

POLICIES FOR DAIRY DEVELOPMENT IN INDIA: AN APPRAISAL

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Abstract

In India, dairying has been a part of the agricultural system since times immemorial. Dairying has been very popular with all sections of India's rural people and is especially suited to the weaker sections with small land base and abundant labour force. The National Commission on Agriculture has rightly observed that "as cattle and buffalo rearing involves intensive use of labour usually on the part of the members of the family, more than many other enterprises, it offers very significant employment and income opportunities to small and marginal farmers and agricultural labourers. A large proportion of female labourers find scope for fuller utilization in several operations connected with cattle and buffalo rearing." Further, dairying has been perceived as one of the remedial measures against the emerging imbalances as between the well-endowed and not so well-endowed farming areas as well as farming classes. As such dairy development programmes have been launched in India largely as measures to generate additional employment and improve rural incomes. It has been a well recognized fact that, properly organized, modified and appropriately implemented, cooperatives could be viable tools for initiating and sustaining a lucrative dairy industry. The FAO Seminar on 'Dairying for Rural Development' has also rightly emphasized, inter alia, the organization of farmers in forms of farmers' groups or cooperatives in order to enhance indigenous milk production. In view of these reasons, the Government of India has been promoting dairy development through dairy cooperatives mainly to provide assured market and remunerative prices to the rural milk producers on the one hand and to supply good quality milk to the urban consumers at a reasonable price on the other., Dr.V.Kurien, who is the chief architect of modern dairy industry in India, hopes that dairy development through cooperative effort can result in technical and social modernization of rural areas cutting across caste barriers, making life for our rural majority more productive and satisfying .

Key Words: cooperative, dairy, development, government, industry, milk products, rural areas

Introduction

The success of the Anand Milk Producers' Cooperative Union Ltd., (AMUL) in Kaira District of Gujarat led the Government to launch Operation Flood in 1970 mainly with a view to replicating the Anand pattern cooperatives in all the major milksheds of the country. The programme has already completed the first two phases and entered the third phase in 1985. Since huge sums of money have been spent on the Operation Flood programme, it is very important to examine the impact it has had on various aspects of dairy farming in the rural areas. Further, the success of the programme depends, in the ultimate analysis, on the working of the village level dairy cooperatives and the benefits accrued through them to the rural milk producers.

This paper provides detailed information regarding dairy sector in India. It also discusses history and growth of the dairy cooperatives in India, operation flood and importance of the

National Dairy Development Board. Importance of dairying for socio-economic development, role of Dairying in agriculture. National Action Plan for Dairy Development etc.,

Meaning and the Concept of Dairying

In the narrow sense 'Dairying' can be understood as an activity related to the production and consumption of milk and milk products. In its wider sense, it includes the development of cattle and buffaloes, especially milch animals, with a view to improving the productivity and production of milk.

Indian dairying has great potential to generate employment opportunities in rural areas and to absorb surplus manpower if diverted from agriculture. It is particularly suitable for the weaker sections of the rural community and women. A very large proportion of the female labour force finds scope for fuller utilization of their time and energy in several operations connected with the rearing of cattle and buffaloes.

Dairy Sector in India

The importance of dairying lies not only in production of milk, but in its capacity to bring about significant changes in the socio-economic structure of rural economy. Its role in employment-generation is well recognized. It has provided numerous small/marginal farmers and agricultural labourers with supplementary employment and a regular source of income. Dairying and its related activities create jobs equivalent to about 25 million a year. The significant role played by the cooperatives in stimulation of dairying has also proved to be an important source of progress¹.

Indian economy is mainly an agrarian economy with more than 75 per cent of its people living in villages and it depending upon agriculture and allied activities such as - livestock farming, and dairy farming. The share of livestock product in the total agricultural sector is predicted at 21 per cent in India. The dairy farming is a subsector of agriculture that occupies a very important position in the economy, as milk is the second largest agricultural commodity contributing to the GNP, next only to rice. While the share of agricultural output to the total GDP has been on the declining trend, the share of livestock output to the agriculture has been increasing and now it accounts for 25 per cent of agricultural output (around 6 per cent of total GDP) in 2016-17. Milk alone contributes Rs. 450 billion to the GNP of the country. However, the plan investment in animal husbandry and dairying is only a meager 5% of agriculture².

At Present, India is 'The Oyster' of the global dairy industry. It offers opportunities galore to entrepreneurs worldwide, who wish to capitalize on one of the world's largest and fastest growing markets for milk and milk products. A bagful of 'pearls' awaits the international dairy processor in India. The Indian dairy industry is rapidly growing, trying to keep pace with the galloping progress around the world. As he expands his overseas operations to India many profitable options await him. He may transfer technology, sign joint ventures or use India as a sourcing center for regional exports. The liberalization of the Indian economy beckons to MNC's and foreign investors alike. India's dairy sector is expected to triple its production in the next 10 years in view of expanding potential for export to Europe and the West. Moreover, with WTO regulations expected to come into force in coming years all the developed countries which are among big exporters today would have to withdraw the support and subsidy to their domestic milk products sector. Some of these milk producers have already obtained quality standard certificates from the authorities. This will help them in marketing their products in foreign countries in processed form³.

Dairy Cooperative Societies in India

Present Scenario Villages occupy maximum number of populations in India. Majority of them are involved in agriculture. The cattle animal is correlated with agriculture in India as the old method of cultivation is still vogue here. Rearing of cattle animal is also an additional source of income of the villagers in our country. Sources from our ancient history reveal that the domestication of the cow and the buffalo dates back to nearly 4000 years. Scriptures of India refer to the wealth through the word 'Godhan'. Maximum proportion of cows and buffaloes of the world are seen in India. But India produces only five percent of the total quantity of milk produced in the whole world. This amount is too inadequate to meet the country's demand. The supply of milk in some parts of India is higher than the local demand. On the other hand, supply of milk in the rest of the country as well as in urban areas is much lower than the demand. India has become the largest producer of milk in the world with an annual yield of 74 million tonnes. This is mainly due to successful implementation of operation flood project. Milk and its products constitute about two thirds of the value of total output of the livestock sector. It is also the single largest contributor in the agriculture sector to the national GDP⁴.

The dairy sector is generating revenue of about 68,000 crores, accounts for about 8 per cent of the GDP and 25 per cent of the agricultural GDP. Interestingly, over the years, the share of animal husbandry in GDP is rising, while, that of agricultural is on the decline. This amply endorses the growing importance of dairying in Indian economy⁵.

During 2015-16, the National Dairy Development Board has established a large number of co-operative societies. Maharashtra has the highest number of dairy co-operative societies (16,724) followed by Uttar Pradesh (15,648), Gujarat (10679), Karnataka (8,516), Tamil Nadu (8,369), Punjab (6,823), Rajasthan (5,900), Andhra Pradesh (4,912) and Madhya Pradesh (4,877). The strength of Indian dairy sector lies in the fact that in spite of limited investment it has shown consistent and sustainable growth⁶.

History of Dairy Co-operatives in India

The Co-operative movement started in India in the last decade of the 19th Century with two objects in view to protect the farmers from the hands of the private money lenders and to improve their economic condition. Madras province was the birth-place of this movement. With the setting up of an Agricultural Co-operative Banks there the movement took root in our Land and slowly gained strength. However, the growth of Co-operative movement in India during British rule was very slow and haphazard one. In most of the cases, the provincial governments took the lead. The foreign ruler had only made some committees or framed a few rules and regulations. But they did not take any wide-ranging programme to spread the movement all over the country. The golden era of Co-operative movement began after India had won freedom. Within two decades of independence the membership of primary societies had increased four times while the share capital and working capital increased 23 and 31 times respectively. The history of dairy development movement in India is a new one. During the pre-independence period this movement was limited to a few pockets of Calcutta, Madras, Bangalore and Gujarat. The most notable of this venture was Kaira District Co-operative Milk Producers' Union Limited of Anand, Gujarat. But after independence the National Government took great initiative in setting up new Dairy Co-operatives in many parts of the country⁷. The National Dairy Development Board (NDDB) was set up to make the ambitious project a success.

History of National Dairy Development Board (NDDB)

The NDDB was constituted under the aegis of the Ministry of Agriculture, Government of India in September 1965 under the Societies Registration Act 1860. It was setup to replicate the Anand Pattern dairy co-operatives in the other parts of India in an effort to improve rural incomes by giving the farmers a price for milk based on price in the metropolitan cities. Its board of directors including Chairman is nominated by the President of India. The secretary of NDDB is the Chief Executive of the organization who is supported by professionals to carry out the Board's activities. It promotes project of general public utility as well as international liaison with other National Dairy Board and international agencies to facilitate the exchange of information for conducting research in the field dairying and animal husbandry. The package of services which the NDDB offers helps in the creation of viable Cooperative Farmers' Organizations with facilities for procuring, processing and marketing of milk and milk products. The NDDB's approach towards the modernization of dairying has been well-accepted under India's various five-year plans and the World Bank-aided projects in India and abroad. The Indian dairy industry is thus on the threshold of a new era of quantum jump in milk production, which would totally transform the dairy scenario to the rural masses in terms of higher income, improved amenities and better living⁸.

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

Importance of Dairying for Socio- economic Development

India is emerging as a global economic power and the economy is growing at an average of 8-9 per cent for last couple of years. The Dairy development is contributing significantly to the national economy and with 140 million metric tons milk productions during 2014-15; it ranks first in the World. It provides gainful employment and supplementary income to large number of people. Dairy sector contribute significantly on poverty reduction in rural areas as income from milk in the total income of under-privileged family is as high as 75 to 80 per cent during drought and the employment generated is relatively high⁹.

It is well-known; India is primarily an agricultural country. India's rural population is the majority of its inhabitants. Agriculture is their main occupation. Dairy farming is the best income source for marginal and small farmers. Both agriculture and livestock production are interrelated and vital to food security. India is home to a lot of livestock which helps improve rural socio-economic conditions¹⁰.

Rural households are an integral part of the socioeconomic development in rural areas by milking. Milk production is a major industry that employs approximately 80 million households. Many of these households are either small-scale, marginal farmers or landless. Crop production is only temporary. However, dairying provides rural workers with a stable source of income throughout the year. You can use it as an addition or complementing business. It provides a strong economic incentive to small, marginal and landless farmers, particularly women, to consider milking for a source of income or livelihood. A large portion of the work involved in milking dairy products is performed by women. The dairy sector is essential for inclusive development¹¹.

This paper discusses India's contribution to India's GDP, Status of Milk Production and the National Action Plan for Dairy Development. We highlighted the importance of per-capita milk production to meet growing demand in the section on National Action Plan for Dairy Development. In the section on National Action Plan for Dairy Development, we highlighted the importance of connecting rural milk producers with organized milk processing sectors to increase their income. This paper will cover the Indian Dairy Cooperative Societies as well as the current Status of Dairy Cooperative Societies. This paper also discusses the Policies for Dairy Development India. This paper discusses the contributions of various schemes such as the National Programme for Dairy Development and Dairy Entrepreneurship Development Scheme¹².

Contribution of Livestock sector to the GDP

India's livestock sector plays a prominent role in the growth of India's economic and the socio-economic well being of millions rural households. Primarily, it is the primary source of draught energy in rural areas. It is the main source of draught electricity in rural areas. It was responsible for 4.9% of India's GDP and 28.4% of the GDP/GVA Agriculture, as well as allied sectors. India's contribution to agriculture and its related sectors has fallen over the past decade. The country's livestock sector, however, has remained stable. The country's contribution in agriculture and other allied sectors to its GDP fell from 23% in 1999-20, to 17% in 2017-18. However, the country's livestock contribution has increased from 23.12% - 28.4% over the same time.

The value of livestock production is dominated by milk and its products. Their share has grown from less than half of the total livestock production in 1950-51, to 67% in 2017-18 (at present prices). In terms of its price, milk has been the most valuable agricultural commodity. 2017-18 milk production had a value of Rs. The total output of food grains is 701530 crore, which is greater than its milk production¹³.

In 2018, the value of the output from livestock was estimated to be Rs. According to current prices, the output of the livestock sector was Rs. 10,43 656 trillion in 2017-18. This is 33.25% less than the agricultural and similar sectors. At constant prices, the livestock yield accounted to 31.81% total agricultural and allied sector production.

Role of Dairying in Agriculture

Most agricultural products have high levels of lactation. Dairy products have less fluctuation in price. Each year, income is distributed evenly. A farmer who relies solely on agriculture would be unable to make income from his harvest. The farmer's income can be seasonal. A dairy animal can generate income all year. Dairy farming can be a great way for you to provide your family with high-quality food at lower prices. Dairy is the best and most important food. Even if the milk products are not consumed by the family, a small dairy business can be established. This is especially true for large families.

The dairy helps to maintain soil fertility. To provide fodder for livestock, the grasses and legumes can be grown. Some crops can also be used to preserve and build soil. The manure from the cattle can be spread over the landscape to provide nutrients for plants. The draft animals are supplied by the cattle. For most Indian agricultural operations, bullock power is still in use¹⁴.

Status of Milk Production in India-Bovine Population in India

According to the 20th Livestock Census, there are approximately 303.76 millions bovines in the country. Table shows the species-type population of Poultry, Livestock in the most recent Censuses.

Total Bovine Population in India

Species	19thLivestock Census 2012 (no. in millions)	20thLivestock Census 2019(no. in millions)	Growth Rate (%) 2012-19
Cattle	190.90	193.46 (63.69%)	1.34
Buffalo	108.70	109.85 (36.16%)	1.06
Yaks	0.08	0.06 (0.02%)	-25.00
Mithuns	0.30	0.39 (0.13%)	30.00
Total Bovines	299.98	303.76	1.26

Source: 20th Livestock Census, Department of Animal Husbandry and Dairying, M/o Fisheries, Animal Husbandry and Dairying

According to the 20th Livestock Census, showed by the Department of Animal Husbandry and Dairy, Table shows the Indian bovine population. The 20th census data shows that Cattle account for 63.69%. Buffalo (36.16%), Yaks (0.1%) and Mithuns (0.3%). This table clearly shows the importance of buffalos and calves in Indian dairy development.

India is still the largest milk producer in the world. Many measures have been taken by the government to improve the productivity of livestock. This has led to an increase in milk production from 102.6 million tones at 2006-07 to 127.9 million tonnes at 2011-12. The annual growth in milk production between 2017-18.

Average yield of milk per day per animal (2017-18)

Exotic Cows (kg/day)	Crossbred Cows (kg/day)	Indigenous Cows (kg/day)	Non-Descript Cows (kg/day)	Indigenous Buffalo (kg/day)	Non-Descript Buffalo (kg/day)
11.67	7.85	3.85	2.50	6.34	4.35

Source : Annual Report 2017-18, Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying Government of India,

Table shows the average national milk yield for different species in 2017-18. Table shows the average milk yield per animal at National level for different species in 2017-18. Crossbred Cows produce 7.85kg/day and Indigenous Buffalos 6.34kg/day. Non-Descript Cows produce 2.50kg/day, the lowest average daily milk yield.

Table Percentage Share of Milk Production during 2017-18

Species	Percentage share
Exotic Cows	1%
Crossbred Cows	26%
Indigenous Cows	10%
Non-Descript Cows	11%
Indigenous Buffalo	35%
Non-Descript Buffalo	14%
Others (Goat)	3%
Total	100%

Source : Annual Report 2017-18, Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying Government of India,.

It illustrates the contribution of buffalo, cow, and goat milk to total milk production. This analysis shows that Indigenous Buffaloes contribute almost 35% to total milk production. Crossbred cows contribute 26 percent. Native cows contribute 10% of total milk production. Non-descript cows make up 11% and non-descript bisons 14%. Goat milk is responsible for 3% in total milk production.

Growing Demand for Milk and Milk Products

India's main drivers of milk consumption include increasing per capita income, increased population growth, as well as urbanization. Changing lifestyles and increased purchasing power have led to an increase in milk consumption. For the majority of the country's vegetarian population, milk is their only source for animal protein. This is due to the increased demand for high-protein diets and easier access through channels like organized retail chains to dairy products.

Both in urban and rural areas, the number of people who have had milk have increased. The 2011-12 Consumer Expenditure Survey of NSSO showed that 78% and 85% respectively of urban and rural residents had consumed milk in the country. These numbers suggest that milk and other dairy products will be in high demand¹⁵.

National Action Plan for Dairy Development

A National Action Plan developed by the Department of Animal Husbandry and Dairy. Two main goals are at the heart of Dairy Development

Increase in per capita availability of milk production

To increase national milk production to 163.7 Million MT in 2016-17, and to 254.55 MT by 2021-22 in order to meet increasing demand. Average milk animal productivity must increase annually by 4.7% to 6.14 Kg PD in order to achieve the milk production targets. This would replace the current 4.65 Kg PD.

Rural Milk producers access to organized milk processing sector

Rural milk producers can expect to double or triple their income if they have greater access to organized milk production. About 20% of milk goes to cooperative and private dairy while 32% go to unorganized markets. 48% of milk is consumed locally. 40% of milk is sold through the organized sector and 60% by non-organized. 90% of milk surplus is sold and processed through the organized sector in most countries. As people get older, their income per person rises, which means they have more choices in terms of lifestyle, food choices and export opportunities¹⁶.

Dairy Cooperative Societies

Milk producer's cooperative societies use a three-tiered structure. They are registered under the Co-operative Societies Act 64 and Mutually Aided Cooperative Societies Act 95.

A. Village Cooperative Society, (DCS): This is the core structure for Village Cooperative Societies India. A DCS member is any producer who purchases shares and agrees to only sell milk to the society. Every DCS has a milk collection center where members can pick up their milk each day. Quality testing is required for every member's milk. Payments are based on the

amount of fat and non-fat. As a patronage reward, members receive a percentage of DCS profits based on the number of milks they have poured in a calendar year.

B. District Cooperative Milk Producers Union owns and manages dairy cooperatives. The Union buys all milk from these societies, processes it, and then markets it. Many Unions offer many services and inputs to DCSs. These services include feed, veterinarian treatments, and artificial Insemination. These services are offered to help cooperative milk production grow. Union staff is available to provide training and consultation for DCS leaders.

C. The State Federation: Cooperative milk producers' unions are organized in a state form. The State Federation sells fluid dairy products and other products through its member organizations. Some federations also produce and support union activities with feed¹⁷.

The current Status of Dairy Cooperative Societies

There were 222 dairy cooperative milk unions covering 17.01 million farmers as of December 2018. They are part the 1,94,007 village level dairy corporative societies. The average daily milk production by the Cooperative Milk Unions in 2017-18 was 464.34 million Kg. This compares to the 494.27 million Kg per day in 2017, which saw an increase of 6.1%. In 2017-18, the Cooperative Dairies sold 370.04 millions liters of liquid dairy milk per day. This is an increase of 6.1% from December 2018. This represents an increase of 4.8% compared to the 353.05 million liters per day in 2017-18.

Policies for Dairy Development in India

The Central Sector Scheme is being implemented by the Department. National Programme for Dairy Development, Dairy Entrepreneurship Development Schemes (DEDS), National Dairy Plan Phase – I (NDP-I), Supporting State Cooperative Dairy Federations (SSCDF), as part of Umbrella Scheme namely "White Revolution", Dairy Processing & Infrastructure Development Funds (DIDF).

National Programme for Dairy Development (NPDD)

The National Programme for Dairy Development was launched in March 2014. The 12th Plan had a value of Rs.600 crore. 2016-17. The NPDD focuses on creating/strengthening of infrastructure for Production of quality milk, Procurement, Processing and Marketing of Milk & Milk Products by the State Implementing Agency (SIA) i.e. State Cooperative Milk Producers Union/ State Cooperative Dairy Federations. This program covers milk chilling and milk marketing and processing. These services include Cattle training and induction for farmers.

Four projects were approved by the programme for Telangana State. The budget was Rs.2916.99 Crores and the central portion was Rs.2277.81crores. The central government released Rs.1768.84, Rs.811.75 and an unutilized balance Rs.957.09.

Dairy Entrepreneurship Development Scheme (DEDS)

In September 2010, the Dairy Entrepreneurship Development Scheme was launched. NABARD provides financial assistance for commercially bankable projects through loans from Urban, Rural and Cooperative Banks.

The scheme includes the following activities: Establishment of small dairy units for 2-10 Heifers to rear them; Vermicompost; Purchases and Milko tests and BMCs (upto 5.500L); Transport and Cold storage. Private veterinary clinics. Establishment of milk parlours to produce, procure and cold chain milk, as well as processing and marketing milk.

NABARD, the implementing agency, has paid Rs. DEDS has paid Rs. 17.12.37 crore in back-end capital subsidies to 387872 beneficiaries. 1,02,078 beneficiaries are women and 65,782 SC/ST recipients.

National Dairy Plan Phase-I

National Dairy Plan Phase-I, a multi-state initiative designed to increase the productivity and milk production in order to meet growing demand, is a scientifically-designed initiative. The organization of milk processing will be easier for rural milk producers. NDP-I was adopted in 18 major milk producing countries (including Telangana State). These States account for more than 90% of the country's milk production. The country already sees the benefits of this project. NDP-I, an externally funded project, has a budget of more than Rs 2242 crore. This includes Rs. For International Development Association assistance, Rs. 1584 crore and Rs. India has 176 crore shares and its rupees total 173 crore. In the period 2011-12 to 2017,-18, EIAs accounted for 282 crore.

This scheme provides funding in the form of a 100 percent grant for nutrition and breeding activities. End Implementing Agencies cover 50 percent of capital costs for village milk procurement systems. These are the major activities of Phase 1 of the National Dairy Plan.

a) These are the main components of the breeding enhancement scheme: strength and production (HGM), graded Semen Stations and a pilot model for Viable Doorstep AI services.

b) Under The Animal Nutrition Scheme, Ration Balance Programme and Fodder Initiatives for Development were initiated.

c) Many activities were conducted under the Village Based Milk Procurement System. These activities included the i) Progeny Testing Programme and ii). Pedigree Selection Programme. iii.) Bull Production with Imported Emeryos. iv. Strengthening Semen Stations. Pilot AI Delivery Services. vi. Ration Balancing Program. vii. Fodder Development Programme, vii. Village-Based Milk Procurement Systems.

NDP I approved 577 subprojects that were based on 172 EIAs in November 2017. These subprojects were awarded grant assistance of Rs 1759.97 crore. Sub projects were approved to fund 100 projects in Project Management and Learning activities with a complete budget of Rs 103 millions. NDDDB was awarded Rs 1760 millions in DAHD funding to implement NDP I. The EIAs received Rs 1664.01million upfront and were used for centralized activities. As of Sep 2019, the total fund usage was Rs 49.79 Crore. DAHD awarded Rs 1568.45 crore to NDDDB for implementation of NDP I. EIAs that implemented VBMPs subprojects contributed Rs 379.34 crore. The project will close on the 29th of November 2019, according to the World Bank project closing dates. Projects approved before 29/11/2018 are eligible for up to \$3, 2018.

Supporting Dairy Cooperatives and Farmer Producer Organizations

The Department approved a new Central Sector Scheme, "Supporting dairy cooperatives and farmer producer organizations involved in dairy activities" for 2016-17. The total corpus amounts to Rs. The corpus will be maintained by the National Dairy Development Board in perpetuity. It will also offer working capital soft loans for State Dairy Cooperative Federations. This will ensure farmers have continuous access to credit. The National Dairy Development Board is currently implementing this scheme. It serves many purposes. It serves multiple purposes. b) To provide stable market access to dairy farmers. c) To ensure timely payments are made by State Cooperative Dairy Federations to farmers. d) To allow cooperatives to purchase milk from farmers at a remunerative rate, even during flush season. A sum of

Rs. National Dairy Development Board received Rs.103 crore till December 2018, to implement the scheme for 2017-18.

Dairy Processing & Infrastructure Development Fund (DIDF)

In 2017-18, the Government of India launched the Central Sector Scheme - Dairy Processing and Infrastructure Development Fund. This scheme is designed to improve the efficiency of milk processing plants by modernizing or expanding processing infrastructure. This scheme also aims to produce products with higher value. This project includes maintenance and installation of chilling infrastructure as well as electronic testing equipment. The project will be directly implemented by NDDB/ NCDC through End Borrowers, such as Milk Unions and State Dairy Federations. Milk Producer Companies.

The total cost of the scheme is Rs 10.881 millions, which includes Rs. 8.04 crore for National Bank for Agriculture and Rural Development. Rs. End Borrower's contribution to GoI is Rs. 2,001 crore 864 millions for GoI's interest Subvention R. NCDC and NDDB each will contribute 12 crore towards project management, learning and development. 33 projects have been approved under the scheme "Dairy Processing and Infrastructure Development Fund". This scheme could be of great benefit to 95,000.00 farmers from approximately 50,000 villages.

References:

1. Basavaraj S. Benni (2003). Milk Producers' Co-operative Societies in Karnataka – Performance Indicators. *Kurukshetra*, April, Vol.51, No.6, pp.23–26.
2. Dixit, P.K., Dhaka, J.P., Sajeesh, M.S., and Aravinda Kumar, M.K. (2004). Economics of Milk Production In Kerala- An Inter-Regional Empirical Study. *Indian Journal of Agriculture Economics*. 59(3): 46.
3. FAO Seminar Report (1984).Regional Dairy Development and Training Team for Asia and the Pacific, Report of the FAO Seminar on *Dairying for Rural Development*, Chiang Mai, Thailand, P.3.
4. Ganesh Kumar B (2003). Technological Change in Dairy Farming: A Case Study of Tamil Nadu. *Productivity*, April–June, Vol. 44, No.1, pp.97–104.
5. J.A. Ekpere, May 1979. Rural Cooperatives and Dairy Development - A Nigerian Case. *Cooperative News Digest*, Vol.30, No.5 pp. 83-87.
6. Mahadeo S Deshmukh (2014).Growth and performance of Dairy Sector in India. *Voice of Research*, vol 3, ISSN 2277 – 7733, PP 39 – 44.
7. Meena, G.L., Jain, D.K. and Dhaka, J.P. (2009). Impact of Dairy Cooperatives on Income and Employment Generation of Milk Producers in Alwar District (Rajasthan). *Journal of Dairying, Foods and Home Sciences*. 28(1).
8. Nagarajan P & Parvathi, (2010.). Challenges for Dairy Cooperatives in 21st Century. *Tamilnadu Journal of Cooperation*. Vol.10, No.6, April 2010, pp.31- 36.
9. Nargunde A. Satish (2013). Role of Dairy Industry in Rural Development. *International Journal of Advanced Research in Engineering and Technology*. Vol. 4(2).
10. Nizamuddin Khan, Ashish Kumar Parashari, et. al.(2014). Role of Dairy Co-Operatives in Socio-Economic Development of Dairy Farmers in Moradabad District: A Case Study. *International Journal of Social Sciences*; ISSN: 2348 4411 Volume-2, Issue-1, PP 1-8.

11. Usha Tuteja and Narinder Singh.(2004). Employment and Income Generation Through Livestock Based Milk Processing Units In Rural Haryana. *Indian Journal of Agriculture Economics.*, **59**(3): 658-659.
12. Veerakumaran G, (2009). Problems and Prospects of Milk Cooperatives in Kerala. *The Cooperator*. Vol .46, No. 9, pp.399-402.
13. Sangameswaran R, Sunitha P, Ramesh K, Sundar A & Singh RP (2017). .An Empirical Analysis of Dairy Cooperative Societies Performance in Salem District of Tamilnadu Milk Producers Perspective. *TECHNOFAME-A Journal of Multidisciplinary Advance Research* [8] Vol. 6, No. 2, pp. 8-11.
14. Sharma,B.L. and Sharma, R.C.(2004). Contribution of Dairy and Crop Enterprises to the Economy of the Rural Families in semi arid region of "Rajsthan", *Indian Journal of Agricultural Economics* 59(3): 608.
15. Shukla,G.G. *et.al* (2009). Mini Dairy for sustainable live hood of the Rural poor. *Indian Dairyman* 61(3): 136-141.
16. Tomar, B.S *et. al.*(2004). Trends in Bovine Livestock and Economics of Dairying in Haryana., *Indian Journal of Agricultural economics*. 59(3): 620.
17. Sreenivasaiah. K, J.A. Arul Chellakumar (2016). Role of Milk Cooperatives In Village Development Of Karnataka State. IOSR. *Journal of Business and Management* (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 18, Issue 8 .Ver. I, PP 23-29.