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Chapter I

INTRODUCTION

India has emerged as the largest producer of milk in the world with an annual milk production of 91.1 million tonnes during 2004\(^1\) surpassing the United States of America where the production was 78 million tonnes. The milk production in the country has more than trebled during the last three decades from 23 million tonnes in 1973 to 91.4 million tonnes in 2004 with the average increase of about 4.5 per cent per annum. This is highly remarkable compared to the world’s average growth of about one per cent per annum.\(^2\) Nevertheless the new economic policies of the government and the recent amendments to the Milk and Milk Product Order 1992, India offers a level playing field to Indian and foreign investors alike to invest in dairying both with a view to serve domestic market and also to undertake export initiatives.\(^3\)

It is rather unfortunate that despite being the world’s largest milk producing country, today, the per capita availability is one of the lowest in the world. The dairy sector of India took a move forward after 1970-’71 and the per capita availability of milk increased from 112 gms in 1970-’71 to about

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228 gms per day in 2003-'04. However, the present growth of per capita availability is much below the world average of 285 gms and even less than 280 gms recommended by the Nutritional Advisory Committee of the Indian Council of Medical Research.\(^4\)

The Indian dairy sector owes its success to millions of small holder producers, who have one or two milch animals yielding 3-4 litres of milk per day. Although the yields have remained quite low compared to the world standards, yet it has not only survived but also flourished. Annual milk yield of dairy animal in India is about one tenth of that achieved in the USA and about one fifth of the yield of a grass-fed New Zealand dairy cow.\(^5\)

Animal husbandry is an important component of Indian agriculture providing various outputs and services to the society. The livestock sector accounts for about one-fourth of the agricultural gross domestic product. The livestock contributes substantially to the food and nutritional security, stability and sustainability of household income and growth of agricultural production in the country. As observed by P.S. George and K.N. Nair;

Dairying has increasingly become a part of the state’s anti-poverty programme. Organizations like the Small Farmers Development Agency (SFDA) and the Integrated Rural Development Programme (IRDP) give

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priority to dairy development projects as an instrument for uplifting the economic conditions of the weaker sections of the rural population.6

Dairying, in India, is considered as a sub-system of the farming system for the milch animals are generally fed with crop residues, agricultural wastes, compound cattle feed and oilseed cakes. The cost of milk production in India is one among the lowest in the world.7 Dairying in India, through the small herd dairy system with feeding practices that do not place pressure on land, has significant cumulative and competitive advantages. The low capital investment and steady returns make dairying a covetous activity among the marginal and small farmers and even the landless who depend for fodder on common grazing and forest lands.

India has 2 per cent of the geographical area of the world and it supports about 18 per cent of the world’s cattle population, but it contributes only around 14 per cent of the world’s milk output.8

A SWOT analysis of the Indian dairy industry is given in table 1.1.9

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9 It is an analysis that highlights Strength, Weakness, Opportunities and Threats [SWOT].
Table 1.1: SWOT Analysis of Indian Dairy Industry.\textsuperscript{10}

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Conversion of low / no valuecrop residues to milk.</td>
<td>1. Numerous producers and small volumes.</td>
</tr>
<tr>
<td>3. Almost year round employment.</td>
<td>3. Quality problems.</td>
</tr>
<tr>
<td>4. Food and livelihood security for the poor.</td>
<td>4. Too many organized players chasing too small market segments.</td>
</tr>
<tr>
<td>5. Well developed dairy supportindustry.</td>
<td>5. Political and bureaucratic interference.</td>
</tr>
<tr>
<td>6. Veterinary health care infrastructure.</td>
<td>6. Weak research and development.</td>
</tr>
<tr>
<td>7. Successful models like AMUL Anand Pattern Dairy Cooperatives underpinning the democratic polity.</td>
<td>7. Poor cattle management system.</td>
</tr>
<tr>
<td></td>
<td>8. Low capital formation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High value addition products</td>
<td>1. Non tariff barriers to exports</td>
</tr>
<tr>
<td>2. Collaboration and consolidation</td>
<td>2. High level subsidies to dairy industry in developed countries.</td>
</tr>
<tr>
<td>3. Established R&amp;D institutions, for breed improvement and disease control.</td>
<td>3. Competition in the market from highly subsidized dairy products from developed countries.</td>
</tr>
<tr>
<td>4. Emerging technologies like biogenetics.</td>
<td>4. Short supply to over supply markets.</td>
</tr>
<tr>
<td>5. Intermediate product market ghee, <em>chana, khoa, paneer</em>.</td>
<td></td>
</tr>
<tr>
<td>6. Fortification of milk and milk products with pharma herbal and mineral medicines.</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{10} \textit{Ibid}, p. 48.
The SWOT analysis brings the various challenges faced by the dairy sector and the required responses to meet the challenges.

1.1 THE CHALLENGES FACED BY INDIAN DAIRY SECTOR

1.1.1 The Indian dairy sector is comprising mainly farmers with small landholding and having low productivity milch animals.

1.1.2 There are many milk producers clustered within a village. The villages are scattered and away from the urban consumption centres. The real challenge is to organize this scatter and to weave a network that can make the system work as an industry.

1.1.3 Every small milk producer is dependent upon income from the sale of milk produced daily. Default in the regular payment foils his family budget.

1.1.4 The milch animal, an asset of the dairy farmer, is under continuous threat from local and infectious diseases caused by poor sanitation, bad hygiene and ignorance of countering these problems. Infectious diseases can cause mortality and morbidity and the poor farmer can never afford such calamities.

1.1.5 There is lack of infrastructure facilities. The absence of road and telecommunications has hindered the growth of the rural poor.

1.1.6 In rural areas there are many producers but only a few buyers. Due to the lack of marketing facility, the prices depress and create loss for the dairy farmer.
1.1.7 In the era of globalization and liberalization, those who produce quality items in a cheaper manner should market it globally. The developing countries, though they produce milk in a cheaper way, suffer from non-tariff barriers to trade under the Sanitary and Phytosanitary Measures Agreement. The stringent food safety standards are beyond the reach of Indian dairy industry.

1.2 THE RESPONSES TO MEET THE CHALLENGES

1.2.1 Enhancement of Productivity through Breed Improvement

Cross breeding of low-yielding indigenous breeds with high yielding exotic breeds has been widely acknowledged as a valuable strategy to improve animal productivity. The focus of crossbreeding research has been mainly on cattle because of their dual role of milk production and their use as draught animals in the crop sector. A number of cross breeds with improved production potentials have been evolved, some important cross breeds include Haryana x Friesian, Haryana x Brown Swiss, Rathi x Jersey, Gir x Jersey, Gir x Friesian and Sahiwal x Jersey.11

1.2.2 High Rate of Productivity through Improved Feeding Practices

A large gap exists between requirement and availability of feed and fodder in the country. The problem of underfeeding can partly be overcome through technological interventions such as biological and chemical treatment

of feed and fodder. For example, urea molasses treatment can improve the quality of dry fodders and straws of wheat and rice. Urea molasses mineral lick can be used as a supplement to straws. This can help to improve the digestion of cellulosic fodders and the efficiency of rumen micro-flora. Urea treatment has been reported to reduce green fodder requirement by about 20 to 40 per cent and increases cattle milk yield by 10 to 20 per cent. Under experimental conditions, by pass protein technology has been found to reduce concentrate requirement by 40 per cent and reduction in dry matter requirement by 24 per cent. In addition it should be possible to increase productivity of crops that provide good quality byproducts. Some such crops are sugarcane, sunhemp, cowpea, carrot, cauliflower and turnip.

1.2.3 Increase of Productivity through Improved Health Services

Keeping of animals in unsanitary situations is a block to the full realization of the genetic potential of the milch animals. Proper health care management of the animals is possible through a three tier treatment system. First tier is the aid at the village level through a local resident trained as veterinary assistant enabled to diagnose and provide immediate relief to the sick animals. Mobile veterinary service, the second tier, should visit the villages on scheduled days and time. Third tier is the vaccination against the epidemics.

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14 R.S. Khanna, *op. cit.*, p. 27.
1.2.4 Value Addition to Farmer’s Price Realization

In the globalized era, value addition is possible by marketing branded milk products. Branded western and ethnic dairy products are witnessing rising demand and increased acceptance especially among urban consumers. Ethnic products viz. sweets, paneer, dahi (yogurt) etc. offer growing opportunity for the organized sector. The success of the branded dahi, yogurt, flavoured milk and traditional sweets such as gulabjamun, peda and burfi launched in India suggest the potential for introducing such products to the masses. A total quality management approach to improve in the quality of milk products has to follow the entire chain from milk production at the doorstep of the producer until the product arrives the consumer.

1.2.5 Dairy Development through the Provision of Better Infrastructure Facilities

Availability of good road infrastructure reduces poverty by saving travel time, enabling the poor to find better paying work, helping them to realize better price for their produce etc. In the dairy sector it is found that wireless communication can trace milk carriers for breakdown, enable the veterinarians to render emergency service to sick animals in remote rural areas.

1.2.6 Application of Information Technology at Rural Level

It helped the dairy co-operatives to change their rural face. It facilitates the computerized milk collection units to provide information of fat content of milk, its volume and calculate the amount payable on the spot. The process has increased the trust, transparency and efficiency of milk
collection.\textsuperscript{15} Introduction of internet would link all e-transactions between the village co-operatives and the processing dairy.

1.2.7 \textbf{Production and Marketing of Milk through the Formation of Dairy Co-operatives}

The milk production in India is mainly rooted in the co-operative system. This system is the basis of ‘Operation Flood’, the world’s largest dairy development programme. It helped to create strong network and linkages among millions of small holder producers, processors and the urban consumers which proved an important instrument in achieving this remarkable success. The co-operatives assured the marketing of milk from the small dairy farmers and offered them a reasonable price. The fixation of milk price on the basis of Solids-Not-Fat (SNF) encourages farmers to produce and supply quality milk. Co-operatives also provide various inputs to dairy farmers at reasonable prices. The co-operatives play the role in promoting co-operative spirit among the people which is very essential for mutual survival.

1.2.8 \textbf{Initiatives at the Government Level}

To increase the efficiency of the livestock sector and to make it competitive in the world market, in view of liberalization policy, the government of India has created the Department of Animal Husbandry and Dairying (DAHD) in the Ministry of Agriculture, in 1991. Its activities are primarily concentrated on supplementing and complementing the efforts of the state governments in

\textsuperscript{15} \textit{Ibid}, p. 29.
enhancing productivity levels of livestock through genetic upgrading, increasing the availability of feed and fodder, providing veterinary care, processing facilities, strengthening the marketing infrastructure, improving the database for livestock products and so on.\textsuperscript{16}

While formulating the 10th five year plan, the Government of India stressed certain new strategies in the field of animal husbandry. They include:

a) Conservation of native livestock to maintain diversity of breeds.

b) Immunization programme against important animal diseases and creation of disease free zones.

c) Enhancement of feed/fodder production and improvement of common property resources.


e) A transition from subsistent livestock farming to sustainable and viable livestock farming.\textsuperscript{17}

\textbf{1.2.9 Emergence of Dairy Units in the Private Sector}

There is ample scope for the private sector in the field of dairying. In Kerala they can perform well because milk production within the state is inadequate to meet the demand and this demand-supply gap is expected to widen in the future. These dairy units are functioning similar to the lines of the

\textsuperscript{16} Vinod Ahuja et al., \emph{Agricultural Services and the Poor}, Ahmedabad, Indian Institute of Management, 2000, p. 12.

co-operative sector. But they are registered under the Travancore Cochin Societies’ Act, instead of the Co-operative Act. They organize dairy farmers, collect milk from them and offer some subsidies and incentives for the promotion of dairy activity.

1.3 PRIVATE SECTOR DAIRY UNITS IN KERALA: A RESPONSE TO PRIVATIZATION WAVE

Privatization wave and World Trade Organization regime will exert more pressure on livestock production to be competitive in the world market. Indian dairy industry needs international competitiveness in terms of price, quality and technology. It can be achieved only with the help of Government of India and State Governments because in all the developed dairying countries of the world, the industry has largely benefited from the policy interventions of their respective governments. It is true that dairy sector is highly regulated and protected especially in the European Union, United States of America, Canada and Japan. India too, for a long period of time, adopted import substitution policy and thereby protected dairy industry by imposing various quantitative restrictions and other non-tariff barriers.

Since early 1990s, India embarked upon new economic policy, which got further boost with the signing of Uruguay Round Agreement on Agriculture (AOA) in 1994 eventually culminating in the establishment of the World Trade Organization (WTO) in 1995. The dairy industry was delicensed in

1991 and the private sector including multinational companies (MNCs) was allowed to set up milk processing and product manufacturing plants. However, in 1992, controls were brought back through the “Milk and Milk Products Order” (MMPO) with a view to have ‘orderly growth’ of dairy industry in India.\textsuperscript{19} Meanwhile foreign food and dairy businesses have also started foraying into the domestic market though joint ventures and subsidiaries. At the same time India’s milk products have started reaching the Indian diaspora not just in the middle east but also in countries as far as the USA.\textsuperscript{20}

In this background another development is the emergence of dairy units under the private sector. It can be seen as an ordinary response to the privatization wave in the country started officially in 1991. As efficiency is the key factor in privatization policy, it can be observed that these dairy units are functioning more efficiently than the dairy units under the co-operative sector. Most of the private sector dairy units tried to follow the style of functioning persisting in the co-operative sector units.

The researcher has got an opportunity to make an indepth study in one of the private sector dairy units in Ernakulam district, Kerala, some years back. From that research the researcher convinced that there is a role played by private sector dairy units in augmenting the income and employment among the rural households of Kerala. It has high potential for alleviating poverty and unemployment in the rural areas and has helped to possess certain assets among

\begin{itemize}
\item \textsuperscript{19} Pradeep S. Mehta, \textit{op. cit.}, p. 154.
\end{itemize}
poor rural households. It gives impetus to study the role played by private sector in the area of dairying in a wider spectrum.

In the light of these observations and in the current wave of privatization, the researcher feels worth to study the role played by private sector dairy units in the overall economy of the state. Many studies were undertaken regarding the role played by co-operative sector in milk production, especially the role of MILMA in Kerala. But other dairy units in the private sector also could play an active role in the overall development of rural economy in Kerala. The researcher, therefore, believes that by highlighting the role of private sector dairy units in restructuring the village economy of Kerala, would give some new insights to all, especially when a serious debate is going on the pros and cons of privatization policy in the state and in India.

1.4 WHY ERNAKULAM DISTRICT?

In Ernakulam district there are 9 private sector dairy units supplying milk apart from Milma, the official milk marketing agency in the co-operative sector. They are PDDP milk, Nirmal milk, Jeeva milk, Penta milk, Milgram milk, Pooja milk, Gopika milk, Supreme milk and Palika milk. They sell around 1,31,438 litres of milk in the district per day. The involvement of more private sector enterprises in milk marketing is a special feature observed in Ernakulam district and the total amount of milk they marketed is more than the quantity of milk marketed by the co-operative agency ‘Milma’ in the district. For example, in 2004, as on September, the average sale of milk by KCMMF in
Ernakulam district was 1,22,666.66 litres of milk per day.\(^{21}\) This aspect gave insight to the researcher to concentrate the study in Ernakulam district*.  

1.5 WHY ONLY BENEFICIARIES OF DAIRY UNITS?  

Out of 9 private sector dairy units in Ernakulam district, only PDDP, Nirmal, Jeeva and Milgram organize beneficiaries by forming ‘societies’ (sanghams) and these sanghams would generate milk by providing various assistance for the dairy farmers such as loan facility, feed supply, daily milk procurement, veterinary services, marketing facility etc. The research is concentrated on these dairy farmers who are members of a particular sangham. This is because they really experience the impact of these sanghams in their daily life. Moreover, the profit earned by these dairy units are meant for distributing to these beneficiaries. Since they are non-profitable organizations whose objectives are charitable in nature, they are committed to improve the general standard of living of the beneficiaries. This aspect attracted the researcher to concentrate the study only on these beneficiaries. Other private sector dairy units, which are not interested in organising beneficiaries, are unable to make any notable impact on the daily life of the dairy farmers.  

Again, it is found that ‘service to the society’ is the motto of all the four charitable dairy societies of Ernakulam district. Other dairy units in the district collect milk from nearby states, especially from Tamil Nadu and process it and supply it in Kerala. They don’t have any specific beneficiaries in the

* Only in Ernakulam district, in Kerala, the private sector dairy units sell more milk than the co-operative agency, MILMA.
district and their impact is rather indirect in the sense that they promote certain employment opportunities for the people by giving jobs in the dairy plant and in the transportation network, and give some commission for the shop owners for selling their milk to the public. But the *sanghams* formed by PDDP, Nirmal, Jeeva, and Milgram would play an active role in the life of beneficiaries by way of support and protection during eventualities and contingencies occurred in their life. So the study is focused only on these four dairy units in the district.

### 1.6 RESEARCH DESIGN

#### 1.6.1 Statement of the Problem

The problem under investigation in the present study is: “Private Sector Dairying in Kerala: A Socio-Economic Analysis with Special Reference to Ernakulam Dt.”

A dairy unit may be functioning under the public sector, co-operative sector, or under private agencies. Private agency’s participation in the dairy sector is in the form of registered societies, similar to the one under the co-operative sector, with proper regulations and mode of operations of the latter. The emergence of such institutions, definitely, challenges the institutions under co-operative and public sector, regarding efficiency in functioning and other incentives they provide to the beneficiaries. They are committed to society in supplying quality milk and milk products and people place high demand on their products. It is a source of regular flow of income to the rural households in interior villages of Kerala State. These dairy units are, thus, instrumental in increasing the standard of living of the people in the rural area and helps to
reduce the regional inequality in income distribution. Since these dairy units collect milk from rural areas and supply it to urban centres, they help to solve the shortage of milk in the thickly populated urban centres like the city of Kochi and they function as an agent of income re-distribution in the society. These dairy units promote saving habits among people by way of conscientization and by introducing various deposit schemes for the beneficiaries. Thus they act as powerful instruments in saving, investment and finally economic development of the society at large.

Hence, the following questions arise: to what extent are the functions of the private sector dairy units in fulfilling their objectives? Do they promote saving habit among beneficiaries? Do the beneficiaries acquire any particular assets due to the activities of the dairy units? Do they bring any notable economic and social development in their respective functioning areas? Do the beneficiaries appreciate and welcome their presence and activities? Do they help in alleviating rural poverty and unemployment? Do they impart social development along with economic development? Do they really educate people, especially the rural poor, the need of ‘discipline’ in financial matters?

These are the main problems that require answers from the research.

1.6.2 Objectives

The objectives of the study are:

1.6.2.1 To find out whether the private sector dairy units in Ernakulam district are instrumental in increasing the level of income and standard of living of its beneficiaries.
1.6.2.2 To see whether these dairy units promote employment among beneficiaries in the functioning area.

1.6.2.3 To examine whether the beneficiaries appreciate the functioning of these dairy units.

1.6.2.4 To find out whether they promote saving habit among beneficiaries.

1.6.2.5 To examine the various problems encountered by the beneficiaries of the dairy units.

1.6.2.6 To see whether the beneficiaries repay their loans due to their involvement in the dairy units.

1.6.3 Definition of Key Terms

16.3.1 Private sector dairy units: In the study we consider the private sector dairy units as the one registered under the Travancore-Cochin Societies Act. They are agencies that organize farmers to produce milk, collect the milk from the farmers and market it in an efficient manner.

16.3.2 Socio-economic analysis: It is the analysis that aims at raising of the standard of living of people by placing the needs to people at the centre of analysis. It involves policies that promote development in social and economic fields with active participation of people in order to attain optimum utilization of existing resources.
1.6.3.3 **Beneficiaries:** They are the official members of various private sector dairy units in Ernakulam district. They receive loans and other assistance with the intervention of dairy units and they supply milk to these dairy units.

1.6.3.4 **Assets:** Assets, here, mean anything owned by a person after becoming a beneficiary of a dairy unit such as land titles, bank balance, buildings, electronic items, household articles etc.

1.6.3.5 **Financial discipline:** It is the prudent way of handling money. It would highlight the awareness of the negative aspects of extravagance and prodigality and the positive side of saving and investment in one’s life.

1.6.3.6 **Rural poor:** It signifies the poor people settled down in rural areas. They lack income and basic amenities of modern life.

1.6.4 **Variables**

The major independent variables are: level of income, saving habits of people, employment generation, repayment of debts, possession of assets, discipline in the use of money etc. The dependent variables are economic development and the standard of living attained by the beneficiaries. The dairy units are entrepreneurs to co-ordinate the various independent variables to attain the dependent variable.
1.6.5 Hypotheses

The study is based on the following hypotheses:

1.6.5.1 Private sector dairy units are instrumental in increasing the level of income and standard of living of the people by creating more opportunities in milk production and by promoting better marketing network.

1.6.5.2 Private sector dairy units help to reduce inequality in income distribution.

1.6.5.3 The private sector dairy units promote saving habit among the beneficiaries.

1.6.5.4 The dairy units have helped the beneficiaries to attain a sense of financial empowerment.

1.6.5.5 They promote employment opportunities for the rural people.

1.6.5.6 They impart improvement in the social life of beneficiaries.

1.6.6 Approach to the Study

Since the study of the role of private sector dairy units in the economic advancement of the beneficiaries is made from an analytical perspective, it calls for a historical approach and a comparative analysis to bring this study relevant to the needs of the time. The standard of living of the
beneficiaries before the emergence of a dairy unit and the change occurred after becoming a beneficiary would highlight the need of historical approach together with comparative analysis. The empirical investigation will bring not only the recent changes that occurred in the standard of living of the beneficiaries but also the factors which contributed to realize such a change among the beneficiaries. Thus the study focuses on the agents behind the changes, leading to analyse the role played by private sector dairy units in the area.

1.6.7 Universe

Members of the four private sector dairy units in Ernakulam District form the universe of the study. It comprises 50,285 beneficiaries belonging to 4 dairy units in Ernakulam district. The universe projects various diversities in terms of land holdings, number of milch animals, proportion of milk for sale and for self consumption, possession of highbred cows and local cows, dairying as major occupation and as subsidiary occupation etc. The number of beneficiaries in different dairy units are given in table 1.2.

Table 1.2: The Number of Beneficiaries in Different Dairy Units in Ernakulam District

<table>
<thead>
<tr>
<th>Dairy Units</th>
<th>Total Number of Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDDP</td>
<td>29,800</td>
</tr>
<tr>
<td>Nirmal</td>
<td>7,340</td>
</tr>
<tr>
<td>Jeeva</td>
<td>6,720</td>
</tr>
<tr>
<td>Milgram</td>
<td>6,425</td>
</tr>
<tr>
<td>Total</td>
<td>50,285</td>
</tr>
</tbody>
</table>
1.6.8 Sample

In order to study the role of private sector dairy units among its beneficiaries, a sample of 250 beneficiaries from 4 private sector dairy units is taken for the study. Among the sample population, certain beneficiaries consider dairying as their main occupation and others consider it as a subsidiary occupation. In order to understand the real role of private sector dairy units, beneficiaries are chosen at random giving a main occupation - subsidiary occupation ratio of 2:1.*

Each dairy unit functions in different panchayats of Ernakulam District. In order to get a proper sample 20-30 beneficiaries from different panchayats of the network area were selected for the study.

From the PDDP 100 samples** are selected from 10 different localities of the dairy unit. The reason for selecting these areas is that it is in these areas that the beneficiaries have dairying as their main occupation and their livelihood is highly dependent upon dairy activities. The areas are given in table 1.3.

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* Low income category has been fixed on the basis of the classification made by Government of India above poverty line and below poverty line categories. Income category of the chosen beneficiaries is mentioned in P. 157. 109 beneficiaries have monthly income less than Rs. 1000/- and 73 beneficiaries have monthly income between Rs. 1000/- and Rs. 2000/-. So 72.8% of the chosen beneficiaries belongs to the poorer section in the sense that their monthly income is less than Rs. 2000/- per month.

** High efforts have taken to make the sample as representative as possible. The researcher found a high degree of homogeneity among the sample units surveyed. That is why, eventhough the number of units selected were only 100, a comprehensive picture of the units were gathered. By merely increasing the number of units there in only wastage of time and nothing in particular to be gained.
From Nirmal Milk, 50 samples are selected from 6 different localities of the dairy unit. It is given in table 1.4.

**Table 1.3 : Name of the Locality and Number of Beneficiaries Chosen from PDDP**

<table>
<thead>
<tr>
<th>Locality</th>
<th>No. of sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Okkal</td>
<td>10</td>
</tr>
<tr>
<td>Jordanpuram</td>
<td>10</td>
</tr>
<tr>
<td>Marottichuvadau</td>
<td>10</td>
</tr>
<tr>
<td>Mattoor</td>
<td>10</td>
</tr>
<tr>
<td>Kidangoor</td>
<td>10</td>
</tr>
<tr>
<td>Kanjoor</td>
<td>10</td>
</tr>
<tr>
<td>Thannippuzha</td>
<td>10</td>
</tr>
<tr>
<td>Majapra</td>
<td>10</td>
</tr>
<tr>
<td>Thuravoor</td>
<td>10</td>
</tr>
<tr>
<td>Nedumpassery</td>
<td>10</td>
</tr>
</tbody>
</table>

**Table 1.4 : Name of the Locality and Number of Beneficiaries Chosen from Nirmal Milk**

<table>
<thead>
<tr>
<th>Locality</th>
<th>No. of sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airoopadam</td>
<td>10</td>
</tr>
<tr>
<td>Thaeri</td>
<td>8</td>
</tr>
<tr>
<td>Ayakkadu</td>
<td>8</td>
</tr>
<tr>
<td>Vadassery</td>
<td>8</td>
</tr>
<tr>
<td>Keerampara</td>
<td>8</td>
</tr>
<tr>
<td>Vadattupara</td>
<td>8</td>
</tr>
</tbody>
</table>
The locality and the sample size selected from the area of operation of Jeeva Milk are given in table 1.5.

**Table 1.5 : Name of the Locality and Number of Beneficiaries Chosen from Jeeva Milk**

<table>
<thead>
<tr>
<th>Locality</th>
<th>No. of sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pareekkanny</td>
<td>10</td>
</tr>
<tr>
<td>Chathamattom</td>
<td>6</td>
</tr>
<tr>
<td>Bhoothanthahtket</td>
<td>6</td>
</tr>
<tr>
<td>Malayinkeezhu</td>
<td>6</td>
</tr>
<tr>
<td>Nadukani</td>
<td>6</td>
</tr>
<tr>
<td>Koovulloor</td>
<td>6</td>
</tr>
<tr>
<td>Kanjirakunnu</td>
<td>5</td>
</tr>
<tr>
<td>Vallakkadavu</td>
<td>5</td>
</tr>
</tbody>
</table>

In Milgram, there is a high variation with regard to the number of beneficiaries in different localities. The following mode of selection was followed in the Milgram dairy unit.

**Table 1.6 : Name of the Locality and Number of Beneficiaries Chosen from Milgram Dairy Unit**

<table>
<thead>
<tr>
<th>Locality</th>
<th>No. of sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.D</td>
<td>10</td>
</tr>
<tr>
<td>Pattimattom</td>
<td>8</td>
</tr>
<tr>
<td>Kizhakkambalam</td>
<td>8</td>
</tr>
<tr>
<td>Edathala</td>
<td>6</td>
</tr>
<tr>
<td>Airapuram</td>
<td>6</td>
</tr>
<tr>
<td>Njaralloor</td>
<td>6</td>
</tr>
<tr>
<td>Nelladu</td>
<td>6</td>
</tr>
</tbody>
</table>
High attention and care have been taken in selecting the sample which includes the economically backward middleclass people. But more samples are taken from the low income group on the assumption that they are more benefited by the activities of the dairy units and more people joined in various dairy units are from the lower strata of the society. The economically sound beneficiaries of the units do not feel the real impact of the dairy units because their basic needs are satisfied even without depending on these dairy units. It is the poor, who are more benefited from these units by selling milk to them and thereby acquiring certain assets in their homes. Moreover to organize the rural poor and to improve their life situation is one of the main objectives of these private sector dairy units.

1.6.9 Method of Data Collection

The research was conducted in 2006 with the help of a structured questionnaire. Personal interview with the aid of a schedule was used for the collection of empirical data. Such interviews provided deeper and more detailed information than an impersonal survey method. Since majority of the beneficiaries got only basic education, their response would have been poor and less than adequate, if a survey by mailed questionnaire was conducted. Due to the wide contact of the researcher in the study area, he had easy access to the beneficiaries and it facilitated the administration of schedule method in a better manner. The study area was spread over 31 localities and 8 panchayats. The schedule method provided the advantage of obtaining a personal data and of collecting sufficient materials from the beneficiaries.
Historical materials - origin of the dairy society, number of beneficiaries, quantity of milk production, marketing network, number of beneficiaries, number of employees etc. were collected from the central office of the dairy units. Their published balance sheet and other printed materials were the secondary data that were collected.

1.6.10 Pilot Study

In the beginning of the research a pilot study was conducted by visiting NVDCS and PDDP dairy units and administering questions to 7 beneficiaries each. The objectives of the pilot study were the following:

(a) To ascertain the scope for conducting a research with the above mentioned objectives.
(b) To have a deeper understanding of the sampling design.
(c) To determine the techniques and tools of data collection.

It was in the light of the pilot study and of the previous experience of the researcher in the field of study, the specific issues for deeper study were selected. It was observed that there was high relevance to the issues in the proposed study in the context of the privatization wave in India. Certain questions were re-structured for better understanding of the beneficiaries and certain techniques were modified for better clarity. The methods and tools of data collection, the sampling design etc. were finalized on the basis of the pilot study.
1.6.11 Limitations of the Study

1.6.11.1 There is always a general limitation on the sample survey. The conclusions reached from this study, therefore, cannot be applied with certainty to all dairy farmers and at all times.

1.6.11.2 The economic impact of private sector dairy units itself is very wide and extends not only to the milk producers but also to consumers and employees of dairy units. But this study is confined to the milk producers alone which, indeed, is one of the major limitations.

1.6.11.3 While answering to the schedule many rural illiterate dairy farmers gave the information from their memory, that they do not have the habit of keeping accounts and records of their income and expenditure. So we cannot prove that they are cent percent reliable.

1.7 GENERAL OUTLINE OF THE STUDY

The study is presented in eight chapters. The first chapter contains general introduction, reasons for choosing Ernakulam District, reasons for concentrating the beneficiaries of dairy units and the research design.
The second chapter deals with the survey of literature.

The third chapter highlights the dairy development programmes at the national and at the State levels.

The fourth chapter contains a statistical profile of livestock and dairy sector at the national and State levels.

The fifth chapter provides a profile of the four private sector dairy units functioning in Ernakulam District.

The sixth chapter deals with an empirical verification of private sector dairy industry in Ernakulam District.

The seventh chapter contains a statistical analysis of the data and describes the socio-economic impact of the private sector dairy units on the society.

The eighth chapter provides findings, conclusions and recommendations of the study.