: Necessary information about prices of milk and milk products, latest managerial techniques etc., should be provided.

3. Sustaining phase entrepreneurial development cycle

   a. Help modernization: Necessary help may be given to modernize the dairy farm or plant.

   b. Help diversification/expansion substitute for production. For diversification into other business or expansion of present business or substitute product production, necessary advice should be given.

   c. Additional finance for full capacity utilization.

   d. Deferring repayment/interest: If the dairy farm owner is unable to pay the installments for loan, payments may be deferred.

   e. Diagnostic industrial extension/consultancy source.

   f. Production unit’s legislation/policy change.

   g. Product reservation/creating new avenues for marketing.

   h. Quality testing and improving services: Necessary facilities should be provided to test the quality of milk and milk products produced.

   i. Need bases common facilities center should be established.

1. Entrepreneurial education.

2. Planned Publicity for Entrepreneurial opportunities.

3. Identification of potential entrepreneurs through scientific method.

4. Motivational Training to new entrepreneurs.

5. Help and guidance in selecting products and preparing project reports.

6. Making available techno-economic information and project reports.

7. Evolving locally suitable methods with trained personnel and processes.
8. Availability of local agencies with trained personnel for entrepreneurial counseling and promotions.

9. Creating entrepreneurial forum.

10. Recognition of entrepreneurs.

Inset a picture page no. (170)

8.6 Risks in self employment and remedies

Risk may be defined as the stretching one's own abilities to perform. Most of the self employment seeking persons look for a security in their choice for occupation because of fear of failure. However, an entrepreneur bears the risk of launching the business. Never the less, while opting for risk, they do not like to behave like a gambler although both entrepreneur and gamble expect a monetary return after investment, their approach towards risk action is totally different.

Risk taking has a very close relationship with entrepreneurial behavior. The concept of taking a challenge or stretching explains the typical entrepreneurial behavior. An entrepreneur will take risk through every decision being made as entrepreneur. Every time an entrepreneur succeeds, it gives opportunity. Risk taking constitutes one of the major attributes of entrepreneurship and reinforcing risk behavior is considered as one of the major input for motivation and development training. If you want to become an entrepreneur, you need to make decision at every stage what kind of business, what would be your product life, the market, the location, technology to be used, personal selection, expansion, diversification and several other issues. You may not have all necessary information and also cannot wait for all complete information, but you need to take decisions and you may have to do it with different degrees of uncertainty.

The different people undertake different types of risk or have different styles. They are:

a. **High risk**: when person does not collect necessary information before making decision, it is high risk. These kind of people do not see the resources or reflect on their experiences and tends to make arbitrary decision. They are increasing the risk through their choice of alternatives with high returns. They may see low probability of success.

b. **Moderate risk**: effective entrepreneurs like to take moderate risk. They undertake a lot of calculation about their strengths, capacities and resources. They understand their goal clearly about their strengths, capacities and resources.
They assess various alternatives available to reach the goal outcome. Their target will be at least 40-60%, probability of achieving the desired outcome.

**c. Low risk:** when people undertake certain activity, where they will like to ensure hundred percent success, if not more. For them, they do not like to face where ever there is even 1% chances of failure. But this is not good quality of entrepreneur.

The entrepreneur tend to achieve with in their own resource and performance. They like to shoulder responsibilities for their performance. But on failure they own responsibility of being a failure and try to understand their season of being a failure and would like to rectify it in the next attempt.

The risk taking behavior is not born and there fore can be developed. Different persons will have different risk taking orientation by virtue of their back ground, personality, early socialization and experiences. Some people may have very low anxiety to become an entrepreneur. He has to understand his risk taking style and implication of such a style for entrepreneurship.

**Summary**

The definitions were explained for entrepreneur and Entrepreneur behavior. Theory and practice of self employment in dairy were very well discussed. The entrepreneur development programme for dairy development among rural youth is highlighted. The entrepreneur cycle for dairying risks with self employment schemes is discussed.

**Short Answer Type Questions**

1. Define Entrepreneur.
2. What is Entrepreneur behavior?
3. Define self employment.
4. What is TRYSEM?
5. What are the three phases of entrepreneur cycle?
6. What are the different type of “risks”?

**Long Answer Type Questions**

1. Write about Entrepreneur and Entrepreneur behavior.
2. Briefly write about theory & practice of self employment in dairying.
3. Explain the entrepreneur development programme for dairy development.
4. Briefly write about entrepreneur development among rural youth.
5. Draws sketch diagram & explain Entrepreneur cycle for dairying.
6. Write in detail about risk ability under self employment schemes.