9.6 DAIRY DEVELOPMENT

Introduction

In Tamil Nadu as per the 126th Livestock and Poultry Census (1997) the total cattle population is 93.63 lakhs which accounts for 35.8% of the total livestock population in the country and buffalo population is 27.17 lakhs which accounts for 10.39% of the total livestock population. The cattle population, which was 105.72 lakhs in 1974, has got reduced to 93.63 lakhs in 1997. Similarly, the buffalo population, which was 28.53 lakhs, has got reduced to 27.16 lakhs during the same period. However, the milk production in Tamil Nadu has increased tremendously over the past 20 years. From only 1.74 million tonnes in 1981, it has risen to 5 million tonnes in 2001. This has resulted in increase in per capita availability of milk to 219 gm per day, which is very close to the ICMR recommendation of 220 gm per day. With the present trend, it is hoped that the ICMR recommendations will be reached shortly. This is purely due to the breeding policy adopted in Tamil Nadu, which is in tune with the national policy.

Milk trade has become a cottage industry providing employment opportunity in rural areas, particularly to the women folk thereby supplementing the family income. To eliminate the middlemen and to protect the interest of the producers in the villages, milk producers’ cooperative societies have been formed. This has assured remunerative price and market support to the producers besides catering to the needs of the consumers. Dairy Development Programmes are being implemented through a network of co-operatives designed on the ‘Anand model’ of Gujarat State. The institutional frame has a three-tier structure with 10041 Primary Milk Producers’ Cooperative Societies at the Village level, the Union of Producers’ Co-operative Societies at the District level and the Federation of District Co-operative Milk Producers’ Union at the State level.

Performance in the Ninth Five-Year Plan

Financial

As against the outlay of Rs. 16.50 crores for the Ninth Five Year Plan, Rs. 4.97 crores was spent towards purchase of milk cows, milk-o-tester and for creation of other infrastructure facilities.

Physical

Milk procurement by the 17 District Unions of the Tamil Nadu Co-operative Milk Producers’ Federation was on the increase with the daily procurement touching a recorded figure of 17.49 lakh litres per day during the year 2001-02.

All the four conversion units of the Tamil Nadu Co-operative Milk Producers’ Federation, viz., at Erode, Madurai, Salem and Krishnagiri have been working to their optimum capacity with the budgetary support and with the funds provided under various programmes. The infrastructure and the capacity created may be seen from the Table below:
With the assistance of Government of Tamil Nadu, the following facilities were provided to District Cooperative Societies in the Ninth Five Year Plan period.

<table>
<thead>
<tr>
<th>Item</th>
<th>No. of units</th>
<th>No. of societies benefited (DCS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk Can</td>
<td>6674</td>
<td>1668</td>
</tr>
<tr>
<td>Milk –O- Tester</td>
<td>324</td>
<td>324</td>
</tr>
<tr>
<td>LN 2 Container</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>PC based Milk Collection station</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

The achievement of the Tamil Nadu Cooperative Milk Producers’ Federation (TNCMPF) in the sale of milk products (under the brand name of “Aavin”) has been remarkable. The details of milk products sold during the last 3 years are given below.

**Milk Products Sold (in MTs)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Skimmed Milk Powder (SMP)</td>
<td>1250</td>
<td>5146</td>
<td>7427</td>
</tr>
<tr>
<td>Butter</td>
<td>3043</td>
<td>3592</td>
<td>2987</td>
</tr>
<tr>
<td>Ghee</td>
<td>3890</td>
<td>4414</td>
<td>4297</td>
</tr>
</tbody>
</table>

New products of milk introduced for sale to the consumers in Chennai city are Mysorepa, Gulabjamun, Kalakanth, Sugar mixed milk powder, Dairy whitener Double tonned milk in Tetra pack.
**Tenth Five Year Plan**

**Objectives**

The Dairy Development activities have the twin objectives of encouraging milk production for gainful employment as well as improvement of socio economic conditions of the rural people by procuring milk at a remunerative price and simultaneously supplying good quality milk and milk products at reasonable price to consumers.

**Strategy**

Though the milk production has reached an all time high in Tamil Nadu, the producers are not able to market the milk produced. This is mainly due to inadequate infrastructure available for procurement, processing of milk and marketing network. Only about 15% to 20% of the total milk produced in the State is handled by the organized sector. The milk producers, mostly small and marginal farmers and landless agricultural labourers are forced to sell their product at a low price as the commodity is perishable in nature. It is proposed to increase the handling capacity of fluid milk by the dairies under the co-operative sector at the rate of 10% per annum, augment/strengthen the marketing network to promote sale of products and bring under the cooperative fold an additional 50% of the farmers. Creation of necessary infrastructure facilities is envisaged under the cattle-breeding programme for the next five years by the Livestock Development Agency, which is to be formed in Tamil Nadu shortly, and the projects for handling additional quantity of milk in the coming years by the Tamil Nadu Co-operative Milk Producers' Federation.

Provision of infrastructure facilities to the Primary Dairy Cooperative through the District Cooperative Milk Producers Unions so as to enable the farmer members of the Milk Producers Cooperative Societies to upgrade the milch animals and thereby improve the productivity in the long run is also envisaged. This is being done by the modern technique of Artificial Insemination to promote hybrid animal population. Further the other infrastructure facilities for the District Cooperative Societies such as milk cans, Milk-O-Tester LN2 containers, Trevis, PC based milk collection station will be provided to procure milk and ensure the quality of milk procured. It is essential to produce good quality milk for the conversion of surplus milk into milk products for local sales as well as for export.

**Outlay**

The outlay for the Dairy Development Sector will be Rs. 50 crores of which an amount Rs. 23 crores will be for Dairy Development Department and an amount of Rs. 27 crores for Tamil Nadu Cooperative Milk Producers Federation (TCMPF). Apart from this, TCMPF has also approached NDDB for financial assistance under Vision 2010 for implementation of various programmes like cattle and buffalo breeding, bull rearing unit, induction of buffaloes, buffalo calf rearing schemes etc.
Programmes
Dairy Development Department

1. Financial assistance to Tamil Nadu Milk Producers Federation Ltd. and District Cooperative Milk Producers Union for processing and Marketing facilities (Rs. 5 crores)

In Tamil Nadu there are 20 dairies functioning at present. Out of 20 dairies, 16 are functioning under the control of District Cooperative Milk Producers Union (DCMPU) and 4 under the control of Tamil Nadu Cooperative Milk Producers Federation (TCMPF).

The plant and machinery along with the infrastructure facilities were installed long ago and their efficiency is not upto the optimum capacity. By providing new plant and machinery and replacing certain equipments, the capacity utilization will become much higher. Further, in certain dairies, expansion of existing facilities is required to cope up with the enhancement of milk production. It is proposed to provide processing facilities in the dairies at Nagercoil (Kanyakumari District), Thanjavur (Thanjavur District) and Krishnagiri (Dharmapuri District). For replacement of machinery and to provide processing facilities, an amount of Rs. 5 crores is provided.

2. Financial assistance in Tamil Nadu Cooperative Milk Producers Federation Ltd. For improving the upgradation of milch animals by developing nucleus bull farm and thereby to improve the dairies (Rs. 5 crores)

The Tamil Nadu Cooperative Milk Producers Federation has two sperm stations, one at Ooty, meant for cattle and the other at Erode meant exclusively for buffaloes. The Nucleus Jersey and Stud Farm was started for propagating Jersey germ plasm in the plains of Tamil Nadu. The breeding bulls and buffalo bulls have to be maintained at different stages such as rearing, semen collection, production of young bulls for Progeny Testing Scheme, production of mandatory doses and regular semen production. There are difficulties in maintaining crossbred bulls and buffalo bulls at Nucleus Jersey and Stud Farm due to lack of necessary infrastructural facilities. The total number of buffalo bulls to be maintained at one point of time may be around 110 to 120 for which necessary infrastructure facilities are not available in the existing sperm stations. The Committee on Technology Mission on Dairy Development during 1990 had also pointed out that there is no scope for further expansion of the existing sperm station and it is necessary to shift to another suitable station. Hence setting up of a sperm station becomes necessary. For improving the upgradation of milch animals by developing nucleus bull farm and thereby to improve the dairies, an amount of Rs. 5 crores is provided in the Tenth Five Year Plan.

3. Financial assistance to provide infrastructure assistance such as cooler, milk-o-testers alloy cans, tubes, trays etc. to milk producers cooperative societies and all women milk producers cooperative societies (Rs. 6.50 crores)
In Tamil Nadu there are 10,041 registered Primary Milk Cooperative Societies. Out of this 7,368 Milk Producers Cooperative Societies are effectively functioning. In order to procure the milk from the producer members of the said societies and to transport the milk to the nearby Chilling Centres, cans are essential. Many of the societies do not have adequate number of milk cans. There is heavy wear and tear of milk cans in transporting and handling. The societies do not have adequate financial sources for replacement of the damaged ones. They are also not in a position to procure new milk cans to accommodate milk produced in the villages. Therefore it is essential to provide milk cans. This will also enhance the standard of living of the member of the Milk Producers Cooperative societies. Milk-O-Tester is an effective instrument to determine the fat content instantly. All the societies do not have Milk-O-Testers. The societies should have Milk-O-Tester for the first hand knowledge of the quality of milk supplied by the member producers.

In order to reduce the milking time, labour cost, prevent communicable diseases and to facilitate milking in a more hygienic method it is envisaged to introduce Mechanical milking machine in societies where there are common yard system of milking with 500 to 1000 members. The milking equipment is a device used for milking more animals in less time in a hygienic way to ensure clean milk collection. The use of milking equipment is in vogue in Gujarat. The method improves the quality not only of the milk but also in turn improves the quality of end products. This will enhance satisfaction among the urban consumers, besides helping the farmer to fetch higher rate for the milk due to lack of adulteration. An amount of Rs. 6.50 crores is provided for infrastructure assistance such as cooler, milk-o-testers alloy cans, tubes, trays etc., to Milk Producers Cooperative Societies and all Women Milk Producers Cooperative Societies during the Tenth Five Year Plan period.

4. Financial assistance to District Cooperative Milk Producers Union for strengthening the procurement and marketing activities (Rs. 6.50 crores)

The programme for increasing milk production depends largely upon the breeding facilities adopted by the milk producers. A latest frozen semen technology has been very helpful for cross breeding and upgrading indigenous milch animals of the rural people. Artificial Insemination is the tool to improve the productivity of our non-descript native cows, by cross breeding with improved breeds of Jersey and Holstein Friesian at the village level. The District Cooperative Milk Producers Union is supplying Pedigree animal semen to the society. This has to be preserved under very low temperature i.e. -175ºc until they are administered. The frozen semen of the milch animals mentioned above has to be stored in cryocan containers specially designed for storing frozen semen. The cryocans containers popularly known as LN2 containers for storing frozen semen have to be provided to the milk producer’s cooperative societies. The DCMPU, apart from operating milk collection offers the packages of technical input services to its producers. The services of the campus veterinary doctors are available through mobile veterinary clinics once in a week to MPCS to take care of the health of milch animals owned by members. Emergency mobile veterinary clinics operated by milk unions to cater the emergency health services are
available at a very nominal fee throughout the day. The trained village level worker employed by the MPCS takes care of the breeding cover of milch animals under the watchful supervision of union veterinary doctor. Latest frozen semen technologies have been very helpful for cross breeding and upgrading indigenous milch animals of the rural people. The cooperative development programme was implemented for the education of members, the women milk producers are specially educated on clean milk production, pricing of milk, animal health, breeding care, feeding the animals with computed balanced nutritious cattle feed. Thus the modern technology is transferred to rural milk producers through various extension activities. For the enhancement of milk production at the village level, adequate trained manpower is required to take care of breeding programme under the supervision of veterinary doctors of DCMPU. An amount of Rs. 6.5 crores is provided for infrastructure assistance such as cooler, milk-o-testers alloy cans, tubes, trays etc. to milk producer’s cooperative societies and all women milk producers’ cooperative societies during the Tenth Five Year Plan period.

**Tamil Nadu Cooperative Milk Producers Federation (TCMPF)**

1) **Formation of Bacteriological Labs in four feeder balancing dairies and 10 District Cooperative Milk Producers, Union and Strengthening of existing lab. (Rs. 38 lakhs)**

The ISO Quality Certification envisages good system management at all stages and prevents deviation in all operations right from procurement, processing to marketing. Presently the metro dairies have already obtained ISO Quality Certification and the Salem, Madurai and Erode Feeder Balancing Dairies are in the process of acquiring ISO Quality System Certificate. Arrangements are to be made in all the remaining 12 Unions to set up the Bacteriological Laboratories besides strengthening the existing labs in the Four Feeder Balancing Dairies / Nilgiris.

For the formation of Bacteriological laboratories and for strengthening of existing laboratories Rs. 38 lakhs is provided.

2) **HRD-Training (Rs. 28 lakhs)**

Manpower is the greatest asset for any organization. To translate the goal of the organisation in terms of achievement, motivation, involvement and team spirit are essential for which regular training programmes have to be conducted at all levels. The training expenditure is Rs. 2 lakhs per union, totalling Rs. 28 lakhs for the Plan period.

3) **Clean milk production (Rs. 50 lakhs)**

Hygiene plays a vital role in the quality of milk. Initial quality of milk determines the quality of the final product. The quality of raw milk is found to deteriorate even before it reaches the chilling centre due to insanitary conditions prevailing at the production centres. Application of minimal hygienic practices and reduction in time of transportation of milk at ambient temperature would considerably improve the quality of milk transported from societies to chilling centres. At the chilling centre level, hygiene standards of plant and equipments have to be improved by strengthening of CIP system to
achieve optimum cleaning efficiency. Facilities such as electric heaters for heating the detergent solution / water to optimum temperature prescribed for CIP cleaning is to be provided to all chilling centres to increase hygienic standards. At the society level, the following materials have to be supplied to facilitate clean milk production viz - aluminium alloy cans for societies, collection trays (SS) for societies, filter cloth to all the societies, stainless steel vessels (304 grade) for members and electronic milk -o -tester with an outlay of Rs. 50 lakhs.

**NDDB Assistance**

**Perspective Plan 2005 under Vision 2010**

To cope up with the new challenges especially WTO, the Milk Federation/Unions in the State with the help of the National Dairy Development Board have developed a plan document - Vision 2010 - which addresses the emerging needs of the dairy industry for the next 10 years. As a first phase, towards the implementation of vision 2010, the District Milk Unions and TCMPF Ltd have prepared the perspective plan 2005. The significant features of the plan are improvement of the quality of the milk procured, improvement in the productivity of the animals, improvement in the market for milk and milk products, strengthening the institutional base of the cooperatives and establishing network information.

The National Dairy Development Board has taken up the responsibility of facilitating the implementation of the Perspective Plan 2005 through financial as well as technical support.

The TCMPF has submitted a consolidated proposal seeking financial assistance to the tune of Rs. 220 crores from NDDB to improve and to provide additional infrastructure facilities for the dairies under the Federation and all the District Unions in Tamil Nadu to be implemented in the next five years. The National Dairy Development Board has informed that the following six Unions viz, Dharmapuri, Trichy, Salem, Vellore, Madurai and Coimbatore & TCMPF are eligible for financial assistance at a cost of Rs. 105 crores.

The State’s efforts in genetic upgradation through cross breeding have paid rich dividends. The existing coverage of adult female cattle through Artificial Insemination in Tamil Nadu is 32% and among buffaloes it is only 11%. Implementation of the National Project for cattle and buffalo breeding will increase this coverage to 28.10 lakh of cattle and 10.06 lakh of buffaloes. The enhanced coverage will be achieved by providing A.I. infrastructure facilities in 2126 visiting centres of the Department of Animal Husbandry wherever possible and by converting 2512 DCS based A.I. centres in the co-operative sector into mobile cluster A.I. centres.

While increasing the A.I. coverage through National Project for cattle and buffalo breeding, due attention has also been paid to reduce the number of A.I. per conception from the present level of 2.6 and 2.9 for cattle and buffaloes to 1.8 and 2 respectively by the end of 5th year of the project. This will be achieved by adopting strict quality control measures at frozen semen
straws production level and by imparting hi-tech training periodically to the field staff at various levels to update their technical knowledge and skill.

The outlay sought for Tenth Five Year Plan from NDDB is Rs. 3223.20 lakhs for conversion cost of existing DCS to Mobile Centres, conversion cost of Cluster Centres, cattle enumeration work (updatings) equipments for Semen Bank Storage and transport containers, training, progeny testing scheme, open nucleus breeding system, etc.

*Induction of buffaloes*

Mostly small landholders and landless agricultural labourers are dependent on the rural dairy sector. The above group needs to be provided with buffaloes. The buffaloes will be distributed to the targeted group as heifers at mid pregnancy. The pregnant heifers may be procured from the States of Punjab, Haryana and Andhra Pradesh. It is envisaged to induct ten thousand numbers of buffaloes as nuclear stock to selected farmers. This foundation stock would be bred with proven high pedigree Murrah bulls to get genetically improved calf crops.

The total financial outlay of this programme would be Rs. 20 crores at the rate of Rs. 10 crores per year during the first two years. The heifer calves born to these animals would be included under Heifer Calf Rearing scheme on priority basis along with other calves.

*Buffalo calf rearing scheme*

Presently the existing buffalo calves are taken care of by the farmers by spending a minimum amount towards concentrate feed as against ideal feeding. Promoting buffaloes is the need of the day for which Calf Rearing Programme can be a prime tool to bring about the desired result. Hence, it is proposed to implement Calf Rearing Scheme for buffalo heifers. An amount of Rs. 61.50 crores is provided for this scheme, which will be implemented through NDDB assistance. Out of this, subsidy component and loan component are Rs. 27.83 crores and 33.67 crores respectively.
### Dairy Development Programme for Tenth Plan

(Rs. in crores)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Scheme Name</th>
<th>Outlay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Dairy Development Department</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Financial assistance to TCMPF Ltd. and DCMP union for processing and Marketing facilities</td>
<td>5.00</td>
</tr>
<tr>
<td>2.</td>
<td>Financial assistance to TCMPF Ltd for improving the upgradation of milch animals by developing nucleus bull farm and thereby to improve the dairies.</td>
<td>5.00</td>
</tr>
<tr>
<td>3.</td>
<td>Provision of infrastructure facilities to milk producers' cooperative societies and all women milk producers' cooperative societies.</td>
<td>6.50</td>
</tr>
<tr>
<td>4.</td>
<td>Financial assistance to DCMP Union for strengthening the procurement and marketing activities</td>
<td>6.50</td>
</tr>
<tr>
<td></td>
<td><strong>Total-Dairy Development Department</strong></td>
<td>23.00</td>
</tr>
<tr>
<td></td>
<td><strong>Tamil Nadu Cooperative Milk Producers Federation (TCMPF)</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Clean Milk Production/Distribution</td>
<td>1.16</td>
</tr>
<tr>
<td>2</td>
<td>Lump sum provision for buffalo development programme, Bull Rearing unit and Calf and Buffalo breeding.</td>
<td>25.84</td>
</tr>
<tr>
<td></td>
<td><strong>Grand total- Dairy Development Sector</strong></td>
<td>50.00</td>
</tr>
<tr>
<td></td>
<td><strong>Schemes under NDDB- assistance</strong></td>
<td>218.73</td>
</tr>
</tbody>
</table>