

CHAPTER - ONE

INTRODUCTION

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CHAPTER-ONE

INTRODUCTION

1.1 Introduction:

India is a developing country where agriculture is the main occupation of the majority of population. However, agriculture in India tends to be a gamble with the undependable monsoon. Despite Seven Five Year Plans Indian farmer is still not freed from the clutches of monsoon. The Indian farmer is compelled to depend on the most irregular and uncertain and consequently undependable monsoon for decades to come.

The present India's stock of 180 million tons of foodgrains¹ will not help in providing food for all people in the country. The marginal farmers, landless labourers and the people below poverty-line have no money to buy relatively expensive foodgrains. The small and marginal farmers have small land-holdings. These landholdings are uneconomic. Out of 49 million holdings in the country 60 per cent are composed of less than two hectares of land in size. These small holdings are mainly used for subsistence farming. Lack of sufficient fertilizers, lack of irrigation facilities and absence of mechanization are the main problems in this type of agriculture. These small farmers can hardly produce one crop a year. The low yields result into

low income causing malnutrition and poor health of people with little energy to work, with the result of low productivity and poverty. Nearly 450 million people in India live in poverty.

In India, 80 per cent of the farmers are small holders and nearly 30 per cent of the rural households are landless; for the small farmers and marginal farmers modern agriculture is a mirage as it is highly technical and capital-oriented. For these small and marginal farmers and even the landless labourers subsidiary occupation is essential. As the fruits of Green Revolution remain limited and benefitted the big land-holders only, there is a need to develop another subsidiary occupation on a scientific line. The recent research conducted revealed the fact that dairy farming can help the country, what had not been possible to do through the spread of Green Revolution. Progressing dairying does not only place big and medium farmers into more advantageous position but also increases income of small and marginal farmers and landless labourers to a remarkable extent.

Livestock is a sub-sector of Indian agriculture. The contribution of this sub-sector to the agricultural sector is nearly 24 per cent. Dairy farming is again a sub-sector of livestock sector. The dairy farming

accounts for nearly 65 per cent of the total livestock contribution.² The small and marginal farmers and the landless labourer is an owner of one or two milch animals. These milch animals are fed on crop-residues and are looked after by the family members, especially women-folk. These milch animals give two or three litres of milk each and play a greater role in economic life of small and marginal farmers and landless labourers.

Thus, the traditional concept of dairy farming in India is totally different from the modern concept of dairy farming in the western countries. In India, dairy farming is a business mainly of small and marginal farmers and landless labourers. At present India's dairy industry is growing at a faster rate and needs a special and temporal analysis.

1.2 Dairy Farming in Indian Economy:

Dairy farming occupies a subsistence position in Indian economy in the present decade. Milk has emerged as the second largest commodity next to rice. During 1987-88 milk occupied the first position among the agricultural commodities which indicates the importance of dairy enterprise in national economy.

India occupies the first position in the world with the total cattle population of 272 million, which

is nearly 19.2 per cent of the total cattle population of the world. The total milk production in India was 17 million tons in 1950-51, 20 million tons in 1960-61, 23.3 million tons in 1970-71, 31.6 million tons in 1980-81 and 54.9 million tons in 1990-91.

Table 1.1: India: Milk production
(Figs. in million tons)

Sr. No.	Year	Production	Increase (%)
1	1950-51	17.0	-
2	1960-61	20.0	15.0
3	1970-71	23.3	14.2
4	1980-81	31.6	26.3
5	1990-91	54.9	42.4

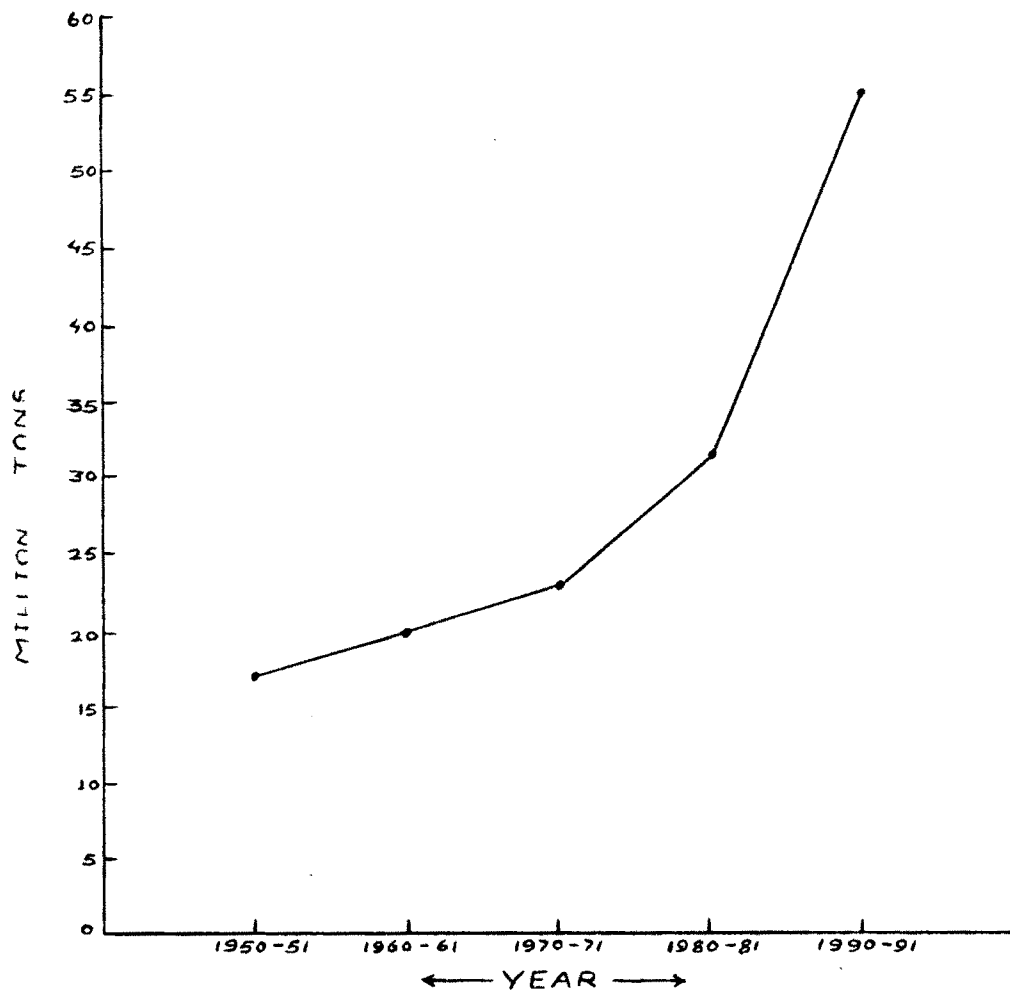
Source: FAO Production Year-book, 1991.

The increase in the milk production in the last decade is mainly due to:

- (1) Emphasis laid on the animal husbandry and dairy development programme in rural areas
- (2) Creation of national milk grid
- (3) Launching of Operation Flood Programme
- (4) Development of cross-breeding programme along with the extensive progression of artificial insemination.

The distribution of breedable bovine population

INDIA
MILK PRODUCTION
1950-51-1990-91



GRAPH 1:1

in different regions of the country, the resource-base with regard to feed and fodder, animal health, breed improvement and infrastructural facilities are different in different regions. Again, there are physical and climatic differences too. All these factors result into regional imbalance in milk production. The northern states have high production of nearly 44 per cent of the national milk production. These States include Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan and Uttar Pradesh. The eastern states have very low level of milk production. The states of Bihar, West Bengal, Orissa, Nagaland, Meghalaya, Sikkim, Manipur and Tripura contributed only 12 per cent of the total milk production of the country. The western states' milk production is 22 per cent of the national milk production. These states include Gujarat, Madhya Pradesh and Maharashtra. The remaining 22 per cent of milk is produced by the southern states, namely, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.

Though India has the largest number of cattle population in the world, the country has comparatively low milk production. The world milk production in 1990 was nearabout 531 million tons and in the same year Indian milk production was 52 million tons. This was 9.6 per cent of the total world milk production. In

present day, India is the second largest milk producer in the world after the United States of America having been producing 67 million tons of milk.

In 1990-91 average per capita per day availability of milk in India was only 174 grams. However, it was unequal in various states. Punjab had the highest per capita per day availability with 702 grams and in Bihar it was the lowest with only 98 grams. In Maharashtra, the figure of milk consumption per capita per day is 120 grams. The minimum requirement of milk per capita per day recommended by the Indian Council of Agricultural Research is 250 grams. This clearly shows the wide gap between the availability and requirement of milk in India. Though India is the second largest milk producer in the world, she ranks 57th in the per capita availability of milk.

Due to the success achieved in various programmes of dairy development in India, the country is well set up to overtake the United States in milk production and is expected to become the highest milk producer in the world by the beginning of the twentyfirst century.

The developing countries in the Third World are depending on the imported milk and milk products to fulfil the local demand. India is gearing to export milk powder and has vast potential to export milk products

to countries in Africa and the Middle East. Thus, dairy-farming is playing an important role in Indian economy.

1.3 Dairy Farming in India During Plan Period:

Agriculture is the base of Indian economy. The Indian farmer is simultaneously working into different sectors, that is, agriculture and animal husbandry. Indian farmer is doing animal husbandry for the purpose of milk production and to obtain the animals required for agriculture and transportation. However, his main intention is milk production.

Before the dawn of the nineteenth century dairy farming was not well developed in India. At the end of the nineteenth century there was a dairy farm established by the military authorities in a cantonment area where they crossed the Indian cows with imported bulls. A modern dairy plant was started in the private sector at Calcutta. Another plant was started by the Agricultural Research Institute at Pusa in Bihar. In 1923 a civil dairy was started at Anand in Gujarat.

British Government passed the Cooperatives Act in India in 1912 and in 1913 a cooperative dairy was established at Allahabad. Khaira District Cooperative Dairy was established in 1948 in Gujarat State to supply milk to Bombay city. In 1951 Arey Dairy was started

at Bombay.

After Independence, development in India was a planned process through Five-Year Plans. Prior to the Plan period the government milk schemes were in progress in big cities like Bombay, Calcutta and Delhi. National Dairy Research Institute (NDRI) was established at Karnal in Haryana State, during the First Five Year Plan. During the Second Five Year Plan the government decided to develop dairy business in organized sector. Separate Dairy Development Departments were established in various states. Thirtysix milk processing plants were established in big cities. Six milk products manufacturing plants were established. In addition to the existing Regional Dairy Research Centre (RDRC) at Bangalore, two more RDRCs were established at Arey near Bombay and Kalyani near Calcutta.

In the Third Five Year Plan 55 fluid milk projects were established in big cities. In addition to these projects, six milk processing and milk product factories and four cattle feed factories were established in the country. The National Dairy Development Board was established in 1965.

The Third Five Year Plan was followed by three annual plans. During these annual plans the incomplete

projects were completed. However, during 18 years of planning dairy development in rural area remained as the sector of secondary importance. There was need for a planned development of dairy farming in rural region as an organized industry. The Plan envisaged the development of dairy farming in rural area on a cooperative basis. It was during the Fourth Five Year Plan that intensive Cattle Development Programme was formulated. During the same Plan the World Food Programme came forward with a gift of 126 thousand tons of skimmed milk powder and 42 thousand tons of butter oil. These were used to reconstitute the milk for distribution in India. This project was known as Operation Flood-I. It was started in 1970 and was specially formulated for the development of dairy farming in urban areas. Some 79 liquid plants, 12 milk product factories and 50 pilot milk schemes were in operation during 1973-74.

The Fifth Five Year Plan envisaged the development of dairy farming on a cooperative basis. A two-tier organized set-up was established for this development. At the end of the Fifth Plan 55 lakh litres of milk per day was processed against 28 lakh litres per day at the end of the Fourth Plan. During the Sixth Five Year Plan emphasis was laid on the implementation of the Operation Flood-II project. The objects of Operation

Flood-II were:

1. To extend the dairy cooperative structure to ten million rural families producing milk.
2. To enable the milk producers to rear 16 million cross-bred cows and to upgrade local buffaloes.
3. To link the Regional Milk Grid to the National Milk Grid.
4. To augment the milk processing capacity of the rural milkshed in order to ensure milk supplies to urban centres.
5. To build up the necessary infrastructure for breeding programme and collection and processing of milk and veterinary facilities in the rural areas.

It was during the Seventh Five Year Plan that dairying activities were augmented to provide regular milk to the rural areas and to provide regular employment to small farmers and landless labourers.

OF-III was started during the Seventh Five Year Plan (1985-1990). In the anticipated Eighth Five Year

Plan expenditure has been put at Rs. 13,367 million, which is almost equal to the total expenditure incurred on the dairy development during all previous plans.

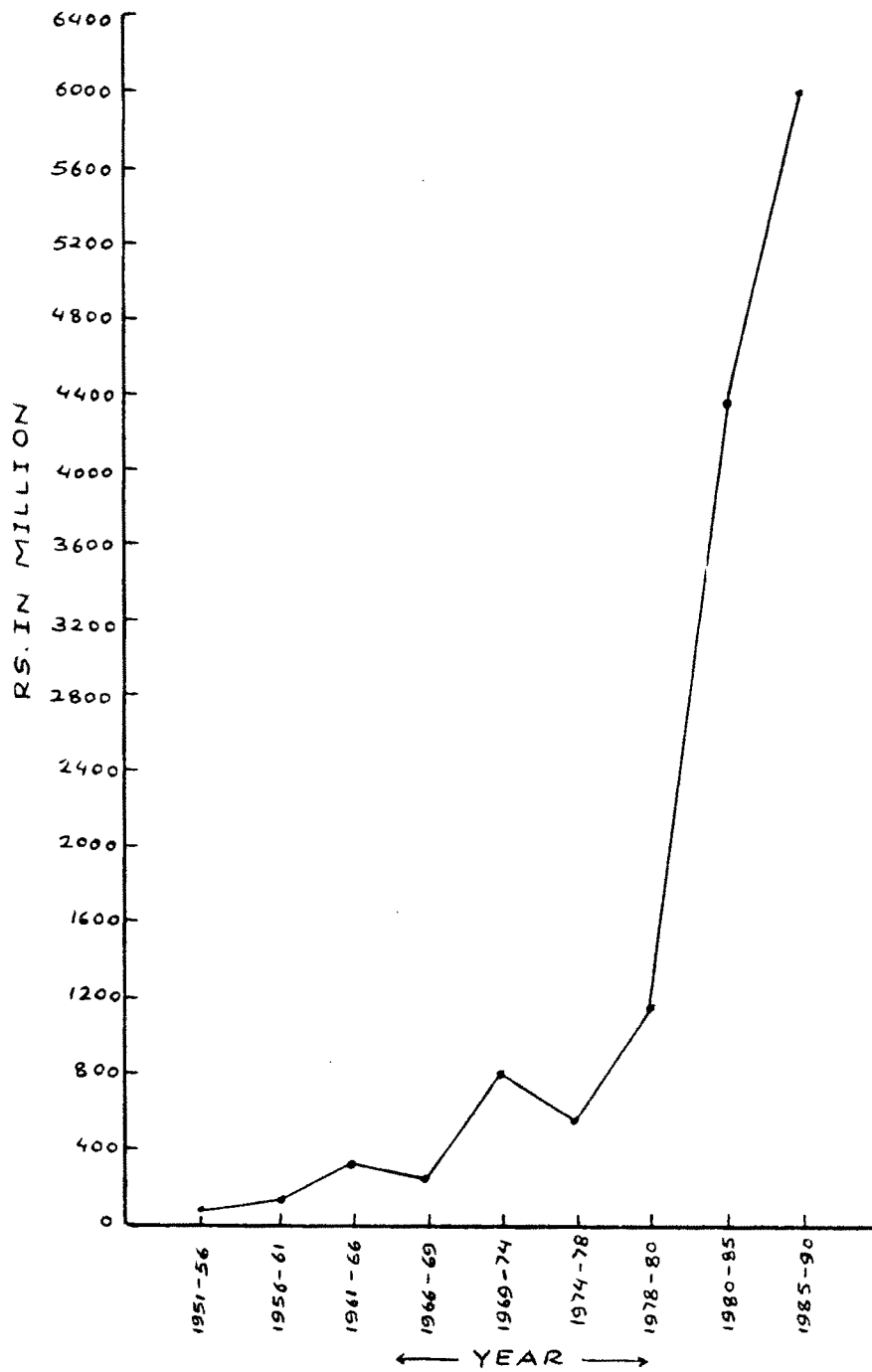
Table 1.2: India: Investment on dairying in various plans

Sr. No.	Plan period	Total plan expenditure	Expenditure on dairying	%
1	First Plan (1951-56)	19,600	77.8	0.40
2	Second Plan (1956-61)	46,720	120.5	0.26
3	Third Plan (1961-66)	85,765	336.0	0.39
4	Annual Plan (1966-69)	66,254	257.0	0.39
5	Fourth Plan (1969-74)	1,57,788	787.5	0.50
6	Fifth Plan (1974-78)	3,94,262	540.3	0.14
7	Annual Plan (1978-80)	1,21,765	1,157.9	0.95
8	Sixth Plan (1980-85)	10,92,917	4,362.9	0.40
9	Seventh Plan (1985-90)	22,02,163	6,034.1	0.27

Source: Government of India Reports 1991.

Table 1.2 reveals the expenditure on dairying and its percentage to the total outlay during the plan period. It also reveals that during the First Five Year Plan only 0.4 per cent of the total planned expenditure was incurred on dairying which exceptionally increased to 0.95 per cent during the annual plan (1978-80). However, during the plan period the percentage of expenditure on dairying to total expenditure remained stagnant between 0.3 and 0.4 per cent and was the lowest at 0.14 per cent during the Fifth Five Year Plan.

INDIA
INVESTMENT ON DAIRYING IN VARIOUS PLANS
1951-56 - 1985-90



GRAPH 1:2

Objectives of the various dairy development programmes during the Plan period are:

1. To raise the level of income of the rural milk producers
2. To provide subsidiary occupation to small and marginal farmers
3. To provide livelihood to the landless labourers in the rural area
4. To provide good quality of milk and milk products at reasonable prices to the rural consumers
5. To develop a National Milk Grid through Operation Flood programmes.

1.4 Cooperative Dairy Farming In India:

As discussed earlier, it was the British who passed the Cooperatives Act in 1912 and in 1913 the first cooperative dairy was established at Allahabad. However, it was only due to the establishment of the Cooperative Milk Union at Anand in Gujarat State in 1951 that the real development of cooperative dairying in India started rapid development.

In the year 1949-50 there were only 535 milk producers' societies. There were 50 thousand milk producer

members. During the same year 36 co-operative milk unions were in India.

As a result of the government policy, dairying in cooperative sector developed during the Third Five Year Plan and the policy to develop the necessary infra-structural facilities in the rural area was adopted. There was a rapid growth in the number of milk producers' co-operative societies. The number of cooperative milk unions also increased considerably. During 1987-88 there were 59,571 milk producers' cooperative societies in the country. In 1987-88, the number of milk producers was 68.93 lakhs and there were 251 cooperative milk unions in India.

1.5 Cooperative Dairy Farming in Maharashtra:

The cooperative movement in Maharashtra was geared by Dr. Dhananjayrao Gadgil and Mr Vikhe-Patil by establishing a sugar cooperative. Slowly the co-operative movement diffused in the dairying also. The main intension of cooperative dairying in Maharashtra was to provide an attractive alternative means of development to vast majority of farmers including large and small farmers as well as to the landless. The shift in strategy in early sixties from dairying as an enterprise in a colony to a concept of milk being by-product of agriculture helped to put dairying on a firm footing

in the rural development in Maharashtra.³ The number of milk cooperative societies in Maharashtra was 450 in 1960-61 which increased to 610 in 1978-79 and further increased to 31,294 in 1990. During the same year there were 36 milk co-operative projects in the State and 112 chilling centres. At present cooperative dairy farming gives work and livelihood to 50 lakh ^{persons} in the State.

1.6 Cooperative Dairy Farming in Warana Basin:

Farmers in Warana basin are engaged in dairying since long back. During the olden days, this was done to fulfil the domestic need only to supply milk and cows were reared for the supply of bulls required in the agricultural activities. There were evidences that the dairy farming in Warana basin was well developed 110 years ago.⁴ However, dairy farming was not developed in the organized sector before Independence. The growth of dairy farming was an important secondary occupation in Warana basin. The result of the inception of the Warana Cooperative Milk Sangh which is responsible for the socio-economic development and rural infrastructure at different hierarchies in Warana basin.⁵ With the establishment of Warana Sugar Factory in Warana basin in 1956, the economic condition of farmers who have irrigated land was improved. But the proportion of

these farmers to the total was hardly 15 to 20 per cent only. It could not improve the economic status of the small and marginal farmers and landless labourers. So as to improve the economic condition of the small and marginal farmers and landless labourers a cooperative milk union was started at Amrutnagar.

Warana cooperative dairy project envisages an integrated approach for dairy development in the area of operation. The real Warana Milk District actually coincides with the geographical boundaries of Warana river basin and includes 300 villages from Shirala and Walwa Tahsils in Sangli district and Shahuwadi, Panhala, Hatkanangale and Shirol Tahsils in Kolhapur district. However, the actual area of operation includes 73 villages only.

The Warana cooperative dairy union is the representative cooperative dairy union of the Warana basin. The actual milk procurement started in 1969-70 and was done through 2 milk producers' primary cooperative societies attached to this milk union at the time of its inception. The number of milk producers' primary cooperative societies increased to 190 in 1992. Total milk procurement of this union was on an average 4,000 litres a day in 1969 which increased to 1,68,106 litres in 1992. This figure indicates rapid growth of cooperative

dairying in Warana basin.

1.7 The Problem and the Hypothesis:

India is a developing country where seven Five Year Plans are completed to remove poverty and unemployment and to develop various sectors including agriculture, animal husbandry, dairy farming, industries and other primary, secondary and tertiary activities. The basic assumption of the development strategy has been the growth of the modern industrial economy for the development of the rural area. The rural development strategy of India is based on identification and removal of the rural poverty and the target group mainly consists of small and marginal farmers and landless labourers.

The important development programmes for the improvement of social and economic status of the rural-folk include Community Development Programme, Intensive Agricultural Development Programme, High Yielding Varieties Programme and a number of other special programmes for the benefit of weaker section of society.

India being a large country with a variety of environments in its various parts, is physically heterogeneous in nature. This resulted into uneven economic development, leaving undeveloped pockets throughout the country. Warana basin was one among them.

Due to the physical constraints this part of Maharashtra, namely, Warana basin, remained economically and socially backward two decades after Independence. It was due to the efforts of Shri V.A. alias Tatyasaheb Kore who established cooperative sugar factory at Warananagar, that the farmers and especially the land-owners were benefitted. However, there was a need for integrated development of the region which could include the small and marginal farmers and landless labourers in the region in the process of economic development.

With this intention a cooperative dairy union for this region was established in 1968 at Amrutnagar. Out of its total milk producer-members nearly 85 per cent are small and marginal farmers and landless labourers. The growth of cooperative dairy farming in the region during the last 25 years reveals many facts.

Cooperative dairy farming is more advantageous and the best proposition to complement the subsistence agriculture and it gives more benefit to the small and marginal farmers and landless labourers and helps in their economic and social uplift. The geographical and cultural conditions in Warana basin are suitable for the development of dairy farming.

In the region dairy farming is developed in

cooperative sectors. There are milk producers' primary cooperative societies in the region, which are attached to the Warana Milk Union, Kolhapur Milk Federation or Walwa Milk Union and yield their fruits of development in many parts of Warana basin.

Milk is only one product which can fetch regular income to the farmers and landless labourers every day. Thus, last 25 years dairy farming is responsible for the enhanced economic status of the region. However, the process of development^{of} cooperative dairy farming in Warana basin is spatially uneven. The cooperative dairy farming has developed to a greater extent in the sugarcane cultivated, irrigated area, hilly area and areas far away from the influence of Warana cooperative sugar factory. The cooperative dairy farming has developed to limited extent.

Milk production is one way by which we can improve the economic condition of small and marginal farmers and landless labourers. If developed on a proper line, the cooperative dairy farming can play an important role in the progress of rural development.

1.8 Selection of the Region and the Villages:

The cooperative dairy farming plays an important role in socio-economic development of the rural region.

The milk producers' primary cooperative societies mainly help in accelerating the process of rural development. In the present dissertation we have tried to study the development of cooperative dairy farming in Warana basin by presenting case studies of some selected villages in the region.

(a) Selection of the Region:

The selection of Warana river basin as a particular area of study was done for many reasons such as:

1. The geographical location of Warana basin is typically representative of Maharashtra plateau region between western Ghat to the west and flat plateau region to the east.
2. The area is geographically self-sufficient unit, with a well-developed drainage pattern, a variety in physiography and soils.
3. The production of milk in the region has increased considerably during the last 25 years.
4. The development of dairy farming in this region is in the cooperative sector.

5. In many villages in this basin dairying is a traditional business.
6. There are indicators to depict that the co-operative dairy farming is a best proposition for the economic and social upliftment of the people in Warana basin.

The study is presented by case studies of selected five villages in Warana basin. The process of selection was done by stratified sampling method.

(b) Selection of the Villages:

The selection of the villages was mainly done by disproportionate stratified sampling method. The villages were first classified according to the number of milk producers' primary cooperative societies existing in the villages. On this basis the villages were divided into three distinct groups such as village with three, two and one cooperative dairy. For the purpose of actual selection of the villages from these strata disproportionate sampling method was employed. The main reason for this was that all the strata were equally reliable from the point of view of the size of the sample. The sample of this type solved the problem of collection of unnecessarily large volume of information.

According to the need of the research with the exercise of good judgement and appropriate strategy purposive samples were selected. These samples were judged to be typical of the stratum as a whole. The observations are restricted to the group and conclusions drawn from the data are generalized to the entire region.

The villages were thus selected on the basis of number of cooperative dairies, the other criteria taken into consideration included the population size of the village, average daily collection of milk, the physical aspects, the tahsil and the distance from respective milk unions. Care was taken to select the villages from different tahsils. The sample size was limited to the five villages.

1.9 Objectives:

The general objective of the study is to present a geographical study of dairy farming in Warana basin with the help of the study of selected villages in Warana basin. The specific objectives of the present study are:

1. To study the development of primary cooperative societies in Warana basin.
2. To study the impact of cooperative dairy farming on the various aspects of rural economy.

3. To study the physical, environmental and cultural factors responsible for the development of primary cooperative dairies in Warana river basin.
4. To study the development of primary cooperative societies during the last ten years (1983-84 to 1992-93).
5. To study the impact of primary co-operative dairy societies on rural economy.
6. To study the growth of primary milk societies in the region and in selected villages.
7. To present case studies of cooperative dairy farming in selected villages in the region.
8. To make suggestions for the future development of cooperative dairy farming in the rural area, so as to improve its working and to give good results of development of rural economy.

1.10 Methodology and Field-Work:

The study presents the cooperative dairy farming in Warana river basin of Maharashtra State with the help of case studies of selected villages in the region.

The villages were selected by stratified disproportionate purposive sampling method which is discussed in section 1.8 'Selection of the Region and the Villages'. The total number of villages selected was five.

1. The information and data were selected with the help of schedules and questionnaires which were pre-tested.
2. Information was collected with the help of interviews with the individual milk producers, Chairmen, Secretaries and servants of dairy cooperatives and also concerned government officers.
3. Information was collected also from various sources like Census Handbooks, District Animal Husbandry Handbooks, the records of Shree Warana Sahakari Doodh Utpadak Prakriya Sangh Ltd., Amrutnagar, Milk Producers' Cooperative Societies and Gram Panchayats.
4. Direct observation of phenomena helped to study the cause and effect relation between the process of cooperative dairy farming and the process of upliftment of rural economy.
5. The data collected were tabulated and presented

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with the help of maps and diagrams for the purpose of analysis.

6 The analysis and interpretation was done by expository method.

7. The study is mainly based on the case studies of selected villages presented in this research work.

8. The theoretical method is used to present development of cooperative dairy farming as the common feature.

1.11 ✓ Previous Research Work:

In the present aspect of field study very few works have been done in geography previously, such as basic study by Dr. S.B. Sarang, namely, 'Dairy Farming in Kolhapur District: A Geographical Analysis' (1982). There are a couple of studies in economics such as 'Significance of Milk Cooperative in Kolhapur District' by Dr. P.A. Koli (1987) and 'Economics of Dairy Enterprise: A Case study of Weaker Section' by Mr P.N. Gavade (1986). However, there is not a single study at grass-root level. So, this research is going to be the first attempt of its kind of ^{studying} cooperative dairy development at the village level.

1.12 An Approach to the Thesis:

We have already traced the temporal development of cooperative dairy farming at different hierarchical levels from nation to the study region in the present chapter which also includes methodology and objectives of the work.

In Chapters-II and III we have presented physical and cultural environment of the study region in general in relevance to cooperative dairy farming. In Chapter-III we have also presented infrastructural facilities.

In Chapter-IV we have traced development of cooperative dairy farming in broad perception alongwith the case study of Shree Warana Sahakari Doodh Utpadak Prakriya Sangh Ltd., Amrutnagar.

Chapter-V which is the core chapter of this dissertation deals with the cooperative dairy farming in the selected villages and its impact on the rural economy.

The conclusion of the present work and the suggestions for future development of cooperative dairy farming on the analytical framework is given in Chapter-VI.

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