

CHAPTER - I

ROLE AND DEVELOPMENT OF DAIRY INDUSTRY IN INDIA.

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:: CHAPTER -I ::

ROLE AND DEVELOPMENT OF DAIRY INDUSTRY IN INDIA

1.1 INTRODUCTION :

India is a developing country with agriculture as its chief occupation. Agriculture, infact, is the backbone of Indian economy. Being the largest industry in the country, agriculture is the source of livelihood for more than 70 % of the population. However, Indian agriculture is a gamble with the monsoons. Because of the precarious nature of the monsoons and lack of irrigation facilities, farmers produce only one crop in a year. This results in seasonal and disguised unemployment which is an important feature of this sector.

The ownership of small land holdings is another major characteristic of Indian agriculture. According to the All India Report on Agricultural census (1970-71), of the total 70.5 million operational holdings, 50.6 % of them are marginal and submarginal, i.e. below 1.0 hectare; 19% are small, i.e. 1.0 to 2.0 hectares.¹ The above figures reveal that about 70% holdings are of less than 2 hectares. Because of uneconomic holdings the farmers do not get adequate returns to feed their family. The landless labourers who depend on the seasonal work for their livelihood cannot fulfill their essential requirements and remain underfed. Consequently about 45 to 50% of the

population is living below the poverty line in India.

To supplement their meagre income these landless workers, small and marginal farmers have to undertake subsidiary occupations such as poultry, dairy, piggery, sheep rearing etc. These subsidiary occupations assist them in procuring additional sources of livelihood and uplift them above the poverty line.

1.2 DAIRY INDUSTRY :

Dairying has been a part and parcel of Indian culture and civilisation from the ancient times and remains so even today. Our ancestors had recognised the importance of cattle in the economic well being of the people. Therefore they elevated cow to the level of "Mother" and incorporated the protection of cow as an integral part of their religion and culture. This sentiment continues with the Indian masses and it is a big obstacle in the development of Indian dairy industry on the modern scientific lines.

Dairying plays a very important role in improving the economy of our country. Milk has an important place in the human diet. It is palatable and nutritious. It contains most of the food nutrients needed by humans and by young animals. In India, where a large proportion of the population, nearly 40%, is vegetarian, milk and milk products are of special value as they are the only source of animal protein in its diet.²

Therefore milk is the perfect food and hence its production must be increased.

Dairying undoubtedly had its beginning long before the advent of historical writings. The oldest written records of Sumeria indicate that dairying existed 6000 years before Christ. Remains of Swiss lake include skeletons of cattle and cheese making equipments that date back to 4000 years before Christ. One hundred years ago, dairying was largely a family affair in India. Even in towns and villages most families kept a cow for their own use, the milk was usually consumed in raw state and the surplus was made into butter and cheese in the homes.³

1.3 DAIRYING IN INDIA BEFORE INDEPENDENCE :

Dairy Farming in India is still not so well-developed as it is in countries like Denmark, Sweden, Canada, Australia, Newzealand or U.S.A. In India it was begun in 1881 when cream separators were first introduced. The first large scale dairy farm was started by the military in 1891 at Allahabad and the development of more dairy farms led to the creation of the post of Indian Dairy expert in 1920.⁴

Before independence, there were only few dairy farms to meet the requirements of British military and civilian personnel. Before 1947, there were some 60 such farms in India. Organised

collection, processing and marketing of milk was practically non-existent. During the same time, some cross-breeding work was taken up in and around the civilian and military dairy farms. One of such institute namely "Imperial Institute of Animal Husbandry and Dairying" was established in 1923 at Bangalore with sub stations at Karnal and Wellington. This institute later on evolved into ^{the} present "National Dairy Research Institute" (N.D.R.I.).

1.4 DAIRYING IN INDIA DURING PLAN PERIOD :

Although dairying has been part of life in India since the ancient vedic times, the modern dairy industry took roots in 1950 with the sale of bottled milk in Bombay from the Aarey milk colony. Before that, raw milk-without any processing was being supplied all over the country at the consumers door in the traditional way. Prior to 1950, the private industry started in a small way in 1929 with the entry of polsons Ltd. at Anand and Edward Keventers at Aligarh, U.P., for meeting the limited demand for Western type dairy products like butter among armed forces and the elite civilians. The first large-scale milk products factory was started in 1954 at Anand by Amul a Co-operative venture, with the assistance of UNICEF, for the production of milk powder, table butter and ghee. These products were made from the buffalo milk.⁵

The planned development of dairy farming actually started in 1951.

TABLE NO.1.1

PLAN_WISE OUTLAY AND EXPENDITURE ON DAIRY FARMING IN INDIA

Rs. In Million

| <u>Sr. No.</u> | <u>Plan Periods</u> | <u>Approved Outlay</u> | <u>Expenditure</u> |
|----------------|-----------------------------------|------------------------|--------------------|
| 1 | First Plan Period | 78-1 | 77-8 |
| 2 | Second Plan Period | 174-4 | 120-5 |
| 3 | Third Paln Period | 360-8 | 336-0 |
| 4 | Three Annual Plan Period | 261-4 | 257-0 |
| 5 | Fourth Plan Period | 1390-0 | 787-5 |
| 6 | Fifth Plan Period | 1279-8* | 944-5 |
| 7 | Sixth Plan Period | 4603-0 | 1961-0 |
| 8 | Seventh Plan Period (Proposed) | 7517-9 | N.A. |

N.A. Not Available. * Excluding the outlay of the year 1978-79 owing to non-availability of data.

Source : Annual Report of the Ministry of Agriculture, Dept.of Agriculture and Co-operation, GOI, and Planning Commission documents.

Plan-wise approved outlay and expenditure are presented in Table No. 1.1. Table No. 1.1 reveals that both approved outlay and the actual expenditure on dairying exhibited an upward trend during the planning period. Approved outlay continuously increased from Rs. 78.1 million in the First Plan to Rs. 7517.9 millions in the Seventh Plan by 96.37 times. Similarly actual expenditure on dairying rose from Rs. 77.8 millions in the First Plan to Rs. 1961 millions in the Sixth Plan by 25.2 times (Table No. 1.1).

Above analysis implies that dairying has been given an important place in Indian economy.

For an adequate milk supply to the consumers in the big cities Government started organizing milk marketing infrastructure in the big cities. During the First Five year Plan the milk schemes of Bombay, Calcutta and Delhi were already in progress. National Dairy Research Institute was set up at Karnal in Haryana. During the Second Five year Plan separate dairy development departments were started in a number of states.

The Third Five year plan envisaged setting up of 55 fluid milk projects for the cities having a population of one lakh each. The National Dairy Development Board was established in 1965 with its headquarters at Anand.

During the Forth Five year Plan Co-operative dairy farming started. The Fifth Five year plan envisaged the development of dairying on Co-operative basis through a two tire organization at the village level and the district level.

OPERATION FLOOD :

With the cooperation of the World Flood programme (WFP) the Department of Agriculture formulated a project for stimulation milk marketing and dairy development in India. Under this project known as "Operation Flood" and Launched in 1970-71, the WFP has agreed to supply, free of cost, during the Five year Period from 1970-71 to 1974-75, 1,26,000 tonnes of skimmed milk powder and 42,000 tonnes of butter oil worth Rs. 41-90 crores at international price. After recombination of the skimmed powder and butter oil into liquid milk at the public sector dairies at Bombay, Calcutta, Delhi and Madras, the milk is being sold and the sale proceeds from the quantity estimated at Rs. 95.40 crores will be used for increasing milk processing facilities of the public sector dairies from 1 million litres to 2.75 million litres per day at the end of the Five year project period. The generated funds will also be used for increasing milk production and procurement in the Union Territory of Delhi and the ten neighbouring states. This project is considered as the World's biggest milk drive.⁶

Its basic concept comprises the establishment of co-operative structure on the Anand Pattern. The OF-1 ended in June 1981 with an investment of Rs. 1160 million, benefiting 1.5 million rural families, banded together in 12000 village cooperative milk producers societies (VCMPS) in 27 selected milkshed districts.

It paved the way for an expanded programme (Operational Food II) with an additional investment of Rs.7800 million, covering 155 milkshed districts and linking them to markets in 147 towns and cities benefiting 10 million rural families. By March 1984, some 28714 VCMPS had already been brought under the Co-operative umbrella. Under Operational Flood, the National Milk Grid is being erected to link the rural milksheds to major demand centres in Urban areas. At the end of March, 1984, over 100 rural dairies were marketing liquid milk in about 103 class-1 cities and 122 towns. The project is being implemented by state co-operative Dairy Federations who already have a membership of some 3-3 million farmer members. At the end of the project it is envisaged that these Federations will handle some 15 million litres of milk per day.⁷

The main emphasis during the Sixth Five Year Plan was on implementing Operation Flood project II.

The Seventh Plan (1985-86 to 1989-90) aims to achieve the target of 52 million tonnes of milk production by 1989-90, the last year of the Plan, which will provide per capita availability of 165 gms. of milk per day.

1.5 ROLE OF CO-OPERATION IN DAIRY INDUSTRY :

According to H. Calvert Co-operation as a form of organisation wherein persons voluntarily associate together as human beings, on a basis of equality, for the promotion of the economic interests of themselves."⁸

In India Co-operative dairying is an important productive activity. The Co-operative Dairy is an agency which carries production as well as sale on behalf of producers- who are unable to earn good profits. In dairy industry Co-operatives have been recognised to be an effective measure to improve the milk production potential and there by to make better the socio-economic life of millions of small, marginal and landless cattle owners scattered over large areas. Even in advanced dairy countries like U.K. Denmark and Australia dairy Co-operatives have been playing important role in promoting the cause of dairy industry.

In the planning period much importance have been given to ^{the}co-operative sector. The National Commission on Agriculture has _halso emphasised the institutionalisation of the milk programme

through co-operatives, in an increasing measure. There were 27241 Primary milk supply co-operative societies with membership of 23 lakhs as on 31st December 1978. Out of a total of 190 dairy plants in operation in the country on 31st December 1978 80 dairy plants were in the co-operative sector. These co-operatives handled milk and milk products of the order of Rs. 1973 crores during 1977-78 as against Rs. 70 crores during 1973-74. The primary milk supply co-operatives are federated into 209 Unions. State level federations are functioning in U.P., Gujarat, Maharashtra and Punjab. At the national level there is a National Federation of Dairy co-operatives.⁹

The number of primary milk producers co-operative societies, the key component of the dairy development programme, will have greatly increased by 2000 A.D. from the present 28000 to about 1,00,000 as nearly 5000 new societies are now being formed every year. These societies will involve greater participation of milk producers. India's future dairying will no doubt be high tech one and yet its very base will be the network of rural cooperatives spread across the land. The success of such enterprises will depend upon the efforts of their managers whose challenge will include efficient management of these dairy units at the village level in harmony with other socio-economic activities that are vital to rural welfare.



OBJECTIVES OF COOPERATIVE SOCIETIES :

The main objectives of milk producers co-operative societies are to safeguard and protect the interests of milk producers, organize marketing facilities for members milk and fetch remunerative price of milk to them. Being responsive to milk producers needs, it arranges to make available to the milk producers key inputs like loans, fertilizers, fodder seeds, feed, breeding and veterinary facilities, so as to add to milk production to provide subsidiary business to the farmers, to provide technical advice, and facilities of artificial insemination.

The milk unions undertake to supervise, guide and supplement the activities of primary milk co-operative societies and serve as the mainstream of dairy development activities. It provides ready market to primary milk societies for their member's milk. It develops milk processing facilities and organise consumers oriented marketing system. The unions supply the wholesome milk in the big cities. To enhance milk production potential, the union arranges to provide necessary inputs and services to milk producers at reasonable price and charges and it also undertakes dairy extension activities.

1.6 LIVESTOCK POPULATION :

The current population of livestock according to 1982 census is 191 million cattle, and 68.5 million buffaloes. The

two species are mainly important for dairy production and contribute approximately 55 and 42 % to the milk production respectively. The goat population stands at 90.2 million and contributes about 3% to the total milk production in the country. From 1977 to 1982 the cattle population rose from 180 to 191 millions and buffaloes from 61 to 68.5 millions, whereas milk production has risen from 26.3 millions to 38.7 million tonnes. This would reflect that not only the milk production but also the productivity of the cattle and buffaloes has increased during this period.¹⁰

For improving livestock productivity, an extensive infrastructure has been developed. 600 key village blocks, 130 intensive cattle Development projects, 140 cattle Breeding farms, 44 Exotic cattle farms and 56 Frozen semen Banks.

1.7 MILK PRODUCTION : ✓

India ranks fourth in the World in milk production with annual production in 1983-84 estimated at 36.3 million tonnes. The milk production targets till 2000 A.D. are :

| | |
|-----------|-----------------------|
| 1984-85 | 38.00 million tonnes. |
| 1989-90 | 52.00 million tonnes. |
| 2000 A.D. | 65.00 million tonnes. |

In the Seventh plan, the annual growth rate of 6.8 % is envisaged, as compared to 4.6 % in the Sixth Plan and 1.1 % between 1951 and 1965. The production of milk in India is scattered over a large area amongst millions of farmers, owing one or two animals, and who constitute 75-80% of the total population in some 80 million farm households.¹¹

1.8 MILK CONSUMPTION :

According to the Nutrition Advisory committee of the Indian Council of Medical Research, a balanced diet for an adult Indian should include 10 ounces (i.e. 283-5 grams) of milk per day. In India the per capita consumption of milk ranged from 37 gms in Kerala to 396 gms in Punjab. Compared to the 990 to 1968 grams of per capita consumption of milk in most European countries, the consumption in India is a mere 140 grams as against the nutritional requirements of 284 grams.¹²

It is expected that the per capita milk consumption by the end of the century (2000 A.D.) would rise to 180 gms. for a population of 990 million. The per capita availability of milk actually dropped between 1950 and 1970 from 150 grams. perday to about 107 gms. This declining trend in the per capita consumption has been reversed since then. Of the total milk output, an estimated 70% is consumed as liquid milk. Of the remaining milk converted into products, ghee alone accounts

for the bulk of it, estimated at 85%. Today, all dairy products sold are manufactured within the country. In contrast, 30 years ago butter, cheese, baby food, milk powder and malted milk were all imported.¹³

1.9 CATTLE FEED :

Over 20 million tonnes of feed concentrates would be required for India's milch animals to achieve the targetted milk production of 38 million tonnes by 1985. Against the potential demand, the amount of feed concentrates available is estimated to be barely half of this, the amount produced by the organized sector as represented by the members of the Compound livestock Feeds Manufacturers Association of India (CLFMA) is about 10%. The annual output of cattle feed in the organized sector, as represented by CLFMA increased from 25000 tonnes in 1964 to 664000 tonnes in 1983. This output valued at Rs. 750 million is shared by 86 compounded feed plants, the largest of which is located at Anand with an average daily production of 350 tonnes in 1983.¹⁴

1.9 MILK POWDER IMPORT :

The imports of milk powder, which averaged 35000 tonnes per year in 1956-70 dropped to 28000 tonnes per year in the subsequent 14 years. Significantly, the use of imported milk powder as a percentage of total through put plummeted sharply

from an average of 60% in the decade of fifties, to 39 % in the sixties, 14% in the seventies and 7.4% in 1983-84. The indigenous production of milk powder, including infant food, went up from 2,2000 tonnes in 1970 to about 100000 tonnes in 1983.¹⁵ These figures show the development in diary industry.

Now a days the import of milk powder has decreased ~~fastly~~ because of the fast development in dairy industry. But ~~the~~ India's low per-capita consumption (138 grams in 1983-84) figure shows that there is better prospect for dairy industry. Milk alone is the raw material for dairy industry. The specific problem of milk is perishability. Which creates problems for the rural milk producers. For facing such problems processing units may be necessary in rural areas which give service to all the milk producers. So dairy industry is important for service purpose and also product of milk. Thus dairy industry provides full employment for the farmers and their members of the family during ~~slack~~ season and throughout the year.

1.10 ADVANTAGES OF DAIRYING :

Milk and milk products play a vital role not only in our diet but also in moulding our way of life. There are so many advantages of dairy industry. Some important advantages are as below. :

1. Dairying fits in well in diversified farming programs :
Diversification is highly recommended on many farms to permit efficient use of farm labour and economical use of buildings and equipment and to reduce the risk involved in having but one or two sources of income.
2. ⁽ Much animals are efficient consumers of roughages :
Cows and buffaloes make effective use of large quantities of roughages which on some farms may be wasted.
3. Dairying provides a stable income :
Prices of dairy products are comparatively more stable.
So this business provides stable income to the milk producers.
4. Income is distributed through-out the year :
Most of such farm income such as that from maize, wheat, and other crops, is seasonal, Dairy production and income may be distributed throughout the year.
5. Dairy production improves the family diet and reduces costs :
Milk is a basic food, and an important item in the family food budget. A small dairy enterprise can be justified on some low income, marginal farms for the production of milk products for family consumption. This is especially true where large families are concerned.

6. Skim^{med} milk is of high value as poultry and swine feed :

Farmers who sell milkfat make effective use of skim milk in feeding pigs and poultry. Skim milk is an excellent source of protein, minerals and vitamins.

7. Dairying aids in maintaining soil fertility :

Legumes and grasses are grown for forage. These crops are soil conserving or soil building crops. The manure produced is distributed on the land, and returns plant food nutrients to the soil

8. Dairy industry is helpful for solving the seasonal and disguised unemployment problem in rural India. :

9. The consumers in cities are also benefited as they get milk of good quality at reasonable prices.

10. Socio-economic change may take place because of dairy co-operatives.

1.11 PROBLEMS OF DAIRY INDUSTRY :

The dairy industry in India is faced with several problems such as :

1. Problem of transportation and home delivery :

The small scale holdings and scattered milk production in the villages. Most of the villages are not connected by all weather roads and are inaccessible during certain parts of

the year. Consequently the milk produced cannot be fully utilized.

2. There do not exist adequate facilities for cooling and refrigeration and rapidly moving railway vans so that it is difficult to keep milk in good condition during its haulage and transport.
3. The demand for milk and milk products is uniform throughout the year but the production is not only localized in certain areas but is also distinctly seasonal.
4. The methods of production followed by the producers are crude, Primitive and extremely wasteful of labour.. Hand milking is universal and udders are rarely washed.
5. Cattle rearing in India is carried out under a variety of adverse climate and environmental conditions. Being resourceless, the small cultivator cannot give proper attention to his cattle. This neglect reduces milk yields of cows and the quality of the breed.
6. Milk production needs considerable investment and risk taking. Unless the producers are guaranteed a reasonable price on a long term basis their economy is affected adversely.
7. The milking capacity of Indian Cattle is very small and hence a large number of cattle are to be maintained for

getting required quantity of milk. This number is a great drain on the scarce fodder resources.

8. Dairying is a fulltime job. Cows and buffaloes must be fed and milked at least twice each day and time is consumed in managing the enterprise and in marketing the products, whereas other types of livestock require less labour. Thus dairying has a high labour requirement.
9. There are many hazards in dairy production. Dairy animals may become infected with diseases. Disease losses are serious when valuable animals are involved.

With these problems there are some other problems in case of dairy co-operatives. They are as follows :

10. The lack of frequent and surprise checking of societies by the supervisory staff of the co-operative department gave ample opportunities for various malpractices prevailing at the society, chilling centre and milk plant levels.
11. Another bottleneck with dairy co-operatives is that it lacks proper co-ordination at different levels. The management of the co-operatives generally in the hands of few elected influential members having vested interests with no managerial skills. Therefore co-operatives have failed to achieve the desired results.

12. It has also been observed that the private milk vendors try to compete with the society by offering higher price of the milk during the lean season. Consequently the milk procurement by the societies decline.
13. Co-operative dairy industry in irrigated belts has been creating a flood of milk in villages, but the share of co-operation is not sufficient in hilly and dry area.
14. Still many farmers are not found to be the member of dairy co-operatives.
15. In our country 86% of the milk comes from buffaloes, but the share of cow milk is negligible.
16. Further the method of measuring the quantity of milk, testing it for fat and other quality control techniques followed by the societies are often questionable, which compel the milk producers to sell the milk to the local traders who take the delivery at the doorstep and also attract them by giving advance money in need and providing them various other services.

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