CHAPTER-I

DESIGN OF THE STUDY

INTRODUCTION

Cattle rearing and milk production have been occupying a pivotal position in the economic life of Indian rural population. India possesses a huge bovine stock comprising about 179 million cattle and 58 million buffaloes which account for one sixth of the world’s cattle population and half of the world’s buffaloes. Yet the per capita availability of milk is only 110 grams per day as against the recommended quantity of 201 grams\(^1\). Such a paradoxical situation is largely due to the overriding characteristics of milk production in India, summarised as follows:

Millions of farmers crowded into small holding, seasonal rains and severe dry-season shortage of feed stuffs, unmodernised production base, milk animals largely self selected by their ability to produce some milk and the ever-increasing number on land tending to increase the need for draught animals\(^2\).


Inspite of these inherent constraints, dairying has assumed a greater socio-economic significance in the present context of India's development planning. This sector is expected to play a crucial role in improving the nutritional standards of our population; providing gainful employment and income opportunities to weaker sections of the rural society; intensifying agriculture for optimum utilisation of land, labour and other available resources; and introducing an element of stability in Indian farming by offering scope for integration of crops and livestock in the land use and farming system. While emphasising the importance of dairy development the National Commission on Agriculture made the following remarks: "Our examination indicates tremendous potentiality for cattle development in India in the overall plans for rapid economic growth and desirable social change. If cattle and buffalo development programmes are pursued with vigour .... it will greatly enhance the scope for income and employment in rural areas"³.

A sound organisational framework is a prerequisite for any programme of dairy development. Among all other commodities a farmer has to sell milk is much vulnerable of exploitation by middlemen.

A network of organization is required to protect the farmers from the havoc played by middlemen; to ensure regular market and remunerative price; to meet the growing urban milk requirement; and to ensure the supply of pure and unadulterated milk. Co-operative organisations alone protect the twin interests of producers and consumers. Organising milk production and distribution on co-operative lines, therefore, has been an avowed policy of the Government. The draft plan 1978-83 outlined the major points of policy planning in the following words: "The major policies that will be adopted would be to increase production of livestock products such as milk, eggs, poultry, wool and mutton by improved methods of animal husbandry supported by a market structure based on a functional system of co-operatives similar to that adopted by the milk co-operative unions in Gujarat."  

Dairy Co-operatives have ushered in 'White Revolution' and have brought about far reaching changes in the socio-economic profiles of rural Gujarat; and their success, impressive as they are, earned international encomium. As Dr. Laidlaw put it: "Anand has become a sort of Mecca to which co-operators journey to have their faith in the co-operative idea strengthened and confirmed."  

Findings of several studies* ably demonstrate the economic viability, growth vitality and spread-effects of dairy co-operatives in the field of Gujarat. The transformation brought about by them has ignited the dairy development in several parts of the country. So much so the dairying on co-operative lines based on 'Anand Model' has been accepted as a prototype for rural development, an effective instrument of socio-economic uplift of weaker sections and a means of alleviating rural destitution. A countrywide massive milk production programme launched with the implementation of 'Operation Flood' project, not only gave an impetus for the emulation of 'Anand Model' throughout the country but it also opened up new vistas and enlarged the horizons of co-operative dairy movement. Dairy co-operatives have thus, come to play an increasingly important role in the country's dairy development and constitute the single largest and popular sector in rural development.

STATEMENT OF THE PROBLEM

When the 'Anand Pattern' is repeated in other regions, scrupulous care should be taken to include all the basic

* I. Shah Manubhai M. Integration of District Dairy Co-operatives in Gujarat.


III. Patel S.M. (Dr) and Pandey M.K. Economic impacts of Kaira District Co-operative milk producers union (Amul Dairy) in Rural Areas of District (Gujarat State).
ingredients on which their success hinges.

"Anand Pattern" represents a package of services and practices which will be effective only if practised in wholesome and not piece-meal. Piece-meal measures however well intentioned and constructive cannot deliver the goods.  

One great factor that stands out prominently while analysing the success of the Gujarat Co-operative movement is the meticulous care which has been taken to build the strong primaries at grass-root level. It is with this organisation the farmers have direct contact. Any superstructure is bound to be weak if the foundation is weak and vice-versa. The operational efficiency and viability is as much needed in dairy co-operatives as in any other organisation. The unique characteristics of milk such as perishability, low unit weight value, dispersed and scattered production units render its handling a difficult task and therefore, demands greater efficiency on the part of the co-operatives. Another unique feature of "Anand Pattern" is its integrated pattern of development with a 'built-in self-improving factors' like arrangement for assured market, technical input services, dairy extension, rationalised price structure and procurement system. Above.

all the dairy co-operatives in Gujarat have always had a constant vigil over safeguarding the producers' interests. The entire programme is centered round the milk producers, which provides a constant stimulus for more production and increased patronage to co-operatives.

Erode is one of the Milk-shed areas selected for replication of 'Anand Pattern' under the 'Operation Flood' programme. The 'Anand Pattern' Milk Producers' Co-operatives were first organised in 1974 and thereafter steady progress has been made in the organisation of such societies throughout the entire milkshed. It is the general impression that the performance of the 'Anand Pattern' societies has been quite encouraging; and they are poised for greater progress. The researcher considered it pertinent, in the above context, to probe the following questions in a scientific way:

(i) How faithfully and sincerely the co-ordinates of 'Anand Pattern' is being replicated?

(ii) To what extent the efficiency and viability of the co-operatives are ensured?

(iii) How far the producers have been benefited and how far their enthusiasm is sustained
and expectations are fulfilled?

(iv) What prevented the non-member milk producers from joining the co-operative fold and deriving the benefits out of it? An attempt has been made in this study to seek answers to the above questions. The study, in general, explores the efficiency, effects and new possibilities of dairy co-operatives in the 'Erode Milkshed' area.

SCOPE OF THE STUDY

The study intends to cover the entire spectrum of the operational aspects and problems of milk producers' co-operatives such as procurement of milk, sale of milk, testing, pricing, quality control, spoilage, payment to producers and management. It also aims at evaluating the factors influencing them. Effort has been made in the study to appraise the efficiency and effectiveness of the technical input services such as artificial insemination, veterinary aid, and other production enhancement programmes like supply of concentrate cattle-feed, supply of forage seeds and subsidy for calf rearing etc. Attempt has also been made in the study to throw light on the extent of economic benefits derived from the dairy co-operatives in terms of milk production,
income, employment, price, bonus etc. Reasons for non-inclusion of a section of milk producers in the ambit of co-operatives have been probed. The study also highlights the various problems faced by the co-operative organisations and their members and suggests for their improvement.

OBJECTIVES OF THE STUDY:

Following are the specific objectives covered by the study:

(1) To review the growth of dairy co-operatives in the country in general and Tamil Nadu in particular.

(2) To give an outline of the organisational structure and working of dairy co-operatives in the Erode Milkshed area.

(3) To evaluate the operational efficiency of dairy co-operatives with reference to:
   (a) milk procurement, (b) sale of milk,
   (c) input services and production enhancement programmes and (d) other benefits to producers.

(4) To assess the viability of dairy co-operatives in terms of membership coverage, level of milk procurement, financial strength and profit earning capacity.
(5) To measure the economic impact of daily co-operatives on the dairy households in terms of income, employment, milk production and sale.

(6) To project the future of dairy co-operatives in the region.

OPERATIONAL DEFINITION OF CONCEPTS

Dairy Co-operative: For the purpose of this study the term dairy co-operative will refer to only the primary milk producers' co-operative society organised on 'Anand Pattern' and registered under the Co-operative Societies Act, 1961.

Anand Pattern: It is a co-operative approach which aims at co-ordination of modernisation of milk production, processing and marketing, on the basis of a producer owned two-tier system of the district co-operative milk producers' union at the district level and the village milk producers' co-operatives at village level. This was first developed in India by the Kaira District Cooperative Milk Producers' union at Anand and has become very effective for the development of rural economy as a whole. This pattern of organisation has come to be referred to as the 'Anand Pattern'.

(1) Dairying in India, op. cit., p. 11
**Milkshed Area:** The term milkshed area refers to those milk pockets in the command area of a dairy plant having sufficient milk availability or milk production potential and marketable surplus to enable the milk plant to operate on a viable basis.

Each milkshed area is spread over two to four districts; and divided into distinct ecological zones depending upon the degree of development of land, human and animal factor.

**Erode Milkshed Area:** Erode Milkshed Area is one of the 17 major rural milksheds identified for the purpose of implementation of the Operation Flood I programme. It is one of the three major milksheds of Tamil Nadu, the other two being Madras and Madurai. The Erode Milkshed area comprises of the revenue districts of Salem, Coimbatore and Nilgiris.

**Operation Flood:** The 'Operation Flood' is a dairy development project formulated by the National Dairy Development Board with the assistance of the United Nation's

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9. Ibid.
World Food Programme with the main object of creating a
flood of rurally produced milk to mop up a commanding
share of liquid milk markets of major cities through the
establishment of 'Anand Pattern' milk producers' co-
operatives. 10

REFERENCE PERIOD:

The study covered a period of five co-operative year
i.e., from 1974-75 to 1977-78, each year commencing from
1st July and ending by 30th June.

METHODOLOGY:

Field survey method was followed in the study.
Survey was conducted by the researcher himself to gather
the primary data required for the study from the milk
producers' co-operative societies and the individual milk
producers - both members of co-operatives as well as non-
members - on the basis of a detailed sampling plan.
Informations and supportive data were collected from
organisations like Tamil Nadu Dairy Development Corpora-
tion, Madras and its zonal office at Erode, the Erode
District Co-operative Milk Producers' Union Ltd., as

10. Replication of Anand Pattern Milk Producers'
Co-operative, Anand: National Dairy Develop-
ment Board, 1979, p.7 (mimeographed).
also from the office of the Commissioner for Milk Production, Madras and office of the Deputy Registrar of Co-operative Societies (Dairying) at Erode.

**Sampling Design:**

In the Erode Milkshed area there were large number* of 'Anand Pattern' milk producers' co-operatives which were spread over a wide geographical area comprising of three revenue districts.

Therefore, suitable sampling plan had to be drawn taking into account the time and resources at the disposal of the researcher. Accordingly, a Multi-stage Cluster Sampling model was adopted with a view to ensuring economy and efficiency.  

Stage One: As a first stage in the sample design the study was confined to the societies clustering within the operational areas of: (a) Erode dairy comprising of 154 societies and (b) Chilling centre at Tiruppur comprising of 71 societies. These two clusters were considered optimal and representative as they represented

* There were 576 'Anand Pattern' milk producers' co-operative Societies in the Erode Milkshed area as on 31.3.1978.

both the categories of societies existing in the area namely: (a) societies organised by the spearhead team of the National Dairy Development Board and (b) societies organised by the procurement teams of the Tamil Nadu Dairy Development Corporation.

Stage two: As the number of societies falling under the above two clusters was found to be too large, a second stage cluster was drawn in order to ensure effective coverage. Accordingly two milk procurement routes were selected as two sub-clusters, one each from the above clusters; and all the societies located along the procurement routes were finally selected.

Thus thirteen societies of the Siruvallur procurement route of Erode Dairy and sixteen societies of Pungalur procurement route of Tiruppur chilling centre were included for the study, making the total number of societies studied as 29.

Stage three: In order to evaluate objectively the working of dairy co-operatives and their economic impact, it was decided to study a cross-section of dairy households which were covered by the co-operatives in
comparison with a non-member group*. Totally 150 dairy households - 100 from members and 50 from non-members - were drawn at random from five villages at the rate of 20 members and 10 non-members from each of them. The study of members was intended to give more insight into the various operational problems of the societies. The study of non-members was intended to throw light on the constraints imposed on them or the inhibiting factors which prevented them from acquiring membership in the society.

TOOLS AND TECHNIQUES OF DATA COLLECTION

Appropriate tools and techniques were deployed in the collection of necessary data. A comprehensive questionnaire covering various operational and management aspects of the dairy co-operatives was prepared. The questionnaire was pre-tested before it was finally administered in the field. The researcher himself

* This approach is similar to that which was followed in the study: "Economics of lift irrigation using Electric Power in South Kanara District" by Dr. C.C. Pattanshetti, Senior Professor & Head, Department of Commerce, Karnataka University, Dharwad.
personally visited the societies and canvassed the questionnaires with the help of the secretaries of the societies. Two separate interview schedules, one for the members of the co-operatives and the other for non-members were also prepared; and were field tested, before finalisation. With the help of the above schedules data were collected from individual milk producers by means of personal interview technique.

FRAME OF ANALYSIS

The data so collected were processed, tabulated and analysed systematically. The operational efficiency of the co-operatives were judged by appraising their performance in various operations and services, on the basis of the data collected from the society as also the responses got from members. Viability of the co-operatives were determined either with the norms and standards already available or from the criteria evolved by the researcher himself. Simple, partial and multiple correlations and cross tables were used to identify the factors which influenced the operational efficiency of the co-operatives. Simple frequency tables, two dimensional and three dimensional tables were used for meaningful interpretation of data. Comparison tables were also
prepared and presented to compare the performances of two
groups of societies namely (a) Societies organised by NDDB
and (b) those organised by the TNDDC. In order to measure
the economic benefits derived by the members, in comparison
with non-members, comparative analysis had been made. For
precise estimation of economic impact 't' test analysis
was employed. Analysis of variance ('F' test) was also
used to know the variance or otherwise of benefits derived
by different groups of members. Graphs, charts and
diagramatic representation of data were suitably employed
for effective presentation of the various aspects of the
working of the dairy co-operatives.

CHAPTER SCHEME

The report of the study is presented in the following
chapters:

Chapter I ... Design of the study.
Chapter II ... Dairy Co-operatives - in
retrospect.
Chapter III ... Dairy Co-operatives in Erode
Milkshed Area.
Chapter IV ... Operational Efficiency of
Dairy Co-operatives in Erode
Milkshed Area.
Chapter V ... Viability of Dairy Co-operatives
in Erode Milkshed Area.
Chapter VI ... Economic Impact of Dairy Co-
operatives in Erode Milkshed
Area.
Chapter VII ... Future of Dairy Co-operatives in Erode Milkshed Area.

Chapter VIII ... Conclusions and suggestions.
NERODE MILKSHED AREA.

SAMPLE DAIRY CO-OPERATIVES

TAMILNADU