

DAIRY FARMING AND RURAL DEVELOPMENT

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ABSTRACT

India is predominantly an agrarian economy with mixed farming involving crop-livestock symbiosis, which has been a way of life since the dawn of civilization, and dairying is the most ancient occupation. 80 million households engaged in dairy farming as their main source of income. Dairying as an essential means of livelihood, provides a regular source of income and employment to rural households. It meets and helps to meet the equity objective of rural development through its contribution to the cash income of small and marginal farmers, also landless labourers. Availability of regular fluid cash from daily sale of milk not only helps in dairying production through purchase of feed and other inputs but also helps in improving crop production through purchase of farm inputs like improved seed, fertilizers and pesticides, cattle raising being a labour intensive activity which provides substantial direct as well as indirect employment. Milk and milk products are second largest contributors to the gross national product next only to paddy. In India, agriculture sector provides livelihood among the food products, demand for milk increases relatively at higher rate as education makes people conscious of the value of nutritious food, milk constitutes the most important source of nourishment for both vegetarian and non vegetarian, for old and young alike. At present, India is the largest producer of milk in the world pushing United States to second place. Annual production of milk in India in 2014-2015 was 146 million tonnes, but it increased to 209 million tonnes in 2020-21. With annual growth rate of about 6.2 per cent, in the same time world total milk production was 843 million tonnes, now India has become major sharing country of milk production in the world, it is 23 per cent. Today India is just not only the global leading milk producer, but it has also become the largest consumer of milk. Dairy development helps in boosting rural economic growth and empowering rural women. Dairy farming reducing rural poverty, inequity, ensuring food security for millions of rural households, and enhancing economic growth, particularly in rural areas.

INTRODUCTION

India has had a rich tradition in dairying since the time of lord Krishna. Dairying has been inherent in Indian culture, for centuries. Milk and milk products have always been an integral part of our consumption habits. In the vast field of Animal Husbandry, the contribution of dairying has been the most significant in terms of employment generation, as well as income generation. In post independence India cooperative dairying has been one of our major successful stories having a profound impact on socio-economic development of rural area. Agriculture and animal husbandry are the two main supporters on which the entire structure of the village life rests in India. India holds the world's largest population in all the three species viz. Cattle, Buffaloes, and Goat while sheep hold fifth place and in terms of percentage share, the country possesses 59% of buffaloes, 19% of cattle in the world. Apart from land and irrigation, livestock is the largest productive resource in the rural economy of India. It has been observed in the Food and Agriculture Organization Evaluation Report (1976), that dairy development in India offers a unique advantage over industrialization or agricultural development, because dairy development has a large effect which is more evenly distributed as compared to industrialization or agricultural development and it benefits to the weaker section of the society. Milk and milk products, being the largest agricultural commodity contributing to GDP, Dairy market in India reached a value of INR 11,357 Billion in 2020. Dairy activities form an essential part of the rural Indian economy. India, dairying also provides sustenance to the millions of farmers distributed over 5,50,000 villages constituting the bulk of rural people with an annual income of less than 4,800 per family.

The National Commission on Agriculture (1976), observed that, next to agriculture, animal husbandry has got the largest employment potential, in rural areas, it provides subsidiary occupation, offers gainful employment and helps in better utilization of women and child labour, to about 2/3rd of our population. Dairy development is a major component of strategies to expand agricultural output in India. The Center for Monitoring Indian Economy (CMIE) has estimated that milk production in India has reached above target level which means India has emerged as number one milk producing country in the world accounting for 23% of world milk production and in terms of value it is about 180,000 crores. This has been endorsed by the National Dairy Development Board (NDDB). The white revolution has indeed brought about a comprehensive development of the Industry in India. According to National sample survey expenditure on milk and milk products

constituted seven percent of total expenditure in urban area. The cost of milk production in India is the lowest in the world at about 70 percent of USA. However the prices of dairy products are higher than any other in the world. Small and Marginal farmers collectively own 60 to 70 percent of the cattle population and the major share of milk is from buffaloes (49%), followed by cows (48%) and goat (3%) as on 2019-2020. The major milk producing states in India are Uttar Pradesh, Gujarat, MadhyaPradesh, Rajasthan, Andra Pradesh and Punjab. Millions of farm families depend on the income from dairy for their livelihood.

Dairying is an important sector that generate employment, with lower investment estimated that an investment of Rs.10 lakhs in dairying generates 290 man years of employment, whereas the same investment can generate only 120 man years of employment in crop production. Over 90 per cent of the milk production comes from small farmers, who are located in rural areas. Indian dairying is unique in more than one way, contributing about 5.3 per cent to India's agricultural GDP with milk as a leading agricultural produce of the country During 2019–20, India exported 51,421.85 metric tonnes of dairy products, at a total value of Rs 1,341.03 crores in the year 2019-2020. According to the world Health Organization's recommendations per capita milk requirement is 210 gms., but India has crossed the requirement due to the greatest success of operation flood, lies to in increased the per capital availability of milk in India from only 132 gms per day in 1950-51 to 406 gms per day in 2019-2020, but world average milk availability of milk per day 302 gram. According to NITI ayog study 2018 report, milk production in India will increase to around 330 million tonnes in 2032-33, and milk supply will exceed milk demand by 38 million tonnes in 2032-33. India is self-sufficient in milk production because 73 million dairy farmers are engaged in the dairy sector, especially women. Regarding benefits to the farmer, around 60 per cent of the consumer price from milk goes to the farmer, which is the highest among major milk-producing countries.

Development of Dairy Industry in India

No attention was paid to the promotion of dairy farming in India before independence, apart from military dairies and few private dairies. The usual pattern was that cattle keepers bought high-yielding buffaloes from Punjab and Gujarat and kept them in primitive insanitary sheds in the vacant sites in the metropolitan cities of Bombay, Calcutta and Madras. A familiar site in Bombay was that of railway wagons carrying buffalo-dung to the sub urban areas and green fodder from the rural area to the cities. It was strange type of

traffic! the worst part of this situation was that buffaloes when became dry they sent to slaughter houses. The cities became dirty, and valuable high yielding buffaloes were destroyed. To meet this situation the Bombay Government provided larger area in the hilly area of Aarey to buffalo keepers and also set up a dairy plant. For a while, this scheme caught the attention of the planners. In this time Aarey was fascinating people concerned with milk supply to the cities. Another experiment being carried on in Gujarat established Kaira District Cooperative Milk Producer's Union Limited (KDCMPU) in 1946. This cooperative milk marketing system emerged as an alternative to the traditional marketing system.

Before establishing a dairy cooperatives in Kaira district, the rural milk economy was operated as a subsidiary system within the agricultural economy. Farmers were exploited by unscrupulous middlemen and private contractors. The farmers were paid the lowest possible. The dairy industry in Kaira was also no exception with the prevalence of exploitative market, in which traders were able to influence the price of their own advantage⁷ on the contrary, the total milk production in India was only 17 million tonnes in 1950's and we were heavily dependent on import of milk powder from New Zeland and Europe to fulfill the domestic demand. Dependence on import was causing a heavy drain on our precious foreign exchange reserves. The transformation since then, has been dramatic and can be attributed to emergence of rural cooperatives in the dairy sector. It all started in 1945, when farmers of Kaira district in Gujarat went on strike, protesting against the economic exploitation at the hands of contractors, who were collecting milk on behalf of the Britist Government.

The Britist government had granted monopoly over milk collection in Kaira district to a private firm called Polson, which, in turn, had hired contractors to do the job. In this time Sardar Vallabai Patel advised the farmers to form their own cooperatives. The strike succeeded in its objectives as monopolistic restrictions on procurement, were removed. However, the humble organization that started with two small village- level societies collecting only 247 litres of milk per day went on to become a billion liter idea. This is the genesis of Kaira District Cooperative Milk Producers Union better known to the world as "AMUL". The success of Kaira Co-operative Union ignited the spirit and thereafter, the cooperative movement spread like wildfire across the nation. Similarly, the government of India established the National Dairy Development Board (NDDB) in 1964 for the development of

dairy industry and to replicate KDCMPU's pattern of Cooperative Dairying throughout the country on a comprehensive basis.

The major objectives of the National Dairy Development Board

- 1) To promote projects of general public utility relating to dairying, animal husbandry, food and agriculture, fisheries and cold storage.
- 2) To make available, the information, skills and technical services needed to increase production of milk and dairy technical inputs and to speed up procurement, processing and distribution of milk on request.
- 3) To prepare initial feasibility studies and to design, plan and start up of the operations.
- 4) To provide manpower development services for dairy and allied projects by organizing technical programmes for training personnel.
- 5) To help in the selection of equipment and undertake bulk procurement services.
- 6) To offer consultation services on dairy and allied operations in the field of planning control, including quality controlling, organization and marketing, backed up, wherever necessary by research within the NDDB and outside, in other organizations.
- 7) To serve as international liaison to other National Dairy Boards and international agencies and to facilitate, the exchange of information and personnel as also to assist other country's dairy development.
- 8) To conduct research in the field of dairying of animal husbandry.

This programme was meant to produce a 'flood' of milk by providing incentives to milk producers to organize village dairy cooperatives on the pattern of ANAND. The remarkable success of the 'ANAND Pattern' of dairy development and marketing in the Kaira District arouse interest in the scheme at high in the Government. Lal Bahaddur Shastri, the then Prime Minister of India, was the man who categorically recommended to set up the NDDB. During the visit to ANAND in October 1964 to perform the opening ceremony of the Feed Factory of AMUL, he stayed that night in a village of Ajarpur, near ANAND. He personally watched the entire process of milk collection, fat testing, payment to the producers and feed sale by the village cooperative society early in the morning. He was greatly impressed by the working of the dairy cooperatives and immediately proposed that a national level institution should be established to help the milk producers all over India to organize their dairy cooperative on the ANAND pattern. Out of this suggestion grew the organization known as the National Dairy Development Board, which was registered as a Non-Profit Charitable Trust in 1965 with its headquarter at ANAND, and Karien was

appointed the first Chairman of the Board of Directors. The notable feature of the NDDDB was that it developed into self supporting institution. The Board provides technical assistance for cooperative unions and for the state Government who went to set up modern dairy plants. The Board makes feasibility study and prepares a project report.

The Important Dairy Centres in the Country

Sl. No.	State	Centre of Dairy Industry
1.	Assam	Gauhati, Shilong.
2.	Punjab	Amritsar, Jind, Hissar, Dasuya, Gohna, Hudiana.
3.	Chandigarh	Chandigarh.
4.	UP	Agra, Aligarh, Aliahabad, Almora, Holdwani, Kanpur, Mathura, Varanassi, Lucknow, Bareilly, DehraDun Moradabad, Gorakhpur.
5.	Tamil Nadu.	Ootacamund, Kanyakumari, Coimbatore, Kodaikanal, Tiruchirapalli, Thanjarur, Maduroi, Erode, Madras, Chidambaram.
6.	Gujarat.	Baroda, Mehsana, ANANDi, Rajkot, Ahmedabad, Bhavnagar, Jamnagar, Juhagarh, Suredranagar, Surat.

		Centre of Dairy Industry
7.	Andra Pradesh.	Vijaiwada, Hyderabad, Vishakpatanam, Warangol, Rajmahmundry, Guntar, Kurnool, Nellore, Chittur.
8.	Kerala.	Trivendrum, Calicut, Kottayam, Cannanore, Alleppey, Ernakulam, Palghat.
9.	Delhi.	Delhi.
10.	Maharastra.	Bombay (Arey), Dhorwar, Aurangabad, Nagpur, Akola,

		Amaravati, Dhulia, Kolhapur, Nasik, Pune, Udgir, Miraj, Solapur, Ahmednagar, Kudigee.
11.	Madhya Pradesh.	Khandwa, Kanti, Raipur, Ratlam, Sagar, Chindawara, Guna, Rewaujjain, Bisalapur, Bhopal, Gwalior, Indore, Jabalpur.
12.	Orrissa.	Cuttack.
13.	West Bengal.	Hooghly, Haringhta,
14.	Rajashtan.	Jaipur, Udaipur, Bikaner, Jodhpur, Alwar, Bharapur.
15.	Karnataka.	Bangalore, Belguam, Gulbarga, Dharwad, Mysore, Mangalore, Davangere, Bhadravati.
16.	Bihar.	Bhagalpur, Gaya, Patna, Dharbhanga, Dhandabad, Ranchi, Barun.
17.	Haryana.	Jind, Biwani, Ambala.

Operation Flood Programme:

The production of milk was stagnant for two decades till 1970. The production could meet only 25 percent of the domestic demand the remaining 75 percent demand was met by importing. In this time, government of India planned to overcome from stagnation and asked to NDDB to start dairy development project. In order to build a viable and self sustaining national dairy industry on cooperative lines, a project christened “OPERATION FLOOD” Programme was launched in 1970 by National Dairy Development Board. This programme has helped India to reach the production of 30.6 million tonnes in its first phase. The Operation Flood Programme was launched in collaboration with the World Food Programme of United Nations.

The main objectives of the operation Flood 1st were to expand milk processing and marketing facilities and the largest dairy development project for the whole Asia. In its first phase, the milk markets in India’s four metropolitan cities like Bombay, Calcutta, Delhi and Madras were linked with 27 selected milk sheds in their hinterland through a chain of ANAND-type dairy cooperatives. The second phase was in action during 1981-1985 NDDB mobilized funds from sale of products obtained as food and in the form skimmed milk powder and

butter oil for Operation Flood Programme. This programme covered 155 milk shed districts and connected them to markets in 147 town and cities, and recognized as the farmers' struggle to achieve against tremendous odds not merely in doing development but also the dimensions of true development by creating institutions at the village level that bring about not the cow and buffalo but also the development of man. The third phase from 1985 to 1994 is called "Technology Mission on Dairy Development". The objectives of TMDD were same as that of Operation Flood Programme objectives. The programme had set the targets for the year end 1995 to have milk production of 61 million tonnes and it has been achieved. Later Government supportive policies and programmes have increased milk production and India became number one country in the world. At present Operation Flood Programme covered 120 million farmers in 290 districts involving 174 milk sheds of 110,000 milk societies, which procure 130 lakh kg of milk per day and market 125 kg per day in 600 cities and towns and 30 million small producers having four dairy animals in this Programmes. Presently India's expenditure on dairy products is 20% of their total expenditure for foodgrains dairy products has got second place after food grain.

According to the dairy development International Farm Comparison Network, Dairy Report, 2018 10 States in India produce 85 per cent of the milk, and the rest of the States and Union Territories produce the balance 15 per cent. Similarly, only 15 States have achieved per capita availability of milk with the national level. The government needs to devise a suitable dairy development policy for enhancing milk production in potential districts and States. Therefore, dairy promotion among small and landless farmers is necessary to increase the availability of milk, and it will also help reduce nutrition related problems in milk deficit regions of the country. Thus apart from building milk procurement infrastructure in milk deficit States and districts, efforts should also be made for the penetration of appropriate technology in these regions.

Recent Problems in Dairy Farming

The recent Covid-19 pandemic has affected all sectors of the economy and has reduced employment opportunities, particularly for migrant workers. As per the 2011 Census, India has 45.36 crore internal migrants, which includes both within-State and inter-State migrants; the latter have been hit hardest, due to pandemic enforced restriction on inter-State movements. When these migrant labourers return to their homes, this reverse migration will

create new challenges for them, as the lack of employment prospects at the village level will make their life more difficult. This is a great opportunity for the State governments to promote dairy business in those districts where milk production and milk availability are less than the national average. They can facilitate the promotion of the cooperative model in these regions, to channelize and formalize milk procurement, which will help millions of people to be gainfully employed. They can channelize funds from different Central government schemes like 'Dairy Entrepreneurship Development Scheme (DEDS), National Programme for Dairy Development (NPDD), and DIDF (Dairy Processing & Infrastructure Development Fund), for the same; a Budget provision of Rs 3,289 crore was made exclusively for Animal Husbandry and Dairying, for the year 2020-21.

The Finance Minister recently announced an outlay 15,000 crore for Animal Husbandry Infrastructure Development Fund, which will be used for supporting private investments in dairy processing and value addition, and cattle feed infrastructure. This will not only give a boost to local manufacturing and consumption of locally produced goods but will also help the national consumer become "vocal for local"; thus taking India forward on the path of self-reliance. However, strengthening cooperative milk societies across the country will definitely generate more employment opportunities, especially for women and economically disadvantaged communities. A flourishing dairy sector will help rural India become self-reliant and will also contribute to doubling farmers' income

CONCLUSION

The dairy industry in India is spread over the entire country in innumerable small units in a very disorganized form. The landless and small farmers who are members of dairy cooperatives constitute over 75% of the total memberships of dairy cooperatives. The benefits of the white revolution were, therefore, able to reach for more landless, small and marginal farmers than they do for the wealthier rural population. Cooperative dairying got impetus when the AMUL was established and ANAND model became popular concept throughout the country. The present cooperative structure needs revitalization in the face of the changed scenario characterized by non-OFP era and relicensing. When we take into account the success of various dairy cooperatives like AMUL, Mehsana Cooperative Union of Gujarat, Yelgud Dairy of Maharashtra are the best examples. It can be seen that the cooperative system is indispensable for the dairy farmers and well-managed cooperatives can overcome the commercial dairies in many respects. ANAND pattern

cooperatives in almost all parts of the country were not that much effective in its true sense. In many areas of formation of village level societies were mainly target oriented which hampered the qualitative aspect as well as economic viability efforts need to be exerted to make the cooperative system competent to face the new challenges. The National Dairy Development Board's role in this respect is vital, expansion of the cooperative system into new areas is very much necessary, for instance, the share of the cooperatives in the whole dairy business is just 10 to 15% in the urban areas. Cooperative are in a better position, as they enjoy about 35% of the business. Restructuring in cooperative by way of moulding an enlightened and professional management, has become the need of the hour.

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