CHAPTER-I

INTRODUCTION AND RESEARCH DESIGN

1.1 Introduction

Dairy Co-operatives have played an important role in the development of the dairy sector in India. They are engaged in milk production, procurement, processing and marketing. Dairy co-operatives face increasing competitive pressure from private sector players, not only in terms of marketing but also procurement of milk. As against these agile players, the functioning of co-operatives has been constrained on account of the prevalent framework governing co-operatives in India, which stifles initiative and leads to inefficiencies. The co-operatives need to be provided greater autonomy and encouraged to pursue the legitimate interest of their members in an effective, self-reliant, responsible, accountable and democratic manner.¹

1.2 Dairying an Overview

In the Indian dairy industry first miracle were rural farmers joining together with professional managers to make the country self-sufficient in milk. Now it is ready for the second miracle the emergence of India as the world’s leading dairy nation-not merely becoming the biggest but also the best. The production of milk in India is different from that of the developed countries where the milk production is being carried out by the scientific integrated dairy farms with modern technology and hybrid cows. But in our country the milk production is done by the farmers with a little knowledge about milk production with small holdings of lands and with the cross bred cows.²

The importance of dairying not only in production of milk, but in its capacity to bring about significant changes in the socio-economic structure of rural economy.


Its role in employment-generation is well-recognized. It has provided numerous small/marginal farmers and agricultural labourers with supplementary employment, regular source of income. Dairying and its related activities created jobs equivalent to 25 million year. The significant role played by co-operatives in stimulating dairying has also proved to be an important source of progress.3

Table 1.1 shows the annual milk production and per capital availability in India from 2000-01 to 2009-10.

### Table 1.1
**Annual Milk Production in India**

<table>
<thead>
<tr>
<th>Year</th>
<th>Milk production (in million tons)</th>
<th>Per Capita Availability (gms per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01</td>
<td>80.6</td>
<td>220</td>
</tr>
<tr>
<td>2001-02</td>
<td>84.4</td>
<td>225</td>
</tr>
<tr>
<td>2002-03</td>
<td>86.2</td>
<td>230</td>
</tr>
<tr>
<td>2003-04</td>
<td>88.1</td>
<td>231</td>
</tr>
<tr>
<td>2004-05</td>
<td>92.5</td>
<td>233</td>
</tr>
<tr>
<td>2005-06</td>
<td>97.1</td>
<td>241</td>
</tr>
<tr>
<td>2006-07</td>
<td>100.9</td>
<td>246</td>
</tr>
<tr>
<td>2007-08</td>
<td>104.8</td>
<td>252</td>
</tr>
<tr>
<td>2008-09</td>
<td>108.5</td>
<td>258</td>
</tr>
<tr>
<td>2009-10</td>
<td>112.5</td>
<td>263</td>
</tr>
</tbody>
</table>

Source: www.animalhusbandry.com

From the table 1.1 shows that India is the world’s largest and fastest growing markets for milk and milk products. During last ten years, the per capital availability in India had gone up significantly despite the booming population. By 2011, it is expected to reach 280gm/day when the population would be 1, 1178 million.

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3 India 1998, A reference Annual, Publications Division, Ministry of Information and Broadcasting, Govt. of India, New Delhi, pp. 320-321.
1.2.1 History of Dairy Development

The history of dairy development movement in India is of recent origin. During the pre-independence period this movement was limited to a few pockets of Calcutta, Chennai, Bangalore and Gujarat. The most notable of this venture was Anand co-operatives Milk producers Union Limited (AMUL) of Karia District, Gujarat. But after independence, Indian government took great initiative in setting up new dairy co-operatives in every corner of the country. The National Dairy Development Board (NDDB) was set up in 1965 to make the ambitious project a success beside the Operation Flood Project was taken in 1970 to balance the demand and supply of milk through the country and to help the rural people in making additional income by replicating the Anand pattern.  

1.2.2 Ananad Milk Union Limited (AMUL)

The Kaira Dairy Co-operatives Union, which came up in Anand, Gujarat, during the 1950s, is popularly known as AMUL (Anand Milk Union Limited). The milk co-operatives organized by this Union acquired greater significance than the traditional dairy co-operatives since they not only organized milk producers, but also tuned in with the processes of modernization and commercialization. Between 1948 and 1957, the Anand Union grew from the supply of 250 litres of milk from five village societies. During the late 1950s and early 1960s, farmers from several neighbouring districts-such as Mehsana, Sabar Kantha, Surat, Baroda and Banaskantha created their own milk producers’ co-operative union by successfully and systematically emulating what Anand Union had done.  

The Aarey Milk Colony was established in 1945 by the Bombay Government under Greater Bombay Milk Scheme. During 1946, the first farmers’ integrated dairy

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co-operative was established in Kaira District at Anand which later came to be known as AMUL. Thus after independence, both Amul and Greater Bombay Milk Scheme together set a faster pace of dairy development with emphasis on developing techniques processing and marketing under Indian conditions.

The growing demand for milk in Bombay provided the stimulus for the milk products in Kaira District Co-operative Milk Producers Union, popularly known as ‘AMUL’ came into being. Starting with just two milk producer societies with a daily collection of 250 litres in 1948, Amul now has a membership of 360000 farmers handling about 850000 litres and disbursing about Rs.100 crores annually towards the cost of milk supplied by them.

The Anand pattern is a three-tier structure consisting of the producer societies at the village level, which collect the milk from the producers twice daily and pay them. On behalf of its member Unions, the Federation undertakes the collective marketing of milk and milk products, besides attending to quality control. The role of the Government is to supervise, guide, encourage and wherever necessary discipline the erring co-operatives. The Anand pattern thus establishes a direct link between the producers and the consumers.  

1.2.3 National Dairy Development Board (NDBD)

The NDDB was set up under the aegis of the Ministry of Agriculture and Irrigation, Government of India in September 1965 under the Societies Registration Act 1860. Its Board of Directors including Chairman is nominated by the President of India. The secretary of NDDB is the Chief Executive of the organisation who is supported by professionals to carry out the Boards and international agencies to facilitate the exchange of information for conducting research in the field of dairying and animal husbandry. The package of services which the NDDB offers, helps in the creation of viable Co-operative Farmers’ Organisations with facilities for procuring,

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processing and marketing milk and milk products. The NDDB’S approach towards the modernization of dairying has been well accepted under India’s various five-year plans and the World Bank-aided projects in India and abroad.\(^7\)

The Indian dairy industry is thus on the threshold of a new era of quantum jump in milk production which would totally transform the dairy scenario to the rural masses in terms of higher income, improved amenities and better living.

The establishment of a co-operative structure, which ensures a guaranteed market for the producer, acts as an incentive for higher milk production and eliminated intermediaries in the milk trade. Being well-organised, the milk producers are able to bargain for a higher price in line with increasing cost of production. But the State Governments in their anxiety to protect consumer interest act as a check against steep increases in price.

The Dairy Board implements co-operative development and governance programmes across the country. The main aim is to help create self-reliant, jointly owned, democratically controlled and professionally managed co-operative institutions, responsive to the socio-economic and cultural expectations of their members.

In addition, help to build resilient, self-sustaining Co-operatives, the NDDB is committed to serve its rural community by including women’s development and leadership development programmes, and encourage fairness and transparency in milk procurement operations as core/integral part of its activities. Need based consultancy is provided to help evolve strategies to promote and strengthen village based milk procurement systems.

The National Dairy Development Board assists in:

- Institution Building
- Enhancing women involvement in co-operatives

• Strengthening procurement systems (SPS)
• Village based milk procurement systems under NDP

In addition to our client organizations, viz., state co-operative milk marketing federations and milk producers’ co-operative unions, the co-operative development and governance services are available to non-government organisations, producer companies and developmental agencies involved in working with dairy and allied co-operatives and with women’s empowerment.  

1.2.4 Operation Flood Programme in India

The performance of the Indian milk sector during Operation Flood programme covers Operation Flood phase I, II and III. The dairy co-operative sector during Operation Flood has played a major role in increasing the milk production as a single largest farm commodity in terms of value. The State-wise milk production analysed by an exponential function to reveal its compound growth rate over various Operation Flood phases in the country. A significant positive compound growth rate was observed in major Indian States. The milk utilisation pattern had also switched over the period. In a nutshell, operation flood covered nearly 7.51 percent of rural people in the country and had provided them with income-generating opportunities for their subsistence.

Next to crop husbandry, the most likely programme for extensive support has been animal husbandry, particularly dairying sector, which has got the largest employment potential in India since time immemorial. The dairying sector has passed through an exciting stage of development and is becoming increasingly important owing to the enormous growth in milk production that now focuses on the integrated approach of Operation Flood (OF) and its networking of milk, from producer to consumer.

The Indian farmers (landless and marginal are around 70 per cent of total dairy farmers) carry out dairying as an agricultural enterprise primarily through small

8 www.nddb.org
individual units having one to two milch animals. These farmers are scattered over rural areas and they lack milk marketing infra-structure at the village level. Generally, they sell their surplus milk to the private milk vendors at a low price with an irregularity in milk marketing arrangement. Operation Flood programme, the most significant rural development project, was drawn up by the National Dairy Development Board (NDDB), in 1970 to replicate the Anand pattern of dairy development due to its integrated approach to the production, procurement, processing and marketing of milk along co-operative lines.

Before 1970 various Pre-Operation Flood dairy development programmes and policies were in operation in the country. These programmes had little impact on increase in milk production, bovine population and per capita milk availability in the country. During 1950-51 to 1969-70, milk production increased from 17 million metric tonnes to 20.7 million metric tonnes whereas the per capita milk availability decreased from 132 gm per day to 107 gm per day. The average growth in bovine population also recorded a poor increase in the country during Pre-Operation Flood period. This was the state of affairs in India’s dairy development programme christened as Operation Flood, which marked the beginning of a new era in the history of dairy development in the country.

1.2.5 The Birth of Indian Dairy Corporation (IDC)

The Indian Dairy Corporation (IDC) was set up under Company’s Act on 13th February 1970. It is a Government of India undertaking. The immediate need to set up Indian Dairy Corporation was to handle the commercial and financial transaction of “India-world Food Programme (WFP) project-618” popularly known as ‘Operation Flood’. This has become mainly a financing-cum-promotional agency of the Central Government.

The white revolution, aims at massive dairy development on a co-operative basis, impressed by the economic transformation it had brought about in the life styles of the Gujarat farmers, it was decided that the ‘Amul’(Anand pattern) should be replicated nationally.
1.2.6 Operation Flood – Phases I, II and III

Since the inception of Operation Flood programme in the country in 1970, it has completed three phases known as OF phase-I, OF phase-II and OF phase-III. Operation Flood phase – I was originally designed to be implemented over a period of five years and launched on July 1, 1970, but it was extended till March 31, 1981 over 10 states. Operation Flood phase –II was launched on October 2, 1979 while Operation Flood phase-I was still underway and concluded on March 31, 1985. Operation Flood phase-II covered 22 States/Union Territories. Operation Flood Phase –III was started on April 1, 1985 to consolidate the extensive milk procurement, processing and marketing infra-structure created under Operation Flood-I and Operation Flood-II in 23 States/Union Territories and finally completed in March 31, 1996. The Operation Flood-I project had an initial outlay Rs95.4 crores which was later increased to Rs.116.40 crores. The Operation Flood-II programme had an outlay of Rs.485.5 crores, whereas it was 1303.1 crores during Operation Flood –III programme.

By the end of phase-III, 72.5 thousand village level Dairy co-operative Societies (DCSs) have been established in 170 milk sheds covering 267 districts in 23 States/Union Territories of India from where milk is collected twice a day. Nearly 92.6 lakh farmer members supply about 10.99 million kg milk per day which is processed by 370 liquid milk processing plants and product factories under the organised sector in India. The average liquid milk marketed through milk co-operative by the end of Operation Flood phase-I was 27.9 lakh litres per day by the end of Operation Flood phase-III. The growth in annual milk procurement, average liquid marketed and liquid milk converted into milk products under Operation Flood programme extended the organised marketing of milk to cover 500 towns which involved the development of procurement, processing and transportation facilities in the milk sheds. The basic infra-structure of milk processing capacity had increased substantially in the country over the various Operation Flood phases. Similarly
trends were also observed for technical inputs like a number of Artificial
Insemination (AI) centres, and cattle feed capacity.

1.2.7 State-Wise Growth of Milk Production under Operation Flood

State-wise growth performance in milk production during Operation Flood
phase-I depicted a maximum significant growth in milk production in Himachal
Pradesh with a compound growth rate of 22.28 per cent per annum followed by
Assam and Kerala whereas a minimum non-significant growth rate of 0.21 percent
per annum was obtained in Uttar Pradesh followed by Gujarat and Maharashtra. The
growth in milk production during Operation Flood Phase-II had been 10.93 percent
per annum in Tamil Nadu whereas it was 1.49 percent per annum in Andhra Pradesh.
The growth of milk production during Operation Flood Phase-III showed that
maximum significant growth was obtained in Nagaland (35.97% per annum) followed
by Maharashtra and Haryana and minimum significant growth was noticed in
Meghalaya with a compound growth rate of 1.18 percent per annum followed by
Andhra Pradesh and Rajasthan. In over all Operation Flood phase, the growth of
milk production was maximum in case of Nagaland followed by Himachal Pradesh
and Kerala and minimum was found in Meghalaya followed by Andhra Pradesh and
Rajasthan.9

1.2.8 World Scenario of Dairying

There has been a long-term orientation for world milk production. This trend
has been interrupted during the past years, mainly due to the decline in milk
production in central Europe and the countries that made up the former Soviet Union,
notably Russia. These reductions may be attributed to the disruption caused by the
economic changes, which followed the political changes of 1989. An important
influence was the removal or reduction of subsidies, which had insulated consumers
from the relatively high costs of production under communist systems. It is
reasonable to estimate that the long-term growth trend will reassert itself. American

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9 Virendra P. Singh, “Milk production during Operation Flood Programme in India”, Agricultural
situation in India, February, 2000, pp 669-675.
countries represent a bit more than one-fourth of the 455 million tonnes of cow’s milk produced in the world. This share has been slowly increasing over the last few years, with increases in all major countries except Canada. With its long standing production quota programme, Canada’s experience parallel that of a European Union. Overall, the world milk production has increased from 451 million tons in 1993 to 47 million tons in the year 2000.

In terms of share of world trade, the European Union experts have declined by 3.3 million tonnes of milk equivalent, bringing its share down from some 48 percent in 1993 close to 30 percent by the year 2000. This reduction is greater than that directly caused by GATT.

The product mix of world trade is likely to shift further towards cheese. This has a long-term pattern in the more developed markets. As these markets open up, consumption trends associated with these markets will have an increasingly influence on world trade.

Market shares within product group are likely to alter significantly under the influence of the Uruguay round. This is because the restraints on subsidized exports are linked to the historic base of 1986-90. Thus the European Union, in particular, will experience the greatest restraint in relation to its exports of products, which have been increasing, such as cheese and whole milk powder. Equally, it will be less subject to limitation in products like butter and to some extent skimmed milk powder. Because of these constraints, there are likely to be major shifts in the pattern of production of the other dairy exporting countries. In the cheese sector, for instance the combination of an increase of 1,00,000 tonnes in European Union imports and a reduction of 1,50,000 tonnes in European Union exports means that exports of cheese by other producers are likely to rise for these reasons alone by at least 2,50,000 tonnes over the 6-year period to the year 2000.

The South-East Asian Region, as well as the Middle East and the more wealthy countries in Africa and South America will become more and more the subject of competition between the countries of Europe, New Zealand, Australia and
probably the United States. As standard of living in the importing countries rises, the exporting countries will increasingly concentrate on whole milk powder and cheese at the expense of butter and skimmed milk powder. Nevertheless, a considerable export market will remain for skimmed milk powder in the recombining sector.

Besides this growth in import demand due to a probable shift in food consumption pattern, which is hard to quantify, most dairy importing countries will experience growth and population growth. This growth is calculated to be over 30 per cent in the 13 most important non-western dairy importing countries.

There is vast potential for the export of dairy products, as the cost of milk production in India is the lowest. In India, dairy industry is not getting subsidy while European dairy farmers are getting 40-60 percent subsidy. GATT agreement has further given boost to dairy industry, as India has a comparative cost advantage concerning milk production. We have to pay more and more attention to quality milk production. At present, India is exporting malted milk foods, ghee, butter, cheese to countries like Bangladesh, U.A.E, Nepal, Sri Lanka, Oman and Bahrain with about RS.81 crores. ¹⁰

1.2.9 Animal Husbandry in India

Animal Husbandry in India is closely interwoven with agriculture since it plays an important role in the rural household economy. Its important has transcended economics and is meshed with the cultural, social and religious ethos. Of course, it is the principal source of draught power in rural areas and possesses vast employment potential and producers most of the country’s milk and meat, thereby improving the states of nutritional security. It is an important source of manures and domestic fuel. A special feature of Indian animal husbandry is that it is predominantly rural, an integral adjunct to crop husbandry and has thus contributed towards the sustainability of rural countryside. Recent decades have witnessed major

changes in this sector and a significant expansion in the output of some of its components.

1.2.10 Live stock Statistics

The basic statistics on livestock that includes the population of cattle and buffaloes in different regions in India are shown Table 1.2

**Table 1.2**

**Population of Cattle and Buffaloes in Different Regions in India (In Millions)**

<table>
<thead>
<tr>
<th>Particulars/Regions</th>
<th>Cattle</th>
<th>Buffaloes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indigenous</td>
<td>Cross Bred</td>
</tr>
<tr>
<td>Northern Regions</td>
<td>50.0 41.35 39.99</td>
<td>20.38 36.71 45.27</td>
</tr>
<tr>
<td>Western Regions</td>
<td>27.13 15.66 15.81</td>
<td>0.78 2.24 9.31</td>
</tr>
<tr>
<td>Southern Regions</td>
<td>34.51 25.52 19.45</td>
<td>3.97 3.01 2.83</td>
</tr>
<tr>
<td>Eastern Regions</td>
<td>63.69 40.73 31.97</td>
<td>1.54 2.36 4.77</td>
</tr>
<tr>
<td>All India</td>
<td>175.33 123.26 107.22</td>
<td>26.67 44.32 59.18</td>
</tr>
</tbody>
</table>

Source: Agriculture Situation in India, November, 2002.

The above table reveals that the indigenous cattle are mainly reared by the household to sustain the draught animal’s power and indigenous cow’s milk is considered as a by-product. Buffaloes are considered as the main milch animals, followed by the cross breed cattle population has been increasing from 26.67 million in 1982 to 59.18 million in 2002, whereas the indigenous cattle population has been decreasing from 175.33 million to 107.22 million during the same period. Households try to rear the offspring of these species for replacement and/or sale. This pattern of rearing animals is primarily based on economic logic rather than on religious ground furthermore, northern, southern and western regions were observed to be important from the point of view of rearing buffaloes for milk production.
Among these milch animals, the cross bred cattle herd the higher lactating efficiency, followed by buffaloes in all the regions.

1.2.10.1 Role of Live stock in Indian Economy

Livestock is an important constituent of Indian economy. It provides nutritious protein through milk, eggs and meat. It contributes 6 percent of the total Gross Domestic Product. While the value contributed by agriculture and allied sector is in the range of 22-25 percent, the contribution of milk was higher than that of paddy, wheat and sugarcane.

Livestock generates gainful employment for small, marginal and landless labourers. It is a subsidiary occupation in hilly, drought prone and backward tribal areas. There are 9.8 million people employed in principal status and 8.6 million in subsidiary status. Women constitute 71 percent of the labour force compared to 33 percent in crop farming.

A sizeable percentage of livestock owners are below poverty line. Ownership of livestock is more evenly distributed amongst landless labourers, small and marginal farmers. Around 80 percent of livestock is in small, marginal and semi-medium land holdings. Around 60 percent of the animals belong to small, marginal and landless farmers.\textsuperscript{11}

1.2.11 Recent trends in Dairy Development

Dairying has played a prominent role in strengthening India’s rural economy. It has been recognized as an instrument to bring about socio-economic transformation. Along with the opportunities to prosper, the dairy sector is also faced with responsibilities and challenges to strengthen its recent gains in milk production, processing and marketing calls for use of innovative technology and new development initiatives. Outlined here are some Government schemes which aim at

\textsuperscript{11} Rajeswar Rao.\textit{J}(2002),“Livestock census in India:An overview of the databases, Improvements in the Coverage and Quality of data”, Agricultural situation in India, Oct, p407.
turning dairying into a full-fledged agribusiness for enhancing demand nutritional and generating mass employment in rural areas. They are as follows:

- **National project for cattle & buffalo breeding**
  Genetic improvement is a long term activity and the Government of India initiated a major programme, “National project for cattle & Buffalo Breeding” (NPCBB), from October 2000 to be implemented in two phases of five years each. Already Rs 300 crore has been invested under phase I and Rs800 crore is likely to be invested in phase II.

- **Milk & Milk products Order (MMPO)**
  This MMPO, 1992 envisages that any person/dairy plant handling more than 10,000 liters milk per day of 500 tonnes of milk sold per annum needs to be registered with the registering authority appointed by the central Government. Its objective is to maintain and increased the supply of quality milk and milk products.

- **Strengthening Infrastructure for Quality and Clean Milk Production**
  A Central Government scheme has been initiated for strengthening infrastructure for quality and clean milk production. It is expected to bring improvement in the quality of raw milk received at dairy plants. During 2006-07, an amount of Rs 35 crore has been provided under this scheme.

- **Dairy Venture Capital Fund**
  A venture Capital Fund for dairy and poultry sectors has been created by the Government for providing financial assistance for improving the quality of milk handled by the non-organised sector/small-scale milk producers in rural areas scattered all over the country. It is being implemented through NABARD.
• **Integrated Dairy Development Project in Non-Operation Flood, Hilly & Backward Areas**

This integrated Dairy Development Project meant for Non-Operation Flood hilly and backward areas, has benefited about 9.6 lakh farm families. It has helped in transferring of about Rs 300 crore per annum to the rural economy. Hence these areas are very backward and have hardly any tradition of dairying; this amount can be considered as a net contribution of the IDDP. This scheme was launched during 1993-94 on 100 percent grant-in-aid basis with the objectives of development of milch animals, increasing milk production, procurement, processing and marketing of milk in an cost effective manner, ensuring remunerative prices to the milk producers, generating additional employment opportunities, improving social, nutritional and economic status of residents.

• **Assistance to Co-operatives Scheme**

About 170 district co-operative Union were established under Operation Flood. Some of them have become sick due to low capacity utilization, inefficiency of plant and high salary cost, and are incurring huge losses. The Central Sector Scheme was introduced in January 2000 for revitalization of these Unions.

• **Livestock Insurance Scheme**

A new scheme on Livestock insurance is being implemented during 2005-06 and 2006-07 on pilot basis in 10 selected districts all over the country. It will assure protection to farmers against eventual losses of their crossbred and high yielding cattle and buffaloes.\(^{12}\)

1.2.12 Empowerment of Women during Planning Era

The concept of women’s development in the first five year plan (1951-56) was mainly welfare oriented. The central Social welfare Board (SWB), setup in 1953, undertook a number of welfare measures through the voluntary agencies. In the second five year plan (1956-61), women were organized under makila mandals to act as focal points at the grass root levels for the development of women. The Third, Fourth and other interim plans (1961-74) accorded High priority to the education of women, measure to improve the maternal and child health services and supplementary feeding for children of nursing and expectant mothers were also introduced.

In the Fifth Plan (1974-78), there was a shift in the approach to women is development, from ‘welfare’ to ‘development’. The new approach aimed at an integration of welfare with developmental services.

The Sixth Five Year Plan (1980-85) was a landmark in the history of women’s development as it received recognition as one of the development sectors and was included in the sixth plan document as a separate chapter for the firs time in the history of development planning. The Sixth Plan adopted a multidisciplinary approach with a three-pronged thrust on health, education and employment.

In the Seventh Plan (1985-90), developmental programmes for women continued with the major objectives of raising their economic and social status and bringing them into the mainstream of national development. A significant step in this direction was to identify and promote the ‘beneficiary-oriented programmes’ for women in different developmental sectors, which extend direct benefits to women.

In the Eighth Five Year Plan (1992-1997), which was launched in 1992, ensured that the benefits of development from different sector do not by pass women and special programmes will be implemented to complement the general development programmes.
Therefore, the flow of benefits to women in the three core sectors of education, health and employment will be monitored with a greater vigil. Women must function as equal partners and participants in the developmental process. This approach of the Eighth Plan marks a further shift from ‘development’ to ‘empowerment of women’.\(^\text{13}\)

The review of the progress of women’s component by the planning commission during Ninth plan(1997-2002) has confirmed that nearly 42.9 percent of the Gross Budgetary Support(GBS) aggregating a total of Rs 51,942.53 crore, has been spent on women by five departments namely, family welfare Health, Education, women and child Development and Indian system of Medicine and Homeopathy.\(^\text{14}\)

The Tenth Plan (2002 to 2007) approach aims at empowering women through translating the recently adopted National policy for empowerment of women(2001) into action and ensuring the survival, protection and development of children through a right-based approach. The Annual plan 2002-03, being the first year of the Tenth plan, has initiated and brought into effect the thrust areas outlined in the approach along with relevant policies and programmes. For the Annual Plan 2002-03 a total cost pay of Rs 2,220 crore has been provided for women and child development as against Rs 1,650 crore made available in 2001-02. In order to meet the increasing and challenging needs of women and children, there has been a progressive increase in the plan outlays over the period of the last four developmental decades.\(^\text{15}\)

The vision of the Eleventh Five Year Plan (2007-2012) is to end the multifaceted exclusions and discriminations faced by women and children; to ensure that every woman and child in the country is able to develop her full potential and share the benefits of economic growth and prosperity. Success will depend on our ability to adopt a participatory approach that empowers women and children and makes them partners in their own development. The roadmap for this has already

been laid in the National Policy on Women 2001 and the National Plan of Action for Children 2005. In the Eleventh Plan, for the first time, women are recognized not just as equal citizens but as agents of economic and social growth. The approach to gender equity is based on the recognition that interventions in favour of women must be multi-pronged and they must: (i) provide women with basic entitlements, (ii) address the reality of globalization and its impact on women by prioritizing economic empowerment, (iii) ensure an environment free from all forms of Violence Against Women (VAW) - physical, economic, social, psychological etc., (iv) ensure the participation and adequate representation of women at the highest policy levels, particularly in Parliament and State assemblies, and (v) strengthen existing institutional mechanisms and create new ones for gender main-streaming and effective policy implementation.16

1.2.13 Co-operative Societies Empowering Women

In order to integrate the vast majority of poor women with the mainstream of the society, our government has introduced a few considerable measures to create social and economic awareness among the women. Certainly such measures have improved their standard of living. Co-operatives which are social and economic in character have been recognized as the most suitable institution to undertake such tasks for the women. After the rapid industrialization of our country, Indian women are actively participating in economic activities and they are not mere “house wives” looking after household responsibilities. Involvement of women in co-operatives is a practical program for raising the status of women in the society on a very large-scale especially in those echelons of our society where our help and assistance are needed most.

Thirumathi Salinithai patel is an entrepreneur, and a well-known person in the field of women co-operatives societies. She has played a vital role in bringing forth the women co-operatives societies. She mainly introduced the women co-operatives societies to borrow money without their life partner’s co-operation. The impact of

16 www.womeninthe11thfiveyearplan.com
this concept resulted in the introduction of the Lichat Appalas production co-operative societies. They have several branches in India. The Head Office of this co-operative society is effectively running at Mumbai. Women conduct this society, especially in Maharashtra and Gujarat. Dairy Co-operative societies are run efficiently by women.  

The National convention on Involvement of women in co-operatives, held in April 1987, also recommended that special concern should be paid for the simple registration of women in the management, Committees of different types of co-operative societies. All, keeping in view this aspect, recognize the need for greater participation of women in co-operatives. A central sector scheme with 100% financial assistance for organization and development of co-operative societies exclusively run by women for their economic betterment was introduced for implementation during the Eighth five year plan. This scheme came into force during 1993-1994. The objective of this scheme was to provide assured work by organizing women’s co-operative societies to take up economic activities in the agro-based commercial and industrial sector, which would enable them to augment their income and generate employment opportunities for themselves. This central sector scheme continued even during the Ninth Five year plan.

Besides this, the National Co-operative Union of India (NCUI) has also tried to adopt an innovative approach to women empowerment through various income-generating activities. Based on this approach, the NCUI has established co-operative education field projects in co-operatively under developed states by appointing a lady mobilize in each of these projects. The basic aim is to improve the economic and social conditions of women by mobilizing them into self-help groups (SHGs). Now-a-days the Self-Help groups approach has emerged as an important plank of

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empowerment in the co-operative domain. In this approach, because of a small number of members with homogenous economic background and status, decision-making is based on the participation of all the beneficiaries. The success of this approach in the case of women is that they themselves have played a big motivating role in the empowerment of women. There SHGs, which ultimately turn into co-operatives, have provided the launching pad for the realization of their ambition, visions, needs and desires. Two such self-help groups are already operating in Shimoga (Karnataka) and Berhanpur (Orissa), although women throughout India are associated with various types of co-operatives like weavers’ societies, thrift and credit societies, cane workers’ societies, sericulture, bee keeping and the like.  

There are 8,393(1999-2000) women co-operatives founded in India with a total membership of 0.8 million.  

As far as Tamil Nadu State is concerned nearly 27,000 co-operative institutions of different kinds are functioning. The exclusively woman co-operative societies are less than two per-cent of the total co-operative societies functioning in the state. The State Government has amended the Tamil Nadu co-operative societies Act of 1983 and provided a 30 percent compulsory representation of women in Boards in all types of co-operatives. 

In Madurai Aavin Union 187 exclusively women co-operatives societies, 516 women self-Help groups who are engaged in dairy farming are functioning in the Union.

1.2.14 Dairy Co-operatives Empower the Rural Women

In the co-operative movement in India, the role of women in dairy co-operative has an important place. Presently the co-operative movement is representing 5.5 lakhs co-operative societies having the membership of 23 crores. The network of these societies is spread out all over the country particularly in the

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19 http://www.logos.net/i/0/150 base len/init/ind_2.htm.
21 Madurai Aavin, Unpublished Record of the Union.
rural areas. In the dairy, the society women members as well as the societies represented by women are doing well and performing excellent job for the development of individual sector. Now the co-operative movement in India has covered all important sectors providing necessary services including information technology to improve quality of life especially in rural areas. The co-operatives encourage coverage of weaker section including those people below the poverty line, those who are deprived of basic minimum facilities of women and youth. The co-operative movement is committed in uplifting the standard of living of the entire community as a whole without discriminating them on caste, religion, gender, political etc. The participation of the weaker sections and youth is also equally high in the co-operatives. No other organization other than co-operatives provide such values and ethics to support them.22

Dairy sector generates massive employment opportunities both directly and indirectly to millions of rural population at lowest investment. It is labour-intensive and women-oriented. Rural women perform more than 90 percent operations as an extension of domestic activities. It provides employment to more than 75 per cent population. Along with crop farming, it gives continuous employment, a steady source of income and therefore dairying itself has been proved to be very effective tool in upgrading the economic status of rural women.23

Empowering women particularly rural women is a challenge. Dairy co-operative societies in rural area can help to meet this challenge. Dairy co-operative societies not only enhance national productivity, generate employment but also help to develop economic independence, personal and social capabilities among rural women. Following are some of the personal and social capabilities which are developed as a result of taking up enterprise among rural women:

• Economic empowerment
• Improved standard of living
• Self confidence
• Enhanced awareness
• Improvement in decision making status
• Sense of achievement
• Increased social interaction
• Improvement in leadership quality

At present, dairy co-operatives is widely used as an instrument to empower women socially and economically. Once socio-economic empowerment is achieved, it would have implication on the overall development of women. The economic contribution of women has been found to be related to her role and status in the society. Economic independence facilitates in bringing about sexual equality and increased income of women translates more directly into family well being. Therefore, enhancing income and earning opportunities through the dairy co-operatives is viable pathway for empowerment of women.

Apart from the role of a home maker, the woman dairy farmers substantially share the agriculture and animal husbandry, related activities with other members of the family in the joint family system and in the case of a nuclear family with the spouse, which enhances the power of empowerment among women.

Dairy co-operative societies play a major role in enhancing milk production and marketing the surplus milk. Dairy co-operative societies are organized and run exclusively by women to improve their status in rural areas. They provide marketing facilities for the milk produced and get remunerative prices for milk to their members. Besides this, they provide several inputs like cattle feeds, loan, veterinary and breeding services to augment milk production.24

Raising their participation is essential to the long-term strength of the dairy co-operative movement. While initially the focus could be on participation in dairy activity, as members, this should graduate into governance aspect, i.e. their participation of Management Committee and Union Boards. Specific activities focus on enhancing women’s leadership skills, promoting thrift and credit groups as well as health, education and economic activities that contribute to women’s empowerment.\(^\text{25}\)

1.5 Statement of the Problem

Co-operatives have completed a century in 2004 and it has achieved so many prospects as well as faced so many problems over this period. But still an important question remains unanswered, whether these co-operatives have really helped to achieve the targeted results. Among various non-banking Co-operatives, Dairy Co-operatives really function effectively on its targeted objectives. “Madurai Aavin Union” is the best example for its continuous successful performance. Madurai Aavin Union received Awards from National Productivity Council for Best performance in Dairy Units (Large Sector) and Best Co-operative Society in Tamilnadu. The balance sheets of this Union will show the overall financial performance but the achievements of social responsibilities are to be brought out separately. Its role in the empowerment of Indian rural women folk through its schemes is to be brought into the limelight.

Women development has been considered the core for overall sustainable development of the nation. Pandit Jawaharlal Nehru rightly said that to build a strong nation woman should play a vital role in educational, technical and financial infrastructures. Further, the necessity of development of women has been understood that women’s empowerment and their full participation on the basis of equality in all spheres of society are fundamental for achievement of equity, development and peace. It is well understood that when a woman moves forward, the family moves and the village moves and the nation moves. The women folk can be considered as backbone of any nation and better half of the men in almost all spheres of community development, of which India is not an exception. The rural woman, who constitutes

\(^\text{25}\) www.nddb.com
about 50% of total rural population, plays an active role in all spheres of economic life and contributes richly towards national income. Of the major rural enterprises, dairy enterprise has been regarded as an important instrument of economic and social change to supplement the income and employment to the rural sector in general and rural women in particular. Tending milch animals is mostly women’s occupation. The participation of rural women in dairying like milking the cattle, fodder to the animals, cleaning the cattle sheds, maintaining the cattle etc., and as a dairy co-operative member has given her a degree of economic independence she never had earlier.

Dairy co-operatives is an instrument of socio-economic upliftment of the weaker sections in rural areas and would be successful in matching the demand with the supply of milk in urban areas, with this expectation, milk co-operatives were established throughout the length and breadth of the country. The main thrust of the milk co-operatives is providing employment and generating more income for the betterment of the socio-economic conditions of the members. Socio-economic empowerment signifies progress or advancement in respect of social and economic aspects of the people. So, the researcher aims to probe the role of dairy co-operatives in the empowerment of rural women and the social and economical development in their lives.

Hence, the researcher aims to analyse whether Madurai Aavin Union helps the rural women by rendering services and implementing the Government schemes through the society. This study focuses on how the women members of the society are empowered socially, financially and economically after they have been enrolled as a member in the society. The present study would assist the rural women to come forward and enter the dairy field for getting empowered.
1.6 Research Objectives

The present study has made an attempt to achieve the following specific objectives:-

1. To evaluate the growth and functioning of Madurai Aavin Union.
2. To study the attitude of women members towards Madurai Aavin Union.
3. To measure the extent of economic and social empowerment through Madurai Aavin Union.
4. To understand the problems faced by the women members in the societies.
5. To offer suggestions based on the major findings of the study for the betterment of the women members.

1.7 Hypotheses

The study endeavors to test the following hypotheses evolved in the light of the aforesaid objectives:-

i. There is no significant difference in the membership of the respondents in other organization before and after joining the society.

ii. There is no significant difference in the average usage of milk before and after joining the society.

iii. There is no significant difference between the opinions about the type of residence with the demographic characteristics of the respondents.

iv. There is no significant difference between the opinions about the source of income with the demographic characteristics of the respondents.

v. There is no significant difference between the opinions about the type of loan with the demographic characteristics of the respondents.
vi. There is no significant difference in the economic status of the members before and after joining the society.

vii. There is no significant difference between the opinions about the personal expenditure with the demographic characteristics of the respondents.

1.8 Research Design

The study is descriptive in nature. In order to collect the information from women members, a well-designed and pre-tested questionnaire was used for interview schedule. The survey was administered personally on face to face basis with members. Respondents are classified according to their age, income, tenure of membership, occupation, education and living status so as to analyse the data purposefully.

1.9 Scope of the Study

This study analyses the role of dairy co-operatives in rural women empowerment. The study is conducted among women members (pouring) in the society. The women members are exclusively from Madurai and Theni districts. The researcher wants to probe whether women participation are included in the development of dairy co-operatives. So the study was taken in those areas for finding the role of Madurai Aavin and finding rural women empowerment through dairy co-operatives.

1.10 Significance of the study

When Operation Flood I was extended to 18 districts in Tamil Nadu in 1970, the dairy co-operatives were organized under the Anand pattern. Out of the 6,831 villages among 18 districts, 184 were in Erode district and 766 in Madurai district and out of the total dairy farmers of 10,58,800 who become members of the dairy co-operatives organized in the 18 districts, 24,300 were in Erode and 2,67,000 in
Madurai. This indicates the historical significance of Co-operative dairying in Madurai.

It has been observed that the dairy co-operatives have enabled many families in Madurai District to take up dairy farming as their primary occupation. There have been significant socio-economic changes in their lives. A study of the role of dairy co-operative in rural women empowerment is essential to fathom the conditions of the milk producers and to analyse their development so that suitable suggestions may be given for making the co-operative dairying more useful to the milk producers of the district.

1.11 Area of the Study

Madurai district is one of the oldest districts of the state and culturally and politically a famous one from the earliest period in the history of Tamil Nadu. Madurai district is famous for co-operatives like handloom weaving, dairying etc., The Madurai District Co-operative Milk Producers’ Union Limited (Madurai Aavin), one of the prominent Union in the state of Tamilnadu, has been selected for the study. The Union covered the two milk sheds in Madurai and Theni Districts. The Union comprises of seven zones namely Melur, Vadipatty, Chellampatti, Usilampatti, Peraiyur, Theni, and Andipatty. All these zones were included in this study. The researcher has taken this area for her study because of the tremendous growth of dairy co-operatives societies in Madurai Aavin.

1.12 Methodology

The present study was based on both primary and secondary data. While the primary data have been collected so as to achieve second, third and fourth objectives, the secondary data had helped to attain the first objective of the study. The primary data were collected through personal interview using a well-structured interview schedule from sample women members of selected co-operative societies from April 2010 to June 2011. The secondary data was collected from unpublished reports of

the office of the Deputy Registrar, Dairying, Madurai and Theni, the unpublished records of Madurai union, Books, journals, Magazines and from related Web sites.

1.13 Sampling Design

The study has used a “Descriptive design” of conclusive nature. Proportionate Stratified Random sampling method was applied to the selection of sample members from the society in Madurai and Theni district. The list of societies from Madurai Aavin Union is used as the sampling frame. There are seven zones in the Madurai District Co-operative Milk producers’ Union Ltd.,

In these zones out of 1085 societies, only 710 societies are functional. The samples selected from these seven zones are presented below:

Table 1.3

Sample Design

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the Zone</th>
<th>Total No. of Societies</th>
<th>Functional Societies</th>
<th>No.of Women Societies</th>
<th>Total No.of Members</th>
<th>No.of Women Members</th>
<th>Samples</th>
<th>Society</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Melur</td>
<td>62</td>
<td>44</td>
<td>8</td>
<td>4,149</td>
<td>2,520</td>
<td>4</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Vadipatty</td>
<td>105</td>
<td>58</td>
<td>8</td>
<td>7,577</td>
<td>3,414</td>
<td>6</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Chellampatti</td>
<td>131</td>
<td>101</td>
<td>30</td>
<td>7,030</td>
<td>2,070</td>
<td>10</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Usilampatti</td>
<td>111</td>
<td>80</td>
<td>25</td>
<td>6,377</td>
<td>960</td>
<td>8</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Peraiyur</td>
<td>186</td>
<td>115</td>
<td>20</td>
<td>13,403</td>
<td>2,549</td>
<td>12</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Theni</td>
<td>257</td>
<td>164</td>
<td>47</td>
<td>31,622</td>
<td>9,207</td>
<td>16</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Andipatty</td>
<td>233</td>
<td>148</td>
<td>43</td>
<td>13,007</td>
<td>5,972</td>
<td>15</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1085</td>
<td>710</td>
<td>181</td>
<td>83,165</td>
<td>26,692</td>
<td>71</td>
<td>500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Unpublished records from the Union
The multi-stage random sampling technique was adopted in the study. The study of the Union covers Madurai and Theni districts and it has seven zones namely Melur, Vadipatty, Chellampatti, Usilampatti, Peraiyur, Theni, Andipatty. At the first stage Functional societies (710) are identified from all the seven zones. In the second stage, 10 percent of the functional societies were chosen for the study on a random basis as sample societies. In the next stage the 500 women sample respondents were selected from these 71 sample dairy co-operative societies (both general and women societies). For this purpose, those who supplied milk to the societies at the time of study alone were considered. In other words, those members who were not functional were ignored. From these 500 women respondents’ seven members were randomly selected from each society to conduct the study.

1.14 Pilot Study

The researcher made a pilot study with 20 sample members. After the pilot study, she discussed in detail with experts in the same field and then, she made the recommended modifications and incorporated all the relevant suggestions given by the experts and the pilot study respondents to the interview schedule. Irrelevant questions were deleted and the structures of some questions were modified. The data thus collected were analyzed and interpreted with relevant statistical tools for drawing conclusions.

1.15 Frame Work Analysis

For analyzing the data collected during the investigation, the following statistical tools were used. The statistical tools were selected on the basis of the fulfillment of objectives and the scale of data.

The detailed methodology is as follows:

- Entire data were entered and validated for ranges and consistency in SPSS package.
- Frequency distribution tables prepared for all questions for various classifying variables.
• Column-wise tables give options as the questions are being analysed.
• Row-wise tables give the various sub-groups of classifying variable.
• To infer the data inferential statistics such as mean, Standard Deviation and percentage analysis are used.
• Averages, Percentages, Growth Indices, Trend Analysis and Compound Growth Rate by using semi-log have been employed for the secondary data analysis.
• Paired sample Test is adopted to identify the membership in other organization before and after joining the society.
• Paired sample statistics is applied to measure the average usage of milk by the members before and after joining the society.
• One-way ANOVA is followed to identify whether there is variation in the socio-economic status of members with the demographic characteristics of the members.
• Rank Methodology is adopted to identify the various problems faced in the production of milk.
• Descriptive statistics tables are used to measure the attitude of members towards Dairy Co-operatives and service rendered by the society.
• Factor Analysis is used for identifying the problems faced by the members in the society, opinion about decision-making, social and economic empowerment of members.
• Regression model was built to know the predictors that are significant in estimating the level of the economic and social empowerment of the members in the society.

1.16 Operational Definitions

Conceptualization is inevitable in guiding the researcher in data collection processing and analysis and to draw meaningful inferences. The Following are the alternate descriptions of concepts used in the present study.
1.16.1 Dairy Co-operatives

Primary milk producer’s co-operative societies are at the village level or rural dairy co-operatives.

1.16.2 Operation Flood

With the help of World Food Programme (WFP) the Department of Agriculture of Government of India formulated a project for stimulating milk marketing and dairy development in India. This is known as operation Flood Programme and the scheme is implemented by the NDDB, Anand (Gujarat).

1.16.3 Flush Season

Milk production is a seasonal one. In the months of April to September production of cow milk will be more. This period is known as flush season.

1.16.4 Lean Season

Cow milk production in the month of October to March will be low. This period is known as lean season.

1.16.5 Madurai Aavin Union

Madurai Aavin Union refers to the Madurai District Co-operative Milk producers’ Union Ltd.

1.16.6 Union

Union refers to the Madurai District Co-operative Milk producers’ Union Ltd.

1.16.7 Federation

Federation refers to the Tamil Nadu Co-operatives milk producers’ Federation Ltd.
1.16.8 Dairy Co-operative Society

A Dairy Co-operative society is a society registered under the co-operative societies Act of every State, for the economic and social betterment of its Members through Self-Help and mutual help.

1.16.9 Membership

A member is a person joining a society through application for registration with a co-operative society and a person admitted to membership after such registration in accordance with the law and byelaws include a nominal member of the central and state Government when they subscribe to the share capital of a society.

1.16.10 Procurement

Procurement is the function of collection of milk from the milk producers by the dairy Co-operatives.

1.16.11 Union sales

The milk collected by the dairy co-operatives being transferred to the union for sales.

1.16.12 Local Sales

The milk collected by the dairy Co-operatives being offered for local sales in the area of production, before transferring it to the Union for sale.

1.16.13 Empowerment

The process of challenging the existing power relations and of gaining greater control over the sources of power may be termed as empowerment. The term empowerment refers to a range of activities from individual self-assertion to collective resistance, protest and mobilization that challenge the basic power relations. Empowerment is a process and is not, therefore something that can be given to people. The process of empowerment is both individual and collective,
since it is through involvement in groups that people most often begin to develop their awareness and the ability to organize to take action and bring about change.

1.16.14 Economic Empowerment

A woman is said to be economically empowered when she gains power as a result of increased access to economic resources. The means of achieving economic empowerment are increase in income, ability to make decisions regarding the utilization of money/credit, investment, etc.

1.16.15 Social Empowerment

A woman is said to be socially empowered when she has the power to participate in collective activities in the society. The means of achieving social empowerment are social status, mingling with others, access to various organizations, social involvement, voice against social issues etc.,

1.17 Limitations of the Study

The study was conducted for a period of fifteen months from April 2010 to June 2011. The opinion of the respondents may vary over a period of time. The relevant data of the present study have been collected through the structured interview schedule. Since, the respondents are not keeping any records related to their economic activities in dairy farming; they were able to answer the questions only of which they could remember. Hence, the collected data may be subjected to recall bias. However, the recall bias is minimized by cross checking and the above limitations will in no way affect the validity of the findings of the study and care was taken to have a representative sample.

1.18 Period of the Study

The field survey was conducted during the months of April 2010 to June 2011. The secondary data were collected for a period of 10 years (2000-01 to 2009-10)
1.19 Chapter Scheme

The study has been organized in six chapters.

- The first chapter “Introduction and Research design” introduces the topic and presents, Statement of the problem, Scope of the study, Objectives, Operational Definitions, Period of the study, Methodology, frame work analysis and finally chapter scheme.

- The second chapter entitled “Review of Literature”, examines relevant past literature. It is divided into two sections, dealing with the important aspects of existing research studies which include the reviews of dairy co-operatives and reviews of women in dairy co-operatives.

- The third chapter covers an overview of the Madurai Districts Co-operative Milk Producers Union Limited, attitude of the members towards dairy co-operatives and services rendered by the Madurai Aavin.

- The Fourth chapter gives the survey results according to the socio-economic status of women members of the societies. It contains brief introduction of the women members’ personal profile, membership profile and economic and social status of members.

- The fifth chapter deals with the concept of women empowerment, factors influencing women empowerment through dairy co-operatives, overall empowerment level, decision-making empowerment, economic empowerment, social empowerment and problems faced by the women members.

- The sixth chapter presents the summary of findings, suggestions and conclusion of the study.