

CO-OPERATIVE DAIRYING AND FOOD SAFETY REGULATIONS



Food Safety and Standards Authority of India

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Lesson 1

Cooperative Dairying

Introduction and history of co-operative movement



- i. The word 'co-operative' suggests working together and with others for a common objective. Co-operatives are businesses owned and run by its members. Whether the members are the customers, employees or residents; they have an equal say in what the business does and a share in the profits.
- ii. Co-operative alias Co-operative Society (as defined by ICA) is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.
- iii. The International Co-operative Alliance (ICA) is a non-profit international association established in London, England on 19 August, 1895 during the First Co-operative Congress to advance the co-operative model. The Alliance is the apex organization for co-operatives worldwide, representing 303 members across 105 countries. The Alliance was one of the only international organizations to survive both World War I and World War II. The members of the Alliance are national level co-operative federations, individual co-operative, organizations that support co-operatives, and government offices concerned with co-operatives. The Alliance provides a global voice and forum for knowledge, expertise and coordinated action for and about co-operatives. The ICA works with global and regional governments and organizations to create the legislative environments that allow co-operatives to form and grow. Overcoming all the political differences between its members was difficult, but the Alliance survived by staying committed to peace, democracy, and by remaining politically neutral. The present global office is at Brussels, Belgium) From India, some members of agricultural sector are IFFCO (Indian Farmers Fertilizer Cooperative), KRIBHCO (KrishakBharathi Cooperative), and NAFED (National Agricultural Co-operative Marketing Federation of India Ltd) etc.

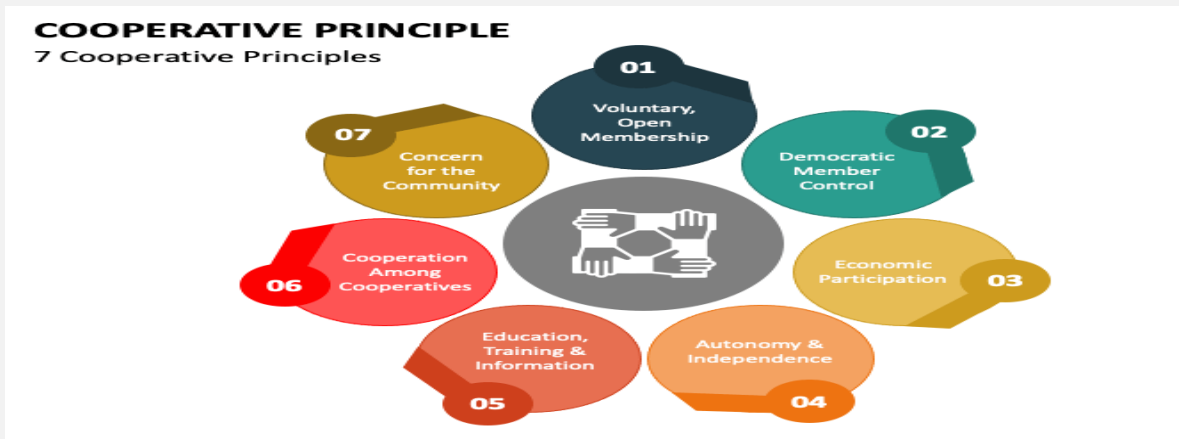
- iv. As businesses driven by values not just profit, co-operatives share internationally agreed principles; and act together to build a better world through co-operation.
- v. The earliest record of a co-operative comes from Fenwick, Scotland where, in March 14, 1761, in a barely furnished cottage local weavers manhandled a sack of oatmeal into John Walker's whitewashed front room and began selling the contents at a discount, forming the Fenwick Weavers' Society.
- vi. There is a plethora of records of co-operatives started out as small grassroots organizations in Western Europe, North America and Japan in the middle of the nineteenth century, however, it is the Rochdale Pioneers that are generally regarded as the prototype of the modern cooperative society and the founders of the Co-operative Movement in 1844.
- vii. In 1844 a group of 28 artisans working in the cotton mills in the town of Rochdale, in the north of England established the first modern co-operative business, the Rochdale Equitable Pioneers Society. The weavers faced miserable working conditions and low wages, and they could not afford the high prices of food and household goods. They decided that by pooling their scarce resources and working together they could access basic goods at a lower price. Initially, there were only four items for sale: flour, oatmeal, sugar and butter.
- viii. The Pioneers decided that if shoppers (customers) were to be treated with honesty, openness and respect, they should be able to share the profits that they contributed to and that they should have a democratic right to have a say in the business. Every customer of the shop became a member and so had a true stake in the business. At first the co-operative was open for only two nights a week, but within three months, business had grown so much that it was open five days a week.
- ix. An independently formulated co-operative model was developed in Germany by Friedrich Wilhelm Raiffeisen and Franz Hermann Schultz-Delitsch. Raiffeisen and Schultz-Delitsch originally formed credit unions in 1862. Since then the model has grown into other sectors and inspired the growth of financial co-operatives across the world. Today the sector is estimated to have around 1 billion members. Co-operatives employ, directly or indirectly, 250 million people around the world.
- x.

Co-operative values

Co-operatives are based on the values of **self-help, self-responsibility, democracy, equality, equity and solidarity**. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

Lesson 2

Co-operative Principles



The co-operative principles are guidelines by which co-operatives put their values into practice. The principles that underpinned co-operatives' way of doing business during the earlier days are still accepted today as the foundations upon which all co-operatives operate. These principles have been revised and updated, but remain essentially the same as those practiced by the Pioneers in 1844. In 1995, the ICA adopted the revised statement on the Co-operative Identity which contains the definition of a co-operative, the values of co-operatives, and the seven co-operative principles as described below.

1. Voluntary and Open Membership

Co-operatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

2. Democratic Member Control

Co-operatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary co-operatives members have equal voting rights (one member, one vote) and co-operatives at other levels are also organized in a democratic manner.

3. Member Economic Participation

Members contribute equitably to, and democratically control, the capital of their co-operative. At least part of that capital is usually the common property of the co-operative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing

their co-operative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the co-operative; and supporting other activities approved by the membership.

4. Autonomy and Independence

Co-operatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their co-operative autonomy.

5. Education, Training and Information

Co-operatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their cooperatives. They inform the general public - particularly young people and opinion leaders - about the nature and benefits of co-operation.

6. Co-operation among Co-operatives

Co-operatives serve their members most effectively and strengthen the co-operative movement by working together through local, national, regional and international structures.

7. Concern for Community

Co-operatives work for the sustainable development of their communities through policies approved by their members.

8. Co-operative form of organization

A cooperative is a form of business organization in which the business is owned and controlled by those who use its services. The main objective of the co-operative is the welfare of its members. They are motivated by their need to protect their economic interests in the face of possible exploitation at the hands of middlemen preoccupied with the desire to earn more profits.

A cooperative may be organized as a legal entity under a Co-operative Act passed by the Government or it can be unincorporated. Unincorporated means 'not legally registered'. Cooperatives are organized primarily for the purpose of providing service to their user-owners, rather than to generate profit for investors.

Lesson 3

Differentiation of cooperatives with other forms of organizations

The differences between co-operatives and companies can be given as below

Sl. No.	Measure	Co-operative	Companies
1.	Objective	To provide essential service to the benefit of members	To earn profits
2.	Membership	Drawn from a locality	Drawn from any part of the country
3.	Liability	Limited (the condition by which shareholders are legally responsible for the debts of a company only to the extent of the nominal value of their shares)	Unlimited (refers to the legal obligations to general partners and sole proprietors because they are liable for all business debts if the business can't pay its liabilities)
4.	Capital	May or may not have share capital. Shares cannot be transferred.	Capital divided into shares by shareholders. Shares are freely transferable.
5.	Surplus	Profits/surplus earned by a cooperative is given away to the members	Profits are distributed by way of dividend, which varies according to the amount of capital invested by individual members.

Lesson 4

Types of co-operatives

Based on the nature of their operation, co-operatives can be of the following types

1.Consumer co-operatives

These societies are formed to protect the interest of general consumers by making consumer goods available at a reasonable price. The members consist of consumers, who prefer to obtain good quality products. They buy goods directly from the producers or manufacturers and thereby eliminate the middlemen in the process of distribution. Kendriya Bhandar(Central Govt. Employees Co-op. Society – 1963 – Central Excise Collectorate and Port Trust, Kochi) ,Apna Bazar (1948 in Mumbai under Maharashtra Co-operative Societies Act) and Sahkari Bhandar(Mumbai now run by Reliance Retail) are examples of consumers' co-operative society.

2.Producer Co-operatives

These societies are formed to protect the interest of small producers by making available items of their need for production like raw materials, tools and equipments, machinery, etc, in order to produce goods required for the consumers. The objective of the society is to fight against big capitalists and increase the bargaining power of small producers. Handloom societies, primary milk societies, agriculture societies etc are examples of producers' co-operative societies. Profit is shared among the members.

3.Marketing Co-operatives

These societies are formed by small producers and manufacturers who find it difficult to sell their products individually. The society collects the products from the individual members and takes the responsibility of selling those products in the market creating reasonable profit for the producers. It works to eliminate middlemen and ensure a competitive position for its members by securing a favorable market for its members. Gujarat Co-operative Milk Marketing Federation that sells AMUL milk products, Milma, Aavinetc are examples of marketing co-operative society.

4.Farming co-operatives

These societies are formed by small farmers (fragmented land) to work jointly and thereby enjoy the benefits of large-scale farming. They are given inputs (seeds, fertilizers, machinery etc.) at a reasonable price. This not only helps the farmers in improving yields and returns, but also solves the problems relating to transportation, warehousing, packaging etc, to sell the output for the best possible price. Profits are shared according to each member's investment. Lift-irrigation cooperative societies and pani-panchayats are some of the examples of co-operative farming society.

5.Credit Co-operatives

These societies are formed to provide financial support to the members. The society accepts deposits from members and grants them loans at reasonable rates of interest in times of need. There are agricultural credit co-operatives and non-agricultural credit cooperatives. Village Service Co-operative Society and Urban Cooperative Banks are examples of co-operative credit society

6.Housing Co-operatives

These societies are formed to provide residential houses to members. They purchase land, develop it and construct houses or flats and allot the same to members. Some societies also provide loans at low rate of interest to members to construct their own houses. The Employees' Housing Societies and Metropolitan Housing Co-operative Society are examples of housing co-operative society. Stamp duty is waived off in these societies.

Cooperative Movement in India

The cooperative movement in India can be divided under two periods – pre-independence era and post-independence era.

Pre-independence era

The pre- independence era can be divided into 4 stages – initiation stage, modification stage, expansion stage and restructuring stage.

1.Initiation stage (1904-11)

- i. The miserable plight of the farmers under exploitation by money lenders (rural indebtedness) and their agitation (in Maharashtra) prompted the British Government to pass three acts - the Deccan Agriculture Relief Act (1879) – relief oriented; the Land Improvement Loan Act (1883) – development oriented and the Agriculturist's Loan Act (1884) – Welfare oriented.
- ii. During 1892, the Madras Government appointed Frederick Nicholson to study the village banks organized on co-operative lines in Germany. On his return he submitted a report. The name of the report was “Find Raiffeissen”. In the report he suggested to establish co-operative societies for supplying rural credit.
- iii. The Famine Commission of 1901 strongly recommended that in order to prevent famine, agriculturists should be granted loans to improve agriculture. By 1904, the Co-operative Society Act was passed. (Relief oriented agricultural credit policy)
- iv. Rural-urban classification of societies was made. Rural co-operative societies were to be organized on the basis of Raiffeisen Model where liability was unlimited and loans were granted to the members only for productive purposes. Urban credit societies were

organized on the basis of Shulze-delitzsch Model where liability was limited and the societies also carried out certain non-credit functions.

2.Modification stage (1912-18)

- i. The shortcomings of the Act were rectified by enacting another Co-operative Societies Act of 1912. The new Act provided legal protection to all types of co-operatives including central financing agencies and supervising unions.
- ii. Since this Act provided for the registration of all types of co-operative societies, it led to the emergence of rural co-operatives both on credit front and non-credit front, but this growth was uneven spatially.
- iii. In 1914 the Government appointed a committee under the chairmanship of Sir Edward Mac Lagan to review the progress of co-operative movement. The report of the committee came out in 1915.
- iv. The committee observed that illiteracy and ignorance of the masses, misappropriation of funds, rampant nepotism, inordinate delay in granting loans and viewing co-operative movement as a government movement were some of the glaring defects of the co-operative movement. These observations prompted Mac Lagan to offer suggestions for the effective and smooth functioning of the co-operative societies, but were not implemented because of First World War.

3.Expansion stage (1919-29)

- i. Under the Montague-Chelmsford Act of 1919 (reforms to introduce self-governing institutions in India), co-operation became a provincial subject which gave further momentum to the movement. Various states passed their own Acts to make cooperative movement a successful one. The membership of the co-operative societies increased considerably during this period.
- ii. The same period also witnessed the birth of co-operative land mortgage banks first in Punjab and subsequently land mortgage banks were registered in Madras (1925) and Bombay (1926). The year 1929 witnessed a worldwide economic depression. The prices of the agricultural commodities fell down to a remarkable extent. Unemployment along with other economic crises grew up. The agriculturists could not pay back the loans of the societies. Over dues increased unexpectedly and co-operative societies were ruined.

4.Restructuring stage (1930-1946)

- i. Various enquiry committees, viz., VijayaRaghavAcharya Committee in Madras, Rehabilitation Enquiry Committees of Travancore and Mysore, Kale Committee in Gwalior, Mehta and Bhansali Committee in Bombay and Wace Committee in Punjab etc. were appointed for examining the possibilities of restructuring the co-operative societies.

- ii. The Indian Central Banking Enquiry Committee (1931) highlighted the glaring lacunae, particularly with reference to undue delays and inadequacy of credit. Meanwhile the Madras Co-operative Societies Act of 1932 and the Madras Co-operative Land Mortgage Banks Act of 1934 came into force with the former aiming at the growth of co-operative movement, while the latter for developing the long-term credit.
- iii. In 1937 the Congress Ministry came to power in many states and revived interest in organizing the cooperative movement. They conducted enquiries about the failure of the cooperative societies and made provisions for payment of over-dues.
- iv. Then there was the Second World War. The abnormal conditions created by Second World War led to far-reaching developments in the co-operative movement. Prices of agricultural commodities began to rise. The rural farmer got extra economic gains. Non- credit societies like marketing, production and consumer societies increased rapidly.
- v. The working capital of co-operative societies also increased. The co-operative societies gained in strength and vigor. The All-India Co-operative Planning Committee in 1945 also gave a lift to the growth of co-operative movement.

Post-Independence era

- i. After India attained Independence, cooperatives assumed a great significance in poverty removal and faster socio-economic growth. With the advent of the planning process, cooperatives became an integral part of the Five-Year Plans. As a result, they emerged as a distinct segment in our national economy. In the First Five Year Plan, it was specifically stated that the success of the Plan would be judged, among other things, by the extent it was implemented through cooperative organizations.
- ii. The All-India Rural Credit Survey Committee Report, 1954 recommended an integrated approach to cooperative credit and emphasized the need for viable credit cooperative societies by expanding their area of operation, encouraging rural savings and diversifying business. The Committee also recommended for Government participation in the share capital of the cooperatives.
- iii. In view of these recommendations, different States drew up various schemes for the cooperative movement for organizing large-size societies and provision of State partnership and assistance. During 1960s, further efforts were made to consolidate the cooperative societies by their re-organization. Consequently, the number of primary agricultural cooperative credit societies was reduced from around two lakhs to 92,000.
- iv. In 1958 the National Development Council (NDC) had recommended a national policy on cooperatives. Jawaharlal Nehru had a strong faith in the cooperative movement. The cooperative sector has been playing a distinct and significant role in the country's process

of socio-economic development. There has been a substantial growth of this sector in diverse areas of the economy during the past few decades.

- v. The number of all types of cooperatives increased from 1.81 lakh in 1950 to 6.10 lakh in 2016. The total membership of cooperative societies increased from 1.55 Crore to 24.93Crore during the same period. (NCUI statistics) The cooperatives have been operating in various areas of the economy such as credit, production, processing, marketing, input distribution, housing, dairying and textiles. In some of the areas of their activities like dairying, urban banking and housing, sugar and handlooms, the cooperatives have achieved success to an extent but there are larger areas where they have not been so successful.
- vi. The failure of cooperatives in the country is mainly attributable to: dormant membership and lack of active participation of members in the management of cooperatives. Mounting overdues in cooperative credit institution, lack of mobilization of internal resources and overdependence on Government assistance, lack of professional management. Bureaucratic control and interference in the management, political interference and over-politics have proved harmful to their growth.
- vii. Predominance of vested interests resulting in non-percolation of benefits to a common member, particularly to the class of persons for whom such cooperatives were basically formed, has also retarded the development of cooperatives. These are the areas which need to be attended to by evolving suitable legislative and policy support.

Lesson 5

Dairy Cooperatives - Traditional and Anand Pattern

- i. The dairy co-operatives are mainly of two types – traditional and Anand Pattern dairy co-operatives. The dairy co-operatives registered under the prevalent Co-operative Acts of the time prior to Operation Flood programme are called traditional societies. They were registered based on the byelaw framed by the general body of the society/ Co-operative department.
- ii. The first traditional dairy co-operative of Kerala was registered at Mudavanmugal (Poojappura, Thiruvananthapuram) in 1934 and the traditional milk supply union at Kozhikkode in 1939. These were registered under the Co-operative Societies Regulations/Act of British India for Travancore (1914) and Madras State (1932).
- iii. After independence, societies were registered under the Travancore-Cochin Co-operative Societies Act of 1951 and Madras Co-operative Act of 1932. After the formation of Kerala State in 1956, it took another 13 years to pass the Kerala State Co-operative Societies Act in 1969. A Co-operative department was functional in the state since 1914 under the Travancore state. With the creation of Dairy Development Department in 1962, for registration of co-operatives one Deputy Registrar/Joint Registrar was deputed from Cooperative Department to Dairy Development Department for registration, which was continued till 1996.
- iv. In 1962, there were nearly 150 dairy co-operatives. On 6.1.1996; through an order no. G.O. (P) No. 16/96/AD, the Director of Dairy Development was empowered with the duties of Registrar; which was decentralized to Deputy Directors in 2000 wide G.O. (P) No. 218/2000/AD dated 22.6.2000.
- v. The first dairy plant of Kerala was set up at Patton, Thiruvananthapuram during 1961 with a processing capacity of 6000 litres per day.
- vi. After the implementation of Operation Flood programme, the societies registered were called
- vii. Anand pattern co-operatives because it was based on the Anand model societies started at Gujarat. Anand pattern societies followed a byelaw framed by NDDB and remain the same for all societies. A differentiation between traditional and Anand pattern is given below:

No	Feature	Traditional Society	Anand Pattern Co-operative Society
1	Registration time	Registered prior to Operation flood	Registered after Operation Flood
2	Area of Operation	Decided by the General body/ Registering authority	Limited to 2-3 wards of a Panchayath

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3	Byelaw	Framed by the General body/ Registering authority	Byelaw framed by NDDB as per the State Cooperative Act
4	Membership	Open to all – different type of membership classified into classes based on shares taken.	Open to dairy farmers. Same type membership to all. Membership is active only if the farmer pours 500 litres of milk/milk for 180 days every year.
5	No. of levels	Single tier system – Procurement, processing and marketing done by same institutions	Three tier system – Primary Societies, District Unions and State Federation (Activities of procurement, processing and marketing are decentralized)
6	Milk collection and sales	Done by vendors appointed by the society. Milk collection at the producer's premises.	Done at the Collection centre.
7	Pricing	Flat rate for milk of different qualities	Quality pricing based on Fat and SNF (Two Axis Pricing)
8	Milk Value payment	On daily basis /monthly basis	On weekly basis
9	Input services	Limited	Services like feed, veterinary facilities etc provided
	Milk Testing	Carried out at irregular intervals	On daily basis

Evolution of "Anand Pattern"



- i. The success story for this pattern was the cooperation and farmers' desire to have reasonable and uniform price throughout the season for their produce 'MILK'. It all started way back in 1946 when Government agencies concerned, did not heed to the demand by the milk

producers to market their produce through the formation of their own cooperative instead of middlemen, contractors and/ or private organization.

- ii. This resulted in 'Milk Strike' organized on the advice of Late Sardar Vallabhbhai Patel under the leadership of Shri. Morarji Bhai Desai and Shri. Thribhuvan Das Patel. This lasted for fifteen days, during which period (because of the cooperation between all producers) not a single drop of milk reached the market, resulting in acute shortage of milk supply to 'Bombay Milk Scheme'. Its impact was seen in Government's approval of the producers' demand of forming a union to handle milk processing and sale. This formed the basis for the formation of "Kaira District Milk Producers Union" and also the "Anand Pattern" of cooperative Dairy Development.
- iii. This pattern has become the best example of what cooperatives can achieve when receptive and loyal milk producers join hands with dedicated workers with required technical and managerial skills. This has become one of the guiding centres for rural development in India and other developing nations. It disproves the wrong notion that promoting cooperatives in developing countries is a bad bargain.
- iv. The Union which started in 1946 had only two villages and two societies, where only a handful of farmers and few staff were handling 250 liters of milk per day. Today the same Union has capacity to handle more than 50 lakh liters of milk per day. The growth achieved and the popularity of the products from 'AMUL' in the national market, because of their genuineness, quality and reasonable cost, speaks volumes about the pattern.

Anand Pattern/ Amul Pattern



It is the cooperative way of dairy development, which is primarily controlled by the producers themselves. It is a three-tier system composed of village level societies, district level union and state level milk marketing federation. The milk marketing federation performs marketing functions to avoid unhealthy competition between unions to capture the market. All these

components aim at bringing better benefits to the producers and ensuring supply of quality products to consumers at reasonable rates. The profit gained in the bargain goes in giving social and monetary benefits to the producers, which ultimately results in dairy development of the region.

Dairy and Co-operative development during the Five-Year Plans (FYP)



- i. Planning is intended to promote a rapid rise in the standard of living of the people by efficient utilization of the resources of the country, increasing production and offering opportunities for development. The basic goal of planning is to improve the standard of living of the people, through various welfare and socialistic measures.
- ii. Systematic development of Animal husbandry and dairying started after the launching of Five-Year Plans. During the first FYP, 11.22% of the total plan outlay was used on dairy development which went up to 14.77% during the Fourth FYP. But later it was decreased up to 5.93% during the Seventh FYP. Though the amount gets increased every year, the percentage to total plan outlay finds reduction every year which is not good for dairy development.

1.First Five Year Plan (1951-56)

- i. In this plan period 146 Key Village Blocks were established with Artificial Insemination Centers. 650 Veterinary Hospitals and 25 Gosandans were established. By 1952 Aarey Milk Colony was established in Bombay and buffaloes inside the city were transferred to the Colony. Dairy Cooperative Societies were functioning in different parts of the country registered in line with the existing Cooperative Societies' Acts. The silent milk revolution at Kaira (Anand, Gujarat) was going on and it had not reached to the national level.
- ii. In this plan period, total production of milk in the country was 18 million tonnes. During this plan period, in 1955, the Indian Dairy Research Institute was transformed into the National Dairy Research Institute (NDRI). It's headquartered was shifted to Karnal from Bangalore.

2.Second Five Year Plan (1956-61)

The second FYP gave more attention to quality control, paying remunerative price to milk producers and a reasonable price to consumers. Regional Dairy Research Stations were started at Bombay and Calcutta in addition to that in Bangalore. Dairy development departments were started by some states during this period. More of AI centers, Veterinary hospitals, Gosalas and Gosadans were established. 36 fluid milk handling plants and 6 milk product factories were established. By 1959, there were 2257 Co-operative milk supply societies and 77 Milk supply unions.

3.Third Five Year Plan (1961-66)

The supply and collection of milk was taken up by producer cooperatives during this period. The processing and distribution of milk and milk products was also organized in cooperative lines. Madras Milk Supply Scheme was established. Government of India started National Dairy Development Board at Anand in 1965 and the Anand Pattern (APCOS) replication activities were started.

4.Three Annual Plans (1966-69)

The period gave emphasis to the completion of projects whose work was already in progress.

5.Fourth Five Year Plan (1969-74)

During this period 6 milk supply schemes, 2 milk product factories and 32 rural dairy centers were established. Operation Flood (OF-I) was launched in 1970 with the aid from World Food Programme. The emphasis was to increase the milk output in 27 milk shed located in four metropolitan cities – Delhi, Bombay, Madras and Calcutta. Many dairy units were running at loss during the period and the plan was not successful. But milk production increased during the period.

6.Fifth Five Year Plan (1974-78)

The plan aimed at increasing the existing capacities of dairy plants in four metro cities. According to the recommendations of National Commission on Agriculture (1976), 96 projects for rearing heifers were taken up for assisting the rural poor. Operation Flood continued and the total milk production increased.

7.Two Annual Plans – Rolling plans (1978-80)

The annual plans saw the continuation of the existing projects utilizing the funds allocated.

8.Sixth Five Year Plan (1980-85)

Operation Flood II was implemented and more states and milk sheds came under the project. Expected growth was 4.8% and annual milk production increased.

9.Seventh Five Year Plan (1985-90)

During this plan period, the expected rate of growth of milk was 6.5% and the per capita consumption of milk was 149 grams. In the seventh five-year plan, the main stress was given on raising milk production, feed and fodder. Replication of Anand pattern continued on a regular basis under the guidance of NDDB with Operation Flood III.

10.Two Annual Plans (1990-92)

The Eighth Plan could not take off in 1990 due to the fast-changing political situation at the Centre and the years 1990–91 and 1991–92 was treated as Annual Plans. The Eighth Plan was finally formulated for the period 1992–1997. The earlier projects were continued during these plans.

11.Eighth Five Year Plan (1992-97)

This plan gave considerable attention on increasing productivity of milch cows, efficiency of milk co-operatives and strengthening their management. During this plan period the milk production increased up to 70 million Tons. This plan saw the consolidation of Operation Flood programme.

12.Ninth Five Year Plan (1997-2002)

During this plan period milk production of India had reached up to 84 million tonnes. The per capita availability of milk increased from 112 grams to 226 grams per day in 2001-02. The National Project on Cattle and Buffalo Breeding (NPCBB) was initiated in October, 2000 for a period of 10 years. The project envisages genetic up-gradation of indigenous cattle and buffaloes, development and conservation of important indigenous breeds and to evolve sustainable breeding policy.

13.Tenth Five Year Plan (2002-2007)

The plan gave considerable attention on withdrawal of MMPO, Introduction of National Project on Cattle and Buffalo Improvement Programme, Creation of Database and Information Network, Conservation of threatened livestock breeds, feed and fodder production enhancement and to raise clean milk production.

14.Eleventh Five- Year Plan (2007-12)

- i. The plan intended to increase the milk production as well as growth rate of 7%. Perspective 2010 – a programme for taking the dairy co-operative movement to highest potential was launched by NDDDB utilizing the network created by Operation Flood programme. Twelfth Five Year Plan (2012-17)
- ii. The Twelfth Plan tried to address the problems like growth of unproductive cattle, declining fodder base, breeding strategies, climate issues etc by involving dairy cooperatives in breed and feed issues, revisiting breeding strategies and making fodder development highly prioritized in both animal husbandry and crop programmes.

Important Developments in Different Five-Year Plans

Five-year plan	Key developments
First Five-Year Plan (1951– 56)	Establishment of Key Village Schemes (1952) 146 key village blocks with AI centers Establishment of 650 veterinary hospitals
Second Five Year Plan (1956 – 61)	Establishment of 196 key village blocks with 670 AI centers Establishment of 1900 veterinary hospitals
Third Five Year Plan (1961 – 66)	143 government milk supply schemes in big towns Establishment of NDDDB, Establishment of a separate department for dairy development in each State
Fourth Five Year Plan (1969 – 74)	Launch of Operation Flood, phase I Establishment of progeny testing scheme – All India Co-ordinated Project on Buffaloes. Shift of breeding policy from dual purpose cows to cross-bred cows. Formation of Indian Dairy Corporation.
Fifth Five Year Plan (1974 – 79)	Implementation of Operation Flood, phase II
Sixth Five Year Plan (1980 –85)	Establishment of frozen semen stations in different States
Seventh Five Year Plan (1985 – 90)	Implementation of Operation Flood, phase III
Eight Five Year plan (1992-97)	Frozen semen technology based upon progeny bulls

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Ninth Five Year plan (1997-02)	Effective health coverage to reduce economic losses due to diseases
Tenth Five Year Plan (2002 – 07)	Conservation of threatened indigenous breeds
Eleventh Five Year Plan (2007 – 12)	National Agricultural Development Programme (NADP). National Project for Cattle and Buffalo Breeding (NPCBB).

Plan Outlay and Expenditure on Animal Husbandry and Dairying during Five Year Plans

(Rs. In Millions)

Sr. No.	Plan Period	Total Plan Outlay	Amt. Spent on Animal Husbandry (A)	Amt. Spent on Dairying (B)	Total (A +B)
1	I Plan (1951-1956)	1960	141.9	78.1	220(11.22)
2	II Plan (1956-1961)	4600	385	190	575(12.5)
3	III Plan (1961-1966)	8573	547	360.5	907.5(10.59)
4	Three Annual Plans (1966-1969)	6626	413.3	261.4	674.7(10.18)
5	IV Plan (1969-1974)	15778.9	940.6	1389.7	2330.3(14.77)
6	V Plan (1974-1978)	39303.4	3095.6	1279.8	4375.4(11.13)
7	Two Annual Plans (1978-1980)	N.A.	N.A.	N.A.	2669.9
8	VI Plan (1980-1985)	97500	3896.4	4623	8519.4(8.74)
9	VII Plan (1985-1990)	322366	11585.5	7517.9	19102.4(5.93)
10	VIII plan (1992-1997)	N.A.	4000	9000	13000
11	IX Plan (1997-2002)	N.A.	N.A.	4850	19650
12	X Plan (2002-07)	N.A.	N.A.	N.A.	25000

Note: 1) N.A. indicates Not Available

2) Figures in parentheses denote percentage to total plan outlay

Source: Planning Commission Documents on Five Year Plans, Ministry of Agriculture and Co-operative, GOI.

Operation flood Programme



- i. Government of India launched a massive dairy development programme popularly known as Operation Flood (OF) from 1970 to 1996. The programme was initially started with the help of the World Food Programme (WFP) and later continued with dairy commodity assistance from the European Economic Community (EEC) and a soft loan / credit from the World Bank.
- ii. The OF programme established milk producers' cooperatives in villages and made modern technology available to them. The broad objectives were to increase milk production ("a flood of milk"), augment rural incomes and transfer to milk producers the profits of milk marketing that were hitherto enjoyed by well-to-do middlemen. This kind of innovative effort has greatly increased milk production and ushered in a "White Revolution", making India the world's largest milk producer.

Agencies behind the Operation Flood

Operation Flood was promoted by the proper functioning of two main agencies in the country.

National Dairy Development Board (NDDB)



It was constituted by the Ministry of Agriculture and Irrigation, under the Societies Registration Act, in 1965. Its headquarters is at Anand. During its initial stages, NDDB was assisted financially by the Government of India, the Danish Government and by AMUL. In 1969, NDDB formulated an integrated dairy development programme under Dr. Varghese Kurien, founding Chairman. It was accepted by Government of India in 1970 and it functioned as a corner stone for the Operation Flood I.

Indian Dairy Corporation (IDC)



- i. In 1970 the Government of India established a public sector company, the Indian Dairy Corporation (IDC). It functioned as a finance and promotion link for the Phase I programme of Operation Flood. The IDC was given responsibility for receiving the project's donated commodities, testing their quality, their storage and transfer to user dairies and receiving the dairies' payments.
- ii.

Implementation of Operation Flood



The programme was implemented in three phases

1.Operation Flood I [1970-1981]: Started in 1970, it envisaged certain specific targets

- i. The organization of ten million farmers into 30,000 village cooperatives in virtually all the states of India
- ii. Establishing a national buffer stock of skim milk powder and butter oil.
- iii. The evolution of a national milk grid covering all parts of India and connecting all the major consumption and production centers.
- iv. To help the State Dairy Co-operative Federations to set up processing facilities and to develop the National Milk Herd of ten million improved buffaloes and dairy cattle.
- v. To increase the daily per capita consumption of milk from 107 grams in 1970 to 144 grams in 1985.
- vi. During its first phase, the project aimed at linking India's 18 best milksheds with the milk markets of the four metropolitan cities of Delhi, Mumbai, Calcutta and Madras. The programme visualized organizing dairy cooperatives at the village level, creating the physical and institutional infrastructure for milk procurement, processing and marketing services at the union level and establishing dairies in India's major metropolitan centers.

2.Operation Flood II [1981-1985]

- i. The second phase of the programme was implemented between 1981 and 1985. It was an extension and intensification of the first phase to cover more cities and districts in India. Both in terms of the financial outlay involved [Rs. 4800 million] and of the geographical coverage (160 districts) it was one of the biggest dairy development projects ever undertaken in India by the National Dairy Development Board. The main objectives of the project are
 - a) To build up the infrastructure for the development of a growing and self-reliant dairy industry consisting of 10 million rural families of milk producers and a national milch herd of about 14 million crossbred cows and she-buffaloes by middle 1980s;
 - b) To link up the rural supply sources and urban demand centers (with a population of 150 million) through the establishment of approximate marketing arrangements; and to increase per capita consumption of milk in the national diet.
- ii. With Operation Flood II, a self-sustaining system of 43,000 village co-operatives covering 4.25 million milk producers had become a reality. Phase II mainly emphasized to build infrastructure for technical input services and management services. Phase II built on the foundations established by Phase I.

3.Operation Flood III [1987-1996]

- i. The third phase of the Operation Flood (1987-1996) enabled dairy co-operatives to expand and strengthen the infrastructure required to procure and market increasing volumes of milk. Phase III consolidated India's dairy co-operative movement by adding 69,600 new dairy co-operative societies and thereby covering 90 lakhs milk producer members. These co-operatives form part of the National Milk Grid which today links the milk producers with consumers in more than 799 towns and cities, bridging the gap between the seasonal and regional variation in the availability of milk while at the same time ensuring a remunerative price to the producers and supplying quality milk and milk products to the consumers.
- ii. Phase III gave increased emphasis to research and development in animal health and animal nutrition. Innovations like vaccine for Theileriosis, bypass protein feed and urea-molasses mineral blocks, all contributed to the enhanced productivity of milch animals

The achievement of Operation Flood from 1970- 1996 with select indicators

Indicator	Operation Flood Phases		
	Phase I	Phase II	Phase III
Date started	July 1970	Oct. 1979	April 1985
Date concluded	March 1981	March 1985	March 1996
Investments (Rs. million)	1,165	2,772	13,031
Number of federations operating	10	18	22
Number of milk sheds covered	39	136	170
Number of dairy co-operative societies set up (Thousands)	13.3	34.5	72.5
Number of members (million)	1.75	3.63	9.26
Average milk procurement (million kg/day)	2.56	5.78	10.99
Liquid milk marketing (million liters/day)	2.79	5.01	10.02
Rural dairies (million litres/day)	3.59	8.78	18.09
Metro dairies (million litres/day)	2.9	3.5	3.88
Milk drying capacity (mt/day)	261.0	507.5	842.0
Number of artificial insemination centres (thousands)	4.9	7.5	16.8
Number of AIs done (million / year)	0.82	1.33	3.94
Cattle feed capacity (thousand mt/day)	1.7	3.3	4.9

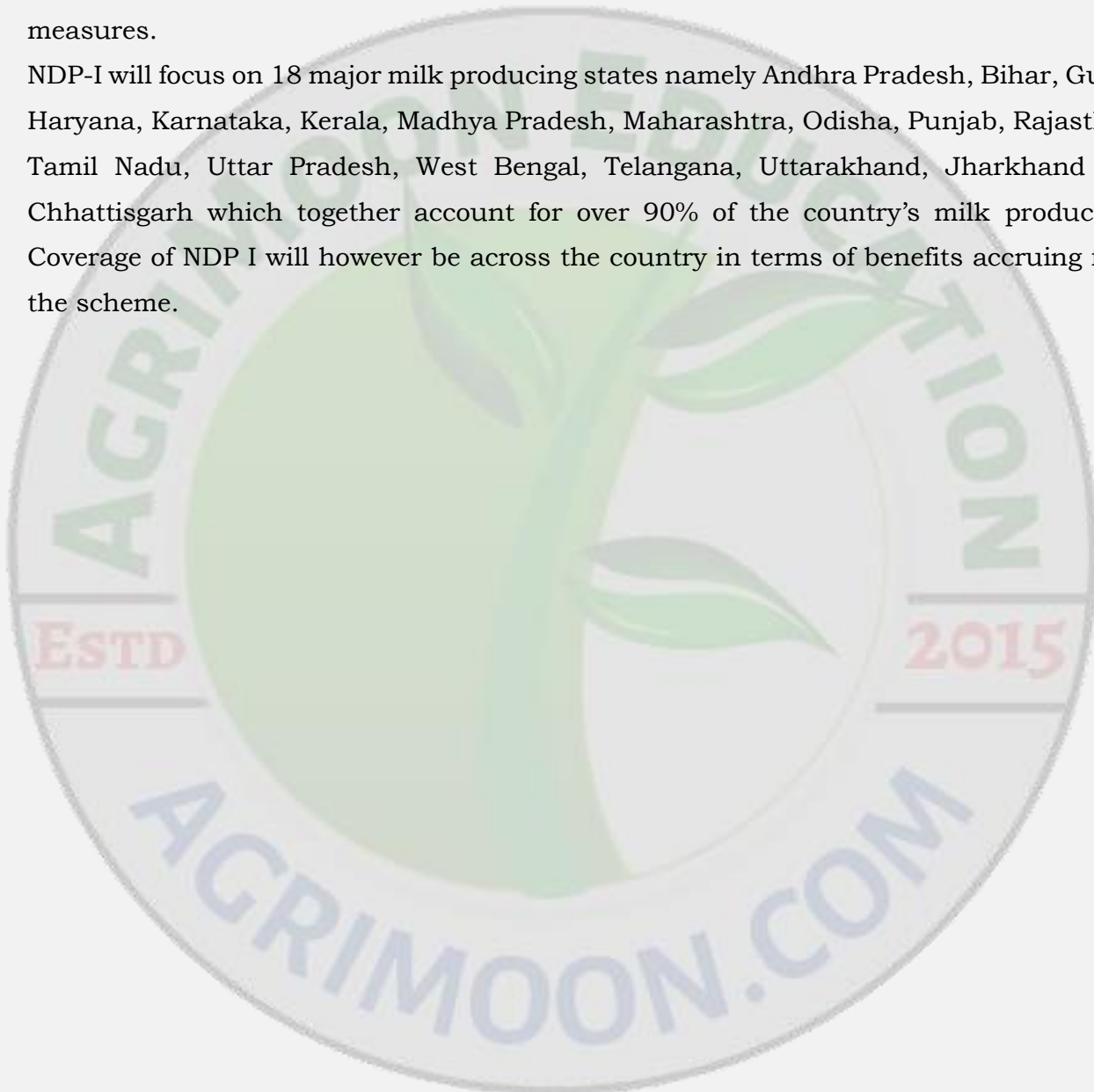
1.Perspective 2010

- i. Operation Flood (1970-1996) paved the way to take up new initiatives and create new conditions to firm up India's world leadership in milk production. The new challenge for the dairy industry was to explore ways to emerge stronger using the network created under Operation Flood.
- ii. The response was 'Perspective 2010', a plan that attempts to take the dairy co-operative movement to its highest potential. 'Perspective 2010' focused on four key areas. These include strengthening Co-operative Business, Production Enhancement, Assuring Quality and creating a National Information Network. NDDB facilitated the planning process and provided technical support and need based finance for implementing 'Perspective 2010'.

2.National Dairy Plan

- i. National Dairy Plan Phase I (NDP-I) is a Central Sector Scheme for a period of 2011-12 to 2018-19 implemented by NDDB. NDP I is implemented with a total investment of about Rs. 22.42 billion comprising Rs. 15.84 billion as International Development Association (IDA) credit, Rs. 1.76 billion as Government of India share, Rs. 2.82 billion as share of End Implementing Agencies (EIAs) that will carry out the projects in participating states and Rs. 2 billion by National Dairy Development Board and its subsidiaries for providing technical and implementation support to the project.

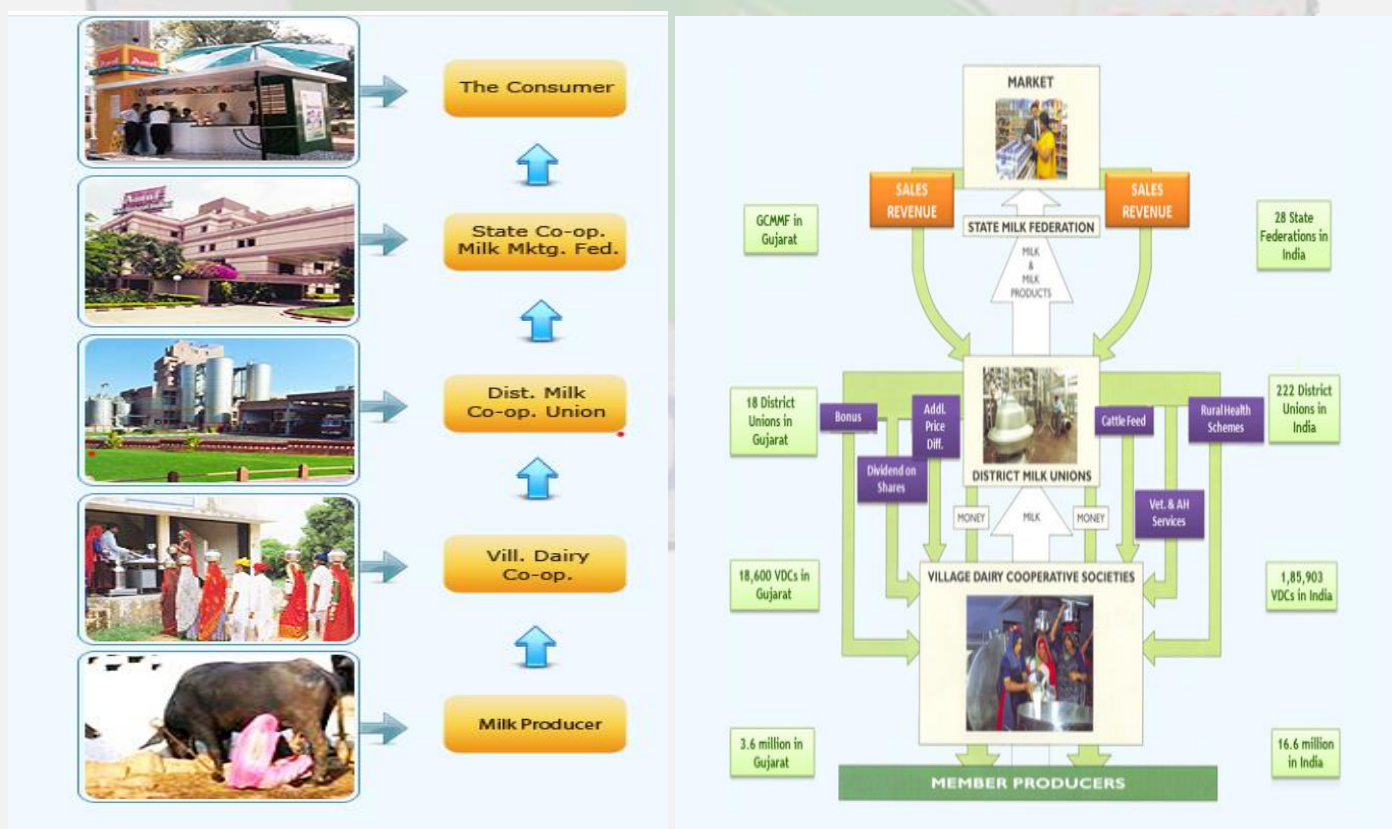
- ii. NDP-I is a scientifically planned multi-state initiative with the following Project Development Objectives:
- iii. To help increase productivity of milch animals and thereby increase milk production to meet the rapidly growing demand for milk
- iv. To help provide rural milk producers with greater access to the organized milk processing sector
- v. These objectives would be pursued through adoption of focused scientific and systematic processes in provision of technical inputs supported by appropriate policy and regulatory measures.
- vi. NDP-I will focus on 18 major milk producing states namely Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal, Telangana, Uttarakhand, Jharkhand and Chhattisgarh which together account for over 90% of the country's milk production. Coverage of NDP I will however be across the country in terms of benefits accruing from the scheme.



Lesson 6

Organizational pattern of dairy co-operatives in India

- i. The Anand Pattern is essentially an economic organizational pattern to benefit small producers who join hands forming an integrated approach in order to attain economy of a large-scale business. The whole operation is professionally managed so that the individual producers have the freedom to decide their own policies.
- ii. It has succeeded largely because Anand Model involves people in their own development and because their interests are safe in their own hands. Under Operation Flood the entire institutional infrastructure set up at the village level, the district level and the state level is owned and operated by the farmers themselves. The Anand Model co-operatives have progressively eliminated middlemen, bringing the producers in direct contact with consumers.
- iii. The Anand Pattern succeeded because it gave a fair price to the farmer and high - quality milk and milk products to the consumer. What would have been middlemen's profits in the earlier system got absorbed into development projects for primary producer or lower cost for the consumer. In short, the Anand Pattern meant the utilization of resources in the most profitable manner at grass-root level.

The Three Tier Structure of dairy co-operatives

- i. The First Tier is the Primary village Co-operative Society. An Anand Pattern village dairy cooperative society (DCS) is formed by milk producers. Any producer can become a DCS

member by buying a share and committing to sell milk only to the society. Each DCS has a milk collection centre where members take milk every day. Each member's milk is tested for quality with payments based on the percentage of fat and SNF. At the end of each year, a portion of the DCS profits is used to pay each member a patronage bonus based on the quantity of milk poured. This also acts as a vital link for various productivity enhancement and development programmes of farmers programmes.

- ii. The Second Tier is the District Milk Producers' Union. It is owned by dairy cooperative societies. It is a Union of primary village co-operative societies within a district. The Union buys all the societies' milk, then processes and markets fluid milk and products. Union also provides a range of inputs and services to village co-operative societies and their members: feed, veterinary care, artificial insemination to sustain the growth of milk production and the cooperatives' business. Union staff train and provide consulting services to support village co-operative society leaders and staff.
- iii. The Third Tier is the Federation. The cooperative milk producers' union in a state forms a State Federation, which is an apex marketing body responsible for marketing of milk and milk products of member unions. The Federation also plays a role in the overall development of the district unions federated to it. The milk marketing federation also functions to avoid unhealthy competition between unions to capture the market.

Lesson 7**Growth and Development of co-operative dairying in India****Abstract**

India has nearly 1/6 of the world cattle population. Dairying serves to be a subsidiary occupation to the millions of the rural people. There is a growing demand for milk and milk products in urban areas. Rural people lacked a system of dairying based on commercial milk production, collection, transportation, processing and marketing of milk. Exploitation by Private traders taking advantage of such situation – Paying low price to the milk producer, indulging in adulteration of milk and charging high price from the urban consumer.

In first Dairy cooperative society was registered in 1913 at Allahabad in Uttar Pradesh and was called “Katra Cooperative Dairy Society”, Calcutta Cooperative Milk Union was registered in 1919. The Madras Milk Supply Union was established in 1927. By the end of the 1930s, there were 19 milk supply unions covering 264 Primary societies. During the II-nd World War, the increased demand for milk and milk products from the army and acute shortage of milk in urban areas gave a new push to the organisation of many milks’ cooperative societies. However, most of the societies continued to be consumer oriented. The Kaira District Cooperative Milk Producers Union at Anand (Amul) was formed in 1946 and constituted an important landmark in the development of dairy cooperative movement as this was the first producer oriented dairy cooperative forms in India.

Co-operative Marketing

Co-operative marketing is a co-operative association designed to perform one or more marketing functions, relating to the agricultural produce to its members it is a form of business organisation its principle is co-operation. It gives to its producers the full share of money given by the consumers. Co-operative marketing does the functions of buying and selling of agricultural produce. The selling functions of these co-operative marketing are marketing of produce acting as a selling agent, supplying marketing information, standardization, storage assembly processing, etc.

Objectives of Co-operative Marketing

The main objectives of co-operative marketing are as follows:

1. To increase the bargaining power
2. To eliminate malpractices
3. Aiming at replacement of middleman
4. Integrated marketing

Dairy Co-operatives

India proposes a large concentration of milch animals. According to the livestock of 1972 India had 178.9 million cattle and 57.9 million buffaloes. This accounts for more than one-sixth of the world’s milch animal’s population. Though India has a huge bovine population the per capital possession is one of the poorest in the world. Similarly, the per capita milk consumption is the lowest. The productivity of the milch animals is also poor. This indicates that the dairy industry in India is not placed on a sound footing. The need for promoting of dairy in India arises due to several considerations such as low per capita availability of milk, prevalence of large-scale unemployment and under employment in rural areas. Further dairying can be used as a means of developing mixed farming for full utilization of farm products and farm wastes. It will also help

to reduce the milk imports and save valuable foreign exchange. Organizing dairy industry on co-operative dairy industry has been an accepted policy of the government. Therefore, organizing dairy co-operatives is a prerequisite for dairy development in India. Norman wright in his report on the development of cattle and dairy industry. Stressed that “the producer should be furnished with a powerful bargaining weapon in disposing of his produce and could avoid the heavy toll on his income which is associated with the existence of the numerous intermediaries between producer and consumer”.

Evolution and Growth of Dairies Co-operation

Co-operation has made great progress in the field of milk production and marketing in Western countries like Denmark, Narway, Holland, Switzerland, USA etc., In India efforts for organizing dairy industry and trade co-operative lines were made immediately after the enactment the cooperatives studies act 1912. Attempts were made in different parts of the country to organize dairy societies. The Katra Cooperatives Dairy Limited is probably the oldest existing dairy organization registered under the co-operative's societies' act of 1912. The Calcutta co-operative milk produces union limited was registered in 1919. The Madras milk supply union came into being in 1927-1928. Many societies and union were beginning subsequently. These societies and unions are by and large producer's organizations, owned and controlled by the milk producers. The working group in dairy and animal husbandry co-operative appointed by the Government of India (1962) stressed the need for organizing the animal husbandry and dairy co-operative in the country. The committee further recommended the adoption of integrated approach for the development of animal husbandry and dairy co-operatives. The report of all Indian Rural Court Review Committee (1969), and the report of the National Commission of Agriculture (1976). Have given account on the development of weaker sections. The national commission on agriculture advocated the adoption of integrated approach to cooperatives development on the model of the co-operative milk union at Anand. As a result of the plan efforts the dairy co-operatives in the country have made a spectacular progress. At the end of the June 1984, there were 39,678 milk producer's co-operatives with a membership of 35.46 lakh and turnover of Rs.384.05 crore. The level of progress of dairy co-operatives has not been uniform in different states and there has been wide disparity among them. Development is very notable in Gujarat State.

The Anand Pattern

The pattern of milk produces co-operatives the organization structure and the operational system developed by the Katra District Co-operative Milk Producers Union at Anand has come to be known as an **“Anand Pattern”**. The concept of Anand pattern dairy co-operatives could be understood only by a proper understanding of its basic characteristics. It is philosophy and method of organization evolved on the basis of experience. The Anand Model only one institutional structure has proven effective in getting dairy development done, that is unified organization of producers which is responsible for procuring, processing and marketing of member's milk owned and controlled by milk producers and therefore, responsive to producer's needs.

Achievements of Dairy Co-operative

Dairy co-operatives account for the major share of processed liquid milk marketed in the country, milk is processed and marketed by 170 milk producers' cooperative unions, operates in over 285 districts, which federate into 15 state cooperative milk marketing federations, and covers nearly 1,01,000 village level societies owned by nearly 11 million farmer members. This commitment has been rewarded with achievements made by cooperative dairies in milk production, per capita availability of milk, foreign exchange savings and increased farmers' incomes through employment generation. At the same time, India's milk production increased from 21.2 million tons in 1968 to 84.6 million tons in 2001-02. Per capita availability of milk presently is 226

grams per day, up from 112 grams in 1968-69. India's 4 per cent annual growth of milk production surpasses the 2 per cent per year. The annual value of India's milk production amounts to about Rs.8580 million. Dairy cooperatives generate employment opportunities for some 11 million – farm families. Ninety – five per cent of dairy equipment is produced in India, saving valuable for foreign exchange and creating employment opportunities. Milk travels as far as 2,200 kilometres to deficit areas, carried by innovative rail and road milk tankers. Saving rate is also increased income. During the last decade, the daily milk supply to each 1,000 urban consumers has increased from 17.5 to 47.3 litres. In 2001-02, average daily cooperative milk marketing stood at 134.23 lakh litres. Annual growth has averaged about 4 per cent compounded over the last five years. From independence until about 1971, dairy production grew at about 0.7 percent a year. Since then, it has grown at more than 4.7 percent a year. Probably the most interesting and significant effects of the milk cooperatives in India are social changes that the movement has ushered. Since these cooperatives are governed on a democratic system, it has not only inculcated in the farmers a more democratic approach to life's problems, but also increased their awareness of their rights in society. Milk producers-from a whole cross-section of the rural populace-gather at the milk collection centres every day, thus promoting a new level of interaction and harmony among them. Further, exposures to new technologies that are introduced through the Union have been having an educative effect on the villagers. It is generated more income through increasing employment opportunities to the farming community including women folk. It has created employment for minimum one person in a member family. One of the key reasons very poor women prefer to stay home to look after a cow, rather than go out for wage labour. This allows a child (usually a daughter) to stay home to look after younger siblings. The nutrition level for children has increased. It is observed that minimum one litre milk per a family keeps or consumption.

Advantages of Dairy Co-operatives

- i. It brings the rural producers and the urban consumers to direct contact eliminating middleman.
- ii. It gives incentives to producers by providing secured market, remunerative price, regular payment and yearly bonus out of profit.
- iii. It gives scope for functional specialization between primary societies and the federations. The forms concentrating on production and the latter taking care of marketing.
- iv. Payment is made to produces on the basis of quality of milk and this ensures the supply of unadulterated good quality milk.
- v. All the needs of the producers on the like cattle feeds, storage seeds, veterinary aid are met by the cooperative themselves at the doors of the producers.
- vi. Producers can be educated in the latest knowledge on dairy farming through co-operatives.
- vii. Government aids from other agencies are easily routed through co-operatives.
- viii. Milk producers, as members of co-operatives can get loan from the financial institution easily from the financial institution easily for purchase of milch animals.
- ix. Co-operatives provide scope for leadership development among milk producers and are it's susceptible to government interference.

Marketing of Milk and Milk Products

The increased milk production and efficient processing will be of no use unless the district co-operative milk production union develops a satisfactory system of marketing. They have to find marketed for all the milk produced by means of creating and stimulating demand for milk and milk products. Unless we build a consumer demand to keep pace with increased production and collection, we shall be creating chaos. Punjab and Haryana have shown the way of consuming a lot of extra milk they produce through organized milk bars and so on. For developing a stable market for milk and products and National Commission on Agriculture has recommended the

constitution of milk grids to effectively link the producers and consumers by stages. First, they connect different milk sheds to supply to major urban areas and in the second stage various regions of the country will be linked effectively, by means of a national milk grid.

Organizational Setup of Marketing

This section is headed by a superintendent (marketing) who is assisted by an assistant superintendent under who are distribution assistants who are responsible for the receipt of milk in 2 shifts for distribution. Below there are distribution supervisors who are responsible for booth-wise distribution of milk and the booths are managed by the distributors. Among the booth distributions most of them are managed by the distributors. Among the booth distributions most of them are union employees and rest are working on a commission basis of 7 paise per litre. There are separate codes like salesman, coffee bar attenders.

Problems effecting operational efficiency of Dairy co-operatives

The Indian dairy industry is fraught with many difficulties such as inefficiency, deterioration of perishable food items, unsatisfactory quality of commodities, malpractices in weights and measures, mismatch of demand and supply, long waiting times, exorbitant corruption, rude behavior of shopkeepers and poor service delivery. The challenges affecting the operational efficiency in the cooperative sector are as given below;

- i. Milk base mainly consisting of small holders
- ii. Less number of member farmers
- iii. Lower participation in the decision-making process
- iv. Losses due to procurement inefficiency and transportation
- v. Low prices of milk
- vi. Inefficient services given by cooperatives
- vii. Insufficient Infrastructure
- viii. Lack of cold storage facilities
- ix. Gap in the cold chain and transport facilities
- x. Gaps in information system
- xi. Lack of Infrastructure
- xii. Manipulation of the quality of milk by the farmers
- xiii. Seasonality of production and fluctuating supply
- xiv. Absence of quality standards
- xv. Adulteration and Food safety issues
- xvi. Lack of trained and skilled workers
- xvii. The projects undertaken by NDDB, state dairy development departments and the state dairy federations aim to reduce or mitigate the operational inefficiencies through the following systems:

- xviii. Establishment of mini dairy units
- xix. Farmer sensitive pricing policy
- xx. Setting up of Automatic milk Collection Station (AMCU)
- xxi. Improving capital and labour efficiency
- xxii. Infrastructure development
- xxiii. Adoption of advanced technologies
- xxiv. Advances in feeding and breeding
- xxv. E-governance
- xxvi. Plant automation
- xxvii. E-marketing with cold chain monitoring
- xxviii. Efficient input services
- xxix. Plant process efficiency
- xxx. Measurement and control of product quality
- xxxi. Food Safety Management Systems
- xxxii. ICT enabled extension and logistics system etc.



Lesson 8

Registration of Dairy Co-operatives

- i. For registration of a Dairy Co-operative Society, at least 25 farmers of different families shall give an application to the Registrar of dairy co-operatives (Deputy Director of Dairy Development). He shall forward the application to the Block level Dairy Extension Officer/Dairy Farm Instructor for feasibility report. Based on the feasibility report given, the Registrar shall direct the Chief Promoter of the society to convene a meeting of the members of the operational area (2-3 wards of a panchayath) by giving proper notice and publicity. The meeting will approve the model byelaw and form the Promoting Committee. Share amount is also collected from the members and deposited in the district cooperative bank. The representative from the respective milk union shall also be present in the meeting.
- ii. The Promoting Committee shall act as the governing body of the society till its registration. The Promoting Committee collects and prepares all the relevant documents for the registration of the society which includes model byelaws signed by members, minutes of the Promoting Committee meeting, share certificate, certificate from the milk union, non-overlapping certificate (with other similar societies), map with the area marked from the Panchayath, Project Report etc.
- iii. The documents are submitted through the Dairy Extension Officer to the Registrar for registration. Once Registrar approves it, the Dairy Co-operative comes into existence and is designated under the name of the area like 'Mannuthy Milk Producers' Co-operative Society Ltd. R. 183 (D) Apcos', where Ltd depicts the limited liability, R depicts the district Thrissur, 183 is the number of the Society, D for Dairy and Apcos for Anand pattern.
- iv. The registered society starts functioning with the help of the milk union and the Dairy Development Department. A grant is given for the setting up of the office of the Society. After registration, general body is called and elections are conducted. The staffs are appointed and the procurement of milk and its sales to Union is started.

Management and administration of dairy co-operatives

- i. The legal frame work for cooperatives consists of (1) the Cooperative Societies Acts passed by the legislatures (2) the rules framed under the Cooperative Societies Act to carry out the purpose of the Act and (3) the bye-laws adopted by the cooperatives and registered by the Registrar Cooperative Societies.
- ii. Every co-operative makes a set of rules and regulations for internal management, business or administration. These rules and regulations are called the bye-laws of the cooperative. The byelaws are adopted by the members of the cooperative and registered by the Registrar of the Cooperative Societies. As the bye-laws are framed and adopted by the cooperatives, they differ

from one cooperative to another, as per their respective objectives and the needs. The framework of the bye-laws is generally provided in the Act or Rules

- iii. The provisions of bye-laws cannot travel beyond the powers vested in by the Act and Rules. The provisions of Cooperative Societies Act and Rules have overriding effect on the provisions of the bye-laws. In case of conflict between the bye-laws and the provisions of the Act or Rules the provisions of the Act or Rules must be followed.
- iv. The general body is the ultimate decision-making body of a dairy co-operative. The first general body has all the powers of the annual general body. The general body through democratic process elects the Board of Directors (Minimum nine in number with 3 positions reserved for women and one for SC/ST category) for a period of 5 years. The Board of Directors (BOD) elect a President and Vice President for monitoring the day-to-day affairs of the society. The BOD meetings are to be conducted every month for discussing the issues related to Society and passing of the revenue and expenditure statement. The quorum of the meeting is either above the half of the members or 5 whichever is lesser.
- v. At least one general body has to be conducted every year. The general body has to pass the budget for the succeeding year and also pass the yearly statement of accounts – trading, profit and loss account and balance sheet. The division of profit is done in the annual general body. In addition, any amendments in the byelaws of the society are proposed in the general body. The audit report is kept for consideration in the general body and disposal of net profit is done. The quorum of the general body is either 1/5 of the members or 20, whichever is less. Every person has a single vote in the general body. The President/Vice President presides over the general body meetings.
- vi. The chief executive officer of the Society is the Secretary. He is appointed on a regular basis through open recruitment. He should have a Junior/Higher Diploma in Co-operation or B. Com (Co-operation). Other staffs of the Society include Procurement Assistant, Laboratory Assistant, Clerk, Office Attendant etc. The staff pattern is decided based on the procurement, profit and turnover of the society based on which the society is classified. (Section 80 of KCS Act)
- vii. The decisions of the Society are approved by the Government, which is done by the respective department like Dairy Development Department of Kerala (Registrar of Dairy Co-operatives). The Department monitors whether the functioning of the Cooperative is in line with KCS Act and Rules and the byelaws of the Society.

Lesson 9

Model byelaw of Dairy Co-operatives

Salient features of the Model Bye-laws of Milk Producers' Cooperative Society

Objectives

The objectives of the DCS (Dairy Cooperative Society) are as follows;

- i. To provide facilities for profitable marketing of milk through the District Milk Producers' Union
- ii. To undertake activities necessary for clean and quality milk production and to increase milk production.
- iii. To undertake programs in dairy extension and dairy husbandry aimed at improving rearing the breed and health of the animals.
- iv. Only genuine milk producers shall be eligible for membership of the society
- v. Prerequisites for voting rights of members:
 - a. A member has supplied the minimum quantity of milk (500 liters) to the society or has supplied for at least 180 days in a year and,
 - b. Has not sold milk to any other agency other than society,
 - c. Has no dues with the society and has not ceased to have any of the qualifications provided in the bye-laws.

Managing Committee

- a. The elected managing Committee of the society shall be of nine members for a period of five years. They shall elect a Chairman/President from amongst themselves for a period of three years.
- b. All members of the Managing Committee shall be honorary.
- c. A member shall be eligible to contest the election of a member of Managing Committee, if:
 - i. He is not a paid employee of this or any other society,
 - ii. Is not a relative of any of the paid employee of the society,
 - iii. He or any member of his family does not undertake any business of the kind undertaken by the society.

- iv. Has supplied milk to the society for at least 180 days/500 liters in a previous cooperative year.
- d. Any member of the Managing Committee shall automatically cease to be a member of Managing Committee when he/she ceases to possess any required qualification as a member of Managing Committee or when he/she remains absent in the Managing Committee meetings for three consecutive meetings without its consent.
- e. The Managing Committee shall have powers to appoint the Secretary and other paid staff of the society.
- ii. Chairman/President: He/she shall be responsible for executions of resolutions passed by Managing Committee and General Meetings, supervision of the daily routine works through secretary, physical verification of stocks and dead stock, disposal of members' problems, deposition of exceeding amount of cash in hand, etc.
- iii. Profit distribution after the statutory deduction shall be as under:
- iv. The net profit shall be distributed as follows
 - a. A sum not less than 25% shall be taken to the Reserve Fund.
 - b. To set aside contribution for the Education Fund in accordance with provisions of the State Cooperative Societies Act. The society shall pay dividend only after the Education Fund is paid to the District Cooperative Union.
 - c. To pay to the shareholders as dividend, a sum not exceeding 12% of the paid-up share capital
 - d. The balance, after the above deductions, shall be distributed as under:
 - i. 65% as bonus to the members in accordance with the price of milk supplied by them to the society
 - ii. 10% to be set aside for the cattle development fund.
 - iii. 10% as bonus to the staff (Bonus to the staff shall be given as may be decided by the Managing Committee, but the amount should not exceed more than two months pay in each case).
 - iv. 10% to be set aside for the charity.

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- v. Five% to be set aside for the Cooperative Propaganda Fund
 - vi. The balance remaining after these deductions shall be credited to the Reserve Fund.
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- v. No credit facilities to members, not even for purchase of dairy animals.
 - vi. Byelaw on similar lines is also prepared for the Milk unions. The provisions of the Model Byelaws for the Milk Union and village dairy cooperatives have been prepared keeping in view the cooperative principles so that they can function as autonomous business entity owned, managed and controlled by the members. Provisions are aimed at ensuring that only user members may vote, contest and participate in the management of the cooperative. The provisions also facilitate for professional management accountable to the Management Committee / Board of Directors for the organizational performance.



Lesson 10

The Bihar Co-operative Societies Act, 1935

- An Act to consolidate and amend the law relating to Co-operative Societies in the State of Bihar
- **Preamble.** - Whereas it is expedient to facilitate the formation, working and consolidation of co-operative societies for the promotion of thrift, self-help and mutual aid among agriculturists and other persons with common needs and for that purpose to consolidate and amend the law relation top cooperative societies in the State of Bihar [* * *] And whereas previous sanction of the Governor-General under sub-section (3) of Section 80-A of the Government of India Act has been obtained to the passing of this Act;

CHAPTER I**Preliminary**

1. Short title and extent. - (1) This Act may be called the Bihar Co-operative Societies Act, 1935. (2) It extends to the whole of the State of Bihar.

2. **Definitions.** - In this Act, unless there is anything repugnant in the subject or context-

(a) 'bye-laws' means the registered bye-laws for the time being in force and includes a registered amendment of the bye-laws; (b) 'Co-operative Federation' means a registered society the main object of which is to co-ordinate and facilitate the activities of other registered societies and to foster the growth of the co-operative movement;

[(bb) 'Co-operative Year' means a year beginning with the [1st April] and ending on the [31st March];

[(c) 'financing bank' means the State Bank of India, a nationalised Commercial Bank, a State Co-operative Bank, a Co-operative Bank, a Land Development Bank, a Regional Rural Bank or any other bank to be notified by the State Government the objects of which include the creation of funds out of which money is to be lent to the co-operative societies or other institutions or both;]

(d) 'liquidator' means a person or persons appointed by the Registrar under sub-section (1) of Section 44 to wind up the affairs of a registered society;

(e) 'managing committee' means the committee of management or other body to whom the management of the affairs of a registered society is entrusted;

(f) 'member' includes a person joining in the application for the registration of a society and a person admitted to membership after registration in accordance with the rules and the bye-laws of such society;

[(ff) 'Multi-purpose Co-operative Society' is a primary society formed for providing more than one type of service to its members and includes a society registered as a Cane-growers' Co-operative Society;]

[(fff) 'nominal or associate member' means a member who possesses such privileges or rights of a 2/46 member of a society, and who is subject only to such liabilities of a member as may be specified by the bye-laws;] (g) "Officer" includes a Chairman, Secretary, Treasurer, member of a managing committee or any other person empowered by or under this Act, or the rules or the bye-laws of registered society to give direction in regard to the business of the Society; [(gg) 'Office-bearer of a managing committee' means and includes the Chairman, the Vice-Chairman, the Secretary, the Joint Secretary, the Treasurer or any such functionary by whatever name he may be designated;] [(ggg) 'primary society' is a society of which no member is a registered society;]

[(gggg) 'Primary agricultural' credit society' means a co-operative society, the primary object of which is to render assistance, financial or otherwise, to farmers, rural artisans and agricultural labourers and includes farmers service society and multipurpose co-operative society;]

(h) 'registered society' means a society registered or deemed to be registered under this Act;

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(i) 'Registrar' means a person appointed to perform the duties of Registrar of Co-operative Societies under this Act; (j) 'rules' means rules under this Act. 3. Indian Companies Act, [1913] not to apply. - The provisions of the [Indian Companies Act, 1913 (7 of 1913)] shall not apply to registered societies.

4. Saving of existing societies. - (1) Every society now existing which has been registered under the Co-operative Societies Act, 1912 (2 of 1912), shall be deemed to be registered under this Act and its bye-laws shall, so far as they are not inconsistent with the express provisions of this Act, continue in force until altered or rescinded.

(2) All appointments, rules and orders made, notifications and notices issued, all transactions entered into, suit and other proceedings instituted under the said Acts, shall be deemed, so far as may be to have been respectively made, issued, entered into and instituted, under this Act.

5. Construction of references to Co-operative Societies Act, 1912 in enactments. - All references to the Co-operative Societies Act, 1912 (2 of 1912) occurring in any enactment made by any authority in India and for the time being in force in the State of 'Bihar shall, in the application of such enactment to the said States be construed as references to this Act

CHAPTER II

Registration of Societies

6. The Registrar. - (1) The State Government may appoint a person to be Registrar of Co-operative Societies for the State or any portion of it, and may appoint persons to assist such Registrar. (2) The State Government may, by general or special order published in the official Gazette, confer- (a) on any person appointed under sub-section (1), to assist the Registrar, all or any of the powers of the Registrar under the Act except the powers under Section 26, [xxx] and (b) on any Co-operative Federation or Financing Bank all or any of the powers of the Registrar under Section 20, sub-section (3) of Section 28 and Section 33. [(3) Where the State

Government is of opinion that the Registrar needs the assistance of Additional 3/46 Registrar for speedy disposal of business, it may by order published in the official gazette, appoint such number of Additional Registrars as it may deem fit. (4) Notwithstanding anything to the contrary contained in any other provisions of the Act, the Registrar may delegate, transfer or assign to the Additional Registrar such of his powers and functions and duties as he may consider necessary including the power under Sections 26 and 50 and the Additional Registrar shall, thereupon have powers of Registrar in matters so delegated, transferred or assigned to him.] . 7. Societies which may be registered. - [(1) Subject to the provisions of this Act, a Co-operative Society constituted in accordance with the provisions of the said Act as amended from time to time, which has as its object, the promotion of the common interest of its members and securing the fulfilment of any or all directives contained in Part IV of the Constitution of India, may be registered under this Act with or without limited liability.] (2) Where the liability of a society is limited, the liability of each member, past member, or the estate of a deceased member shall on liquidation, be limited to the amount, if any, unpaid on the shares held by such member, or where the liability is limited by guarantee, to the amount of such guarantee, or where it is limited in any other manner, then as may be determined by the rules or bye-laws subject, however, to the provisions of Section 32. (3) Where the liability of a society is unlimited, all members, past members, and the estates of deceased members shall on liquidation, be jointly and severally liable for and in respect of all its obligations, subject, however, to the provisions of Section 32. 8. Conditions of registration. - (1) No society, other than a society of which a member is registered society, shall be registered under this Act which does not consist of at least ten persons above the age of eighteen years and, where the primary object of the society is the creation of funds to be lent to its members, unless such persons- (a) reside in the same town or village or in the same group of villages; or (b) save where the Registrar otherwise directs, are members of the same tribe, class or occupation. [(1A) The State Government may by notification in the Official Gazette reduce the minimum number of memberships of 10 persons for particular class of Co-operative Societies.] (2) The word "limited" shall be the last word in the name of every society with limited liability registered under this Act. (9. Application for registration. - (1) An application for the registration of a society shall be made to the Registrar, and shall be accompanied by a copy of the proposed bye-laws of the society and the persons by whom or on whose behalf such application is made shall furnish such information in regard to the society as the Registrar may require. (2) The application shall be signed- [(a) if none of the applicants is a registered society by at least ten persons or less number of persons qualified in accordance with the requirements of sub-section (1) or sub-section (1-A) of Section 8:] (b) if any of the applicants is a registered society, by a duly authorised person on behalf of every such registered societies, and where all the members of the society are not registered societies by ten other members or, where there are less than ten other members, by all of them. 4/46 10. Power of Registrar to decide questions. - When any question arises whether for the purposes of this Act a person is an agriculturist, or non-agriculturist, or whether any person is resident

in a particular town or village or group of villages, or whether two or more villages shall be considered to form a group or whether any person belongs to any particular tribe, class or occupation, the question shall be decided by the Registrar, whose decision shall be final. 11. Registration. - (1) If the Registrar is satisfied that a society has complied with the provisions of this Act and Rules and that its proposed bye-laws are not contrary to this Act or to the Rules, he may, if he thinks fit, register the Society and its bye-laws. (2) If the Registrar refuses to register a society, he shall record his reasons for such refusal. (3) An appeal shall lie to the State Government from an order of the Registrar refusing to register a society, within two months from the date of the receipt of the order by at least one of the applicants. 12. Evidence of registration. - A Certificate of registration signed by the Registrar shall be conclusive evidence that the society therein mentioned is duly registered unless it is proved that the registration of the society has been cancelled.

Important Sections of the Act

- Section 2 gives the definitions for the general terms used in the Act like apex society, byelaw, cooperative society, Chief Executive, cooperative principles etc.
- i. Section 5 stipulates that a co-operative society shall be registered with only limited liability.
- ii. Section 6 ,7 and 8 deals with the registration of Societies
- iii. Section 12 stipulates the laws relating to amendment of byelaws of Society
- iv. Chapter III consists of sections 16 to 26 which defines the details regarding membership, expulsion, nomination as well as other rights and liabilities of the members
- v. Section 16 defines persons who may become members and section 25 relates to the transfer of interest on death of members
- vi. Chapter IV deals with the management of co-operative societies which includes important sections like 27 (final authority of a Society – general body), 28 (appointment of the committee), 28A (reservation to women and SC/ST), 29 (Annual General body meetings), 30 (Special general body meetings), 32 (Supersession of the committee), 33 (Appointment of Administrator) etc.
- vii. Chapter V deals with the privileges of the societies which gives the exemptions to societies and charges of Society on the assets of members while borrowing loans (Sections 35-41)
- viii. Chapter VI (Sections 42-54) deals with the state aid to cooperative societies, which includes partnership with Government agencies, apex societies etc.
- ix. Chapter VII deals with the properties and funds of co-operative societies. Sections 55-62 deals with matters relating to disposal of net profit, investment of funds, restriction to borrowings, provident fund, gratuity etc.
- x. Chapter VIII Part A deals with Audit which includes sections 63 and 64. In case of dairy co-operatives, though administration is done by Dairy Development Department; audit is

conducted by the Audit section of State Co-operative Department. The Government appoints a Director of Co-operative Audit with jurisdiction over the whole of the state.

- xi. While Part B of Chapter VIII deals with the Inquiry, Suspension, Investigation and Surcharge. Section 65 deals with Inquiry by Registrar either by himself or by a person authorized by him and he/she shall have access to all the books, accounts, documents, securities, cash and other properties of the society. The Inquiry can be done by the Registrar on his own motion or on the basis of report from Auditor/Vigilance Officer or application from apex society/financing bank etc.
- xii. Section 66 deals with Supervision and inspection. This is done frequently as the Registrar may consider necessary and supervision includes the inspection of the books of the society. This is done by Registrar on his own motion or upon application from the creditor of a society.
 - a. Section 68 provides for surcharge which is applied against a person who has made payment contrary to the Act, Rules and byelaws of the society or has caused damage to the assets of the society by breach of trust or wilful negligence or mismanagement etc. Through this section the Registrar can order for the recovery of losses.
- xiii. Chapter IX has sections 69-70B, which deals with the settlement of disputes. Monetary disputes are referred to the Registrar and non-monetary disputes are referred to the Cooperative Arbitration Court.
- xiv. Chapter X explains the winding up and dissolution of co-operative societies. The sections 72-73 explain appointing the liquidator and powers of the liquidator
- xv. Chapter XI contains the sections on execution of awards, decrees, orders and decisions. (Sections 76-79)
- xvi. Chapter XII contains sections on establishment which includes officers, pension scheme, welfare board, Exam board etc. (Section 80, 80 A to 80 E)
- xvii. Chapter XIII dealing with appeals (Tribunal), revision (Registrar or Government) and reviews (Tribunal). These sections explain the appeals and revisions to tribunal and other authorities and powers of revision by the Registrar and the Government.
- xviii. Chapter XIV deals with the Co-operative Unions – State and Circle Unions with the appointment of officials and functions. The Unions focuses on co-operative education, co-operative training, and assistance to co-operatives and carry out co-operative propaganda.
- xix. Chapter XV deals with the offenses and penalties
- xx. Chapter XVI deals with the miscellaneous items which are from section 96-110. It includes address of society; copy of act, rules and byelaws open for inspection; register of members; power to exempt societies; proof of entries; bar of jurisdiction of courts etc.

Important Rules

- i. Chapter 1 gives short title and definitions
- ii. Chapter II deals with the registration of co-operative societies and their byelaws. Rules 3 to 15 deals with the procedure of registration, subject matter of byelaws, general body meetings, amendment of byelaws, amalgamation, classification of societies etc
- iii. Chapter III has rules 16-28 dealing with the rights and liabilities of members of cooperative societies. It includes conditions for membership, voting, expulsion, nomination, participation and others.
- iv. Chapter IV deals with the management of societies. Rules pertaining to the accounts and books, statement and returns, conduct of elections, constitution of committee, election of President/Vice President, removal, disqualification etc. (Rules 29-50)
 - a. Chapter V deals with the rules pertaining to the privileges of co-operative societies.
- v. Chapter VI deals with properties and funds of societies like education fund, relief fund, borrowings, provident fund, gratuity etc.
- vi. Chapter VII deals with Audit.
- vii. Chapter VIII deals with the procedure of the conduct of inquiry, inspection and investigation.
- viii. Chapter IX deals with the settlement of disputes like reference of disputes, payment of expenses, communication of orders etc.
- ix. Chapter X gives the rules relating to winding up and dissolution of societies. Procedure to be adopted by the Liquidator and disposal of records are delineated in rules 69 and 70.
- x. Chapter XI deals with the execution of Decisions, Awards and Order. It includes attachment, revenue recovery, seizure and sale of immovable property etc. □ Chapter XII deals with the rules of Appeal, Revision and Review.
- xi. Chapter XIII deals with Co-operative Unions (Section 126-170)
- xii. Chapter XIV deals with rules relating to miscellaneous items like use of premises, opening of branches etc.
- xiii. Chapter XV deals with the establishment matters. Rules 182-201 deals with classification, staff pattern, officers and other employees, age, qualification, probation, promotion, leave rules, medical aid, disciplinary action, registers, allowances, savings etc.

- xiv. The sections are always to be read with supporting rules for proper understanding of the law. For example, Section 65 lays down the circumstances under which inquiry is done. The corresponding rule 66 delineates the procedure for the conduct of inquiry.



Lesson 11

Supervision of co-operatives – Inspection and Audit

Chapter VIII of KCS Act has 2 parts – A and B. Part A has section 63 and 64. S. 63 defines the appointment of Director of Co-operative Audit and S. 64 explains the scope of audit, powers of the Director of Co-operative Audit and procedure for audit. The sections are as given below:

63. Director of Co-operative Audit: (1) the Government shall by notification in the official gazette, appoint a person to be the Director of Co-operative Audit with jurisdiction over the whole of the State.

- i. The qualification and the terms and conditions of the person to be appointed as the Director of Co-operative Audit shall be such, as may be prescribed.
- ii. The Government may by general or special order, confer on any officer all or any of the powers of the Director of Co-operative Audit under this Act.
- iii. It shall be the duty of the Director of Co-operative Audit to audit or to cause to be audited through persons authorized by him, the accounts of every society, at least once in each year.

64. Scope of audit, powers of the Director of Co-operative Audit and procedure for audit

- (1) the audit shall include an examination of overdue debts, if any, the verification of the cash balance and securities and a valuation of the assets and liabilities of the society concerned and such other audit matters, as may be prescribed.
- i. (2) For the purpose of audit, the Director of Co-operative Audit or the person authorized by him under section 63 shall have the following powers, namely: -
- ii. he shall, at all reasonable times, have access to all the books, accounts, documents, papers and all other relevant records, securities, cash and other properties belonging to, or in the custody or control of the society;
- iii. he may summon any person in possession of, or responsible for the custody, of any such books, accounts, documents, papers, other records, securities, cash or other properties, to produce the same at any place at the headquarters of the society or any branch thereof or, where there is no working office for a society, at the office of the Director of Co-operative Audit or at the office of any of his subordinate officers, as maybe specified by him; and

- iv. Such other powers as may be prescribed.
- v. Every person who is or has been, at any time, an officer or employee of the society and every member and past member of the society, who is in possession of any information and records in regard to the transactions and working of the society, shall furnish such information in regard to the transactions and working of the society, as the Director or the person authorized by the Government under sub-section (3) of section 63 may require.
- vi. The financial statement and other details required for the completion of audit shall be prepared by the society, within three months from the date of completion of the year and the fact shall be reported to the Director of Co-operative Audit or to the person authorized by him in this behalf.
- vii. The audit shall be commenced within one month from the date of receipt of the report under sub-section (4) by the Director of Co-operative Audit or the person authorized by him, as the case may be, and shall be completed within a period of nine months.
- viii. The amount of fee for the audit of accounts of society for each year shall be such, as may be fixed by the Director of Co-operative Audit, in accordance with the rules made in this behalf.
- ix. The fee shall be paid by the society concerned within thirty days of intimation thereof and in case of non-payment of the fee within the period it shall be recoverable in the manner specified in section 79.
- x. The procedure for payment of the fee shall be such, as may be prescribed.
- xi. If the result of the audit held under section 63 discloses any defects in the working of a society, the Director of Co-operative Audit may bring such defects to the notice of the society and if the society is affiliated to another society, also to the notice of that other society.
- xii. If the result of the audit held under section 63 discloses any serious defect in the working of the society, the Director of Co-operative Audit or the person authorized by him shall communicate the same forthwith to the Registrar for immediate further action.
- xiii. The Director of Co-operative Audit may, by order in writing, direct the society or its officers to take such action, as may be specified in the order, within the time mentioned therein to rectify the defects disclosed in the audit, under intimation to the Registrar.
- xiv. Corresponding to the Act, the rules with respect to audit are given in chapter VII of KCS Rules which includes Rule 64 – Audit (defines the audit period, panel of auditors,

appointment of auditors etc.), Rule 64 A – Qualifications of an Auditor, Rule 64 B – Audit Report (submission of Audit report and its contents) and Rule 65 – Levy of Audit fees (Type of Society and calculation of audit fees).

- xv. Section 65 and 66 of KCS Act deals with inquiry, suspension, supervision and surcharge as given below

Inquiry by the Registrar

(1) The Registrar may,

- i. on his own motion; or
 - ii. on an inquiry report of the Vigilance Officer appointed under section 68A; or
 - iii. on a report of the Director of Co-operative Audit appointed under section 63; or
 - iv. on an application by the majority of the members of the committee of the society, or by not less than one third of the quorum for the general body meeting, whichever is less; or
 - v. on an application by the apex society or financing bank of which such society is a member; or
 - vi. on an application of a society to which the society concerned is affiliated;
 - vii. hold an enquiry by himself or by a person authorized by order in writing, into the constitution, working and financial condition of the society, if he is satisfied that it is necessary so to do.
- viii. (2) The Registrar or the person authorized by him under sub-section (1) shall, for the purpose of an inquiry under this section, have the following powers, namely:

- ix. he shall, at all reasonable times, have free access to the books, accounts, documents, securities, cash and other properties belonging to, or in the custody of the society and may summon any person in possession of or responsible for the custody of any such books, accounts, documents, securities, cash or other properties, to produce the same at any place at the headquarters of the society or at any branch thereof or where there is no working office for the society, at the office of the Registrar or at the office of any of his subordinate officers;
- x. he may summon any person who, he has reason to believe, has knowledge of any of the affairs of the society, to appear before him at any place at the headquarters of the society or any branch thereof and may examine such person on oath; and
- xi. (i) he may, notwithstanding any rule or bye-law specifying the period of notice for a general body meeting of the society, himself call a general body meeting or require the President or Secretary of the society to call a general body meeting at such time and place at the

headquarters of the society or any branch thereof, to determine such matters as may be directed by him;

- xii. (ii) any meeting called under sub-clause (i), shall have all the powers of a general body meeting called under the bye-laws of the society.
- xiii. When an inquiry is made under this section, the Registrar may communicate the result of the inquiry to the financing bank, if any, to the society to which such society is affiliated and to the Circle Co-operative Union.
- xiv. When an inquiry made under this section reveals only minor defects which, in the opinion of the Registrar, can be remedied by the society, he shall communicate the result of the inquiry to the society and the society, if any, to which that society is affiliated. He shall also direct the society or its officers to take such action within the time specified therein to rectify the defects disclosed in such inquiry.
- xv. The inquiry under this section shall be completed within a period of six months.
- xvi. If the Registrar, on completion of the inquiry finds that there is a major defect in the constitution or working or financial condition of the society, he may initiate action in accordance with the provisions of section 32.

Supervision and Inspection

(1) The Registrar shall supervise or cause to be supervised by a person authorized by him by general or special order in writing in this behalf, the working of every society as frequently, as he may consider necessary. The supervision under this subsection may include an inspection of the books of the society.

- i. (2) The Registrar may, on his own motion, or on the application of a creditor of a society, inspect or direct any person authorized by him, by order in writing in this behalf, to inspect the books of the society: Provided that no such inspection shall be made on the application of a creditor unless the applicant,
 - ii. satisfies the Registrar that the debt is a sum then due and that he has demanded payment thereof and has not received satisfaction within a reasonable time; and
 - iii. deposits with the Registrar such a sum as security for the costs of the proposed inspection as the Registrar may require.

- iv. Where the inspection under sub-section (2) is made on the application of a creditor, the Registrar shall communicate the result of such inspection to such creditor.
- v. The Registrar or any person authorized by the Registrar under sub-section (1) or subsection (2) shall at all reasonable time have free access to the books, records and accounts of the society and may summon any person in possession of or responsible for the custody of any such books, records and accounts, to produce the same for inspection at any place at the headquarters of the society or any branch thereof or where there is no working office for the society, or the office of the Registrar or at the office of any of his subordinate officers. It shall be the duty of every officer and employee of the society to assist in such supervision or inspection and to furnish any information that may be required for the purpose.
- vi. The Registrar or the person authorized by him under sub-section (1) or sub-section (2) may, by order in writing, direct the society or its officers to take such action, as may be specified in such order, within the time that may be mentioned in such order.
- vii. The Circle Co-operative Union shall have the power to direct that a non-official member thereof shall be present at an inspection under sub-section (2): Provided that such non-official member shall not have the power to make the inspection himself.
- viii. Apex Society or Federal Co-operative Society or a financing bank shall have the right to inspect the books of any registered society which is affiliated to it, through its officers.
- ix. An officer of an Apex Society or Federal Co-operative Society or a financing bank, inspecting the books of a society shall at all reasonable times have the access to the books, accounts, documents, securities, cash and other properties belonging to the society and may call for such information, statements and return, as may be necessary to ascertain the financial condition of the society and the safety of the sums lent to it.
- x. An officer referred to in sub-section (8) shall also have power to summon any person in possession of or responsible for the custody of any books, accounts, documents, securities, cash and other properties, referred to in that sub-section to produce the same for inspection or verification at any place at the headquarters of the society or any branch thereof.
- xi. Apex Society or Federal Co-operative Society or the financing bank may also report to the Registrar about the action to be taken against the society, as a result of the inspection by its officers.

66A. Powers of Registrar to give directions

Subject to the provision contained in this Act and the rules made thereunder, the Registrar may issue general direction and guidelines to the Cooperative Societies in furtherance of the purpose of this Act.

66B. Suspension of Officers

If the Registrar, in the course of any inquiry under section 65 or on inspection under section 66 or on audit under section 64 or on the report of Vigilance Officer appointed under section, 68A, is satisfied that any officer other than the President, Vice President, Chairman, Vice Chairman and member of the committee of any society, has done any act, detrimental to the interest of the society or its members and that there is reason to believe that such officer has indulged in misappropriation, manipulation of accounts, forgery, destruction or tampering of records of the society, he may, for reasons to be recorded in writing issue a direction to the committee of the said society to suspend the officer or officers responsible for the offence forthwith.

Cost of inquiry or inspection

- i. Where an inquiry is held under section 65, or an inspection is held under section 66 on the application of a creditor, the Registrar may, by order, apportion the cost, or such portion of the cost, as he may deem fit, between the society to which the society concerned is affiliated, the society, the member or creditor demanding an inquiry or inspection and the officers or former officers, of the society: Provided that,
- ii. (a) no order of apportionment of the cost shall be made under this section unless the society or the person sought to be made liable to pay the costs thereunder has had a reasonable opportunity of being heard;
- iii. (b) the Registrar shall state, in writing the grounds on which the costs are apportioned.

Surcharge

- i. (1) If in the course of an audit, inquiry, inspection or the winding up of a society, it is found that any person, who is or was entrusted with the organization or management of such society or who is or has, at any time been an officer or an employee of the society, has made any payment contrary to the Act and the rules or the bye-laws, or has caused any loss or damage in the assets of the society by breach of trust, or willful negligence or mismanagement or has misappropriated or fraudulently retained any money or other property belonging to such society or has destroyed or caused the destruction of the records, the Registrar may, of his own motion or on the application of the committee, liquidator of any creditor, inquire himself or direct any person authorized by him by an order in writing in this behalf, to inquire into the conduct of such person.

- ii. (2) Where an inquiry is made under sub-section (1), the Registrar may, after giving the person concerned, an opportunity of being heard, by order in writing, require him to repay or restore the money or other property or any part thereof, with interest at such rate, or to pay contribution and costs or compensation to such extent, as the Registrar may consider just and equitable.

68A. Vigilance Officer

- (1) The Government shall appoint an officer, not below the rank of Deputy Inspector General of Police, as Vigilance Officer with powers to inquire into and investigate the cases of misappropriation, corruption and any other major irregularity in the societies as may be referred to him by the Registrar.
- i. The Vigilance Officer shall conduct the inquiry and investigation in such manner, as may be prescribed.
- ii. The Vigilance Officer shall be under the administrative control of the Registrar of Cooperative Societies: Provided that the powers of the Registrar of Co-operative Societies under this section shall not be conferred on any other person.
- iii. The corresponding rules with regard to inquiry, inspection, suspension, investigation and surcharge are given in chapter VIII of KCS rules with rules 66 and 66A. Rule 66 defines the procedure for the conduct of inquiry and inspection, while 66A defines the inquiry and inspection of Vigilance Officer.

Lesson 12

Role of National Dairy Development Board (NDDB)

The National Dairy Development Board is an institution of national importance set up by an Act of Parliament of India in 1965 to fulfil the desire of the then Prime Minister of India — the late Sri. Lal Bahadur Shastri, to extend the success of the Anand Pattern Dairy Co-operatives to other parts of India. The headquarters is at Anand, Gujarat with regional offices throughout the country. NDDB's subsidiaries include IDMC Limited, Anand; Mother Dairy, Delhi; NDDB Dairy Services, Delhi and Indian Immunological Ltd, Hyderabad.

The objectives of NDDB are:

- a. To help increase productivity of dairy animals and thereby increase milk production to meet the rapidly growing demand for milk
- b. To help provide rural milk producers with greater access to the organized milk processing sector

To achieve these objectives NDDB implemented the projects like Operation Flood, Perspective 2010 and National Dairy Plan.

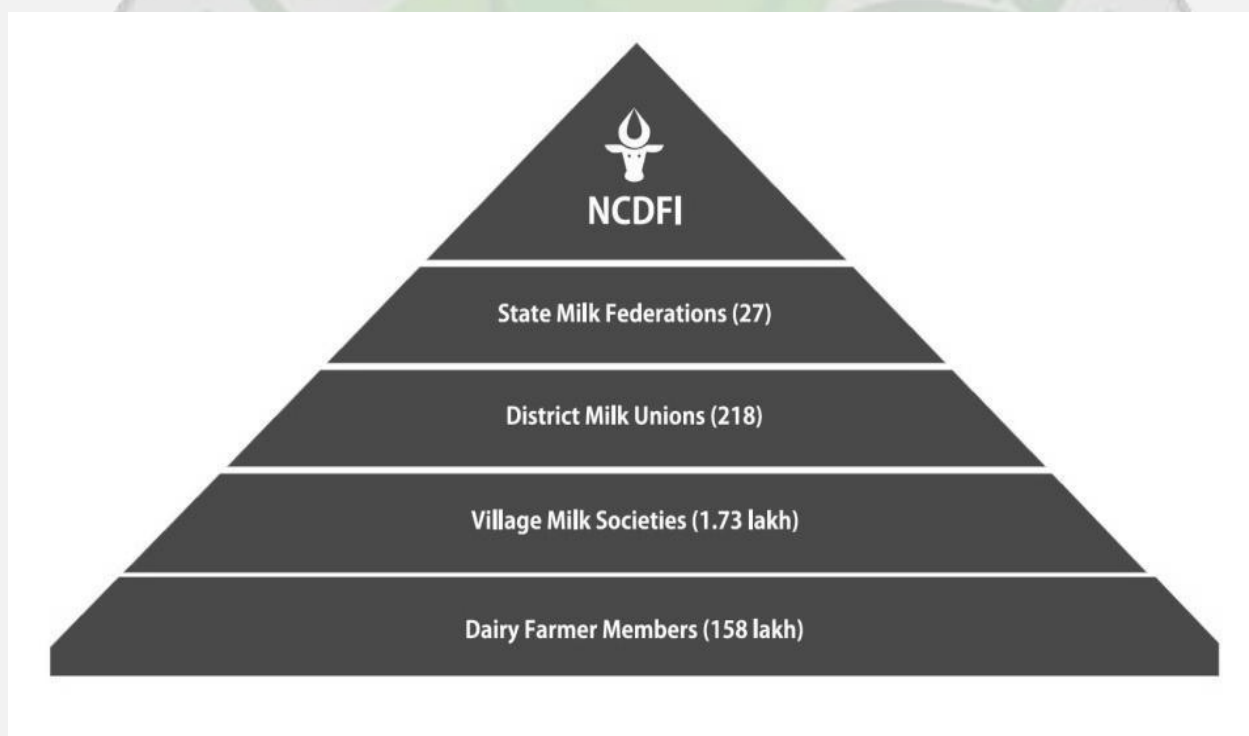
The role and functions of NDDB are listed below:

- i. To organize various training and capacity building programmes for milk producers on improved practices in dairying and better animal management.
- ii. To create a pool of trained professional manpower on fair and transparent techniques in milk procurement, principles of cooperation, development of extension skills and business appreciation to manage the dairy cooperatives and unions
- iii. Improvement of governance in cooperatives remains high on the priorities of NDDB. Board members from different milk unions of the country are oriented to help improve governance of their cooperatives.
- iv. To ensure active participation of women in all spheres of dairy cooperative business and governance. Women are encouraged to take up leadership roles in the management committee of Dairy Cooperative Societies (DCS) and boards of milk unions.
- v. To provide technical and financial support to Milk Unions and Federations to improve their infrastructure and functional domain.
- vi. To provide services in animal breeding, animal nutrition, animal health, cooperation, engineering, finance, planning, purchase, quality, R and D, ICT, HR etc. to the dairy cooperative system.

National Cooperative Dairy Federation of India (NCDFI)

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- i. National Cooperative Dairy Federation of India (NCDFI), based at Anand (Gujarat), is the apex organization for the cooperative dairy sector. Its members include federal dairy cooperatives of states and union territories. Primary objective of NCDFI is to facilitate the working of dairy cooperatives through coordination, networking and advocacy.
- ii. It was registered on December 7, 1970 under the Bombay Cooperative Societies Act (VII of 1925) as extended to the Union Territory of Delhi with its head office in New Delhi. However, it was only during the year 1984 that it started functioning as the apex body of the cooperative dairy industry. In December 1986, to gain locational advantage, the NCDFI shifted its headquarters from Delhi to Anand. In April 1987, the NCDFI bye-laws were amended to bring it under the provisions of Multi State Cooperative Societies Act.
- iii. The NCDFI has 19 Regular Members, 11 Associate Members and National Dairy Development Board (NDDB) as its Institutional Member.



Structure of the Dairy Cooperatives

The NCDFI was registered with the following objectives

- i. To promote the dairy and the oilseeds, vegetable / edible oil and vanaspati industries and other commodities on cooperative lines
- ii. To coordinate, help, develop and facilitate the working of the dairy and oilseeds growers' cooperatives and affiliated organizations dealing in commodities

iii. The role and functions of NCDFI are listed below:

- a. NCDFI coordinates milk and milk products supply to Institutions such as Ministry of Defense, Indo-Tibetan Border Police and IRCTC. These supplies are being met from more than 100-member cooperative dairies situated across the country.
- b. To provide better access of good quality semen doses to the milk producers in the country, NCDFI partnered with NDDB Dairy Services for distribution of SAG brand semen doses.
- c. Adoption of technology and its application to ensure better returns to dairy cooperatives and in turn to milk producers has been the primary focus of NCDFI. One such initiative is NCDFI eMarket, which was launched on June 10, 2015. NCDFI eMarket is an online marketplace for trading of dairy & agricultural commodities, minerals and packing materials.
- d. NCDFI utilizes part of its surplus in spreading awareness on topics such as clean milk programs, cooperative governance, productivity of animals, artificial insemination, ration balancing, etc. For these purposes, NCDFI regularly conducts Training Programs, Seminars, Workshops and Management Development Programs.

The details of members of NCDFI

Sl.No.	Name of Cooperative	Brand name	Type of membership
1	AP Dairy Development Cooperative Federation	Vijaya	Regular
2	Bihar State Cooperative Milk Producers' Federation	Sudha	"
3	Chhattisgarh State Cooperative Dairy Federation	Devbhog	"
4	Gujarat Cooperative Milk Marketing Federation	Amul	"
5	Haryana Dairy Development Cooperative Federation	Vita	"
6	Jharkhand State Cooperative Milk Federation	Medha	"
7	Karnataka Cooperative Milk Producers' Federation	Nandhini	"
8	Karnataka Cooperative Oil Seeds Growers' Federation	Safal	"
9	Kerala Cooperative Milk Marketing Federation	Milma	"
10	Madhya Pradesh State Cooperative Dairy Federation	Saanchi	"

11	Maharashtra Rajya Sahakari Dudh Mahasangh	Mahanand	“
12	Pondicherry Cooperative Milk Producers' Union	Ponlait	“
13	Pradeshik Cooperative Dairy Federation (UP)	Parag	“
14	Punjab State Co-operative Milk Producers' Federation	Verka	“
15	Rajasthan Cooperative Dairy Federation	Saras	“
16	Sikkim Cooperative Milk Producers' Union	Kanchenjunga	“
17	TN Cooperative Milk Producers' Federation	Aavin	“
18	West Assam Milk Producers' Cooperative Union	Purabi	“
19	WB Co-operative Milk Producers' Federation	Benmilk	“
20	NDDDB	Mother dairy	Institutional
21	Dimapur District Coop Milk Producers' Union (Nagaland)	Dimul	Associate
22	Goa State Cooperative Milk Producers' Union	Goa dairy	“
23	Gomati Coop Milk Producers Union Limited (Tripura)	Gomati	“
24	J and K Milk Producers' Cooperative	Snowcap	“
25	Manipur Milk Producers Cooperative Union Limited	MMPU	“
26	Orissa State Cooperative Milk Producers' Federation	Omfed	“
27	Sangam Mil Producer Company Ltd (AP)	Sangam	“
28	Sri Vijaya Visakha Milk Producers' Company Ltd	Visakha Dairy	“
29	The HP State Cooperative Milk Producers' Federation	Him	“
30	Telengana State Dairy Development Coop Federation	Vijaya	“
31	Uttarakhand Cooperative Dairy Federation	Aanchal	“

National Cooperative Union of India

The National Cooperative Union of India, (NCUI) is the apex organization representing the entire cooperative movement in the country. It was established in 1929 as All India Cooperative Institutes Association and was re-organized as Indian Cooperative Union through the merger of Indian

Provincial Cooperative Banks' Association with All India Cooperative Institutes Association and later in 1961 as National Cooperative Union of India.

- i. The National Cooperative Union of India has travelled a long way since then to now emerge as the sole representative of the Cooperative movement in the country. Being the apex organization of the Indian cooperative movement in the country, the NCUI is committed to lend dynamism and vibrancy to the cooperative sector in the twenty first century. 'To make the voice of cooperation as strong as ever' is NCUI's supreme motto.
- ii. The objectives of the Union are "to promote and develop the cooperative movement in India, to educate, guide and assist the people in their efforts, to build up and expand the cooperative sector and to save as an exponent of cooperative opinion in accordance with cooperative principles". In furtherance of these objectives, the Union may either by itself or in collaboration with other cooperative institutions:
- iii. express opinion on matters of cooperative policy and act as the accredited representative of the Indian Cooperative Movement in the national and international spheres;
- iv. organize cooperative education and training programmes and popularize the principles and practices of cooperation;
- v. organize, conduct, collaborate and assist in carrying out research, investigations of cooperative problems and formulation of projects for cooperative development;
- vi. arrange for the production and publication of literature and audio-visual aids including films, filmstrips on cooperation and allied subjects;
- vii. give publicity to the achievements of cooperatives through periodicals, journals, newspapers, pamphlets, brochures, books, films, broadcasts, T.V. and the like for creating favorable atmosphere for the development of the cooperative movement;
- viii. maintain an information bureau and a library;
- ix. convene and hold the National Cooperative Congress and Cooperative Seminars, Meetings, Conferences, Exhibitions etc.;
- x. select delegates, representative and observes on behalf of the Union for participation in the International, National and State Conferences;
- xi. facilitate the promotion of cooperative institutions and assist the member societies in resolving their problems and difficulties and formulation of programmes and their implementation and preserve and safeguard the democratic character of the cooperative movement in the country;
- xii. confer/honor on the eminent co-operators;
- xiii. promote international cooperative relations through active collaboration with ICA, UNO, FAO, ILO, UNDP, UNIDO and other international agencies involved in cooperative development;

- xiv. help, promote international marketing on 'cooperative to cooperative basis' by documenting necessary information and to act as nodal agency for the benefit of Indian Cooperative Movement; and
- xv. provide consultancy services to the cooperatives.
- xvi. The working of NCUI reflects the democratic yearnings of the co-operators and the cooperative institutions involved in cooperative development. The membership of NCUI is broad-based comprising of cooperative institutions at national level, state level and multi-state cooperative societies representing all sectors of the Indian cooperative movement. At present, there are 207 institutions which are members of NCUI.
- xvii. The supreme authority of NCUI vests with its General Body which meets once in a year to decide the policy and programmes for cooperative development and also elects the Governing Council of NCUI once for a period of five years. The Governing Council meets once in every quarter and functions through the Executive Committee and other functional committees. The President is the head of the organization and is supported by the Chief Executive who operates through various functional divisions of the NCUI Secretariat.

State Co-operative Union

There are cooperative unions in every state formed as per sections of the respective Co-operative Societies Act. Kerala State Cooperative Union was established by Government of Kerala, as per section 89 of Kerala Co-operative Societies Act 1969; it came into existence in 1970. It focuses on providing Co-operative Education, Co-operative Training, and Assisting Co-operative Organizations in its growth and to carry out Co-operative propaganda.

- i. The Union conducts courses on cooperation (JDC and HDC) through its colleges and training centers throughout the state. It also offers leadership/management development programmes. The objectives can be enlisted as below:
- ii. To organize, assist and to develop Cooperative Societies
- iii. To carry on Cooperative propaganda
- iv. To spread education on Co-operative Principles and Practices
- v. To participate in the developmental activities and decentralized planning of the local authorities
- vi. To organize training programmes for the employees of Cooperative Societies and for the members of the Committee and to ensure their participation in such programmes

- vii. The study attempts to review the present level of Cooperative Education & Training activities undertaken by the Kerala State Cooperative Union vis-à-vis the above objectives
- viii. Section 89 of the KCS Act details the establishment of State Co-operative Union, 89A details the appointment of Officer or Committee of default on negligence of the managing committee of the state union, section 90 deals with the cooperative societies to affiliate to state unions, section 91 details the functions of state union and section 93 states the assets, liabilities etc. of the state union.

National Cooperative Development Cooperation

- i. The National Cooperative Development Corporation (NCDC) was established by an Act of Parliament in 1963 as a statutory Corporation under the Ministry of Agriculture & Farmers Welfare.
- ii. Its functions include planning, promoting and financing programmes for production, processing, marketing, storage, export and import of agricultural produce, food stuffs, certain other notified commodities e.g. fertilizers, insecticides, agricultural machinery, lac, soap, kerosene oil, textile, rubber etc., supply of consumer goods and collection, processing, marketing, storage and export of minor forest produce through cooperatives, besides income generating stream of activities such as poultry, dairy, fishery, sericulture, handloom etc.
- iii. NCDC Act has been further amended to assist different types of cooperatives and to expand its financial base. NCDC finances projects in the rural industrial cooperative sectors and for certain notified services in rural areas like water conservation, irrigation and micro irrigation, Agri insurance, Agro-credit, rural sanitation, animal health, etc.
- iv. Loans and grants are advanced to State Governments for financing primary and secondary level cooperative societies and direct to the national level and other societies having objects extending beyond one State. Corporation also goes in for direct funding of projects under its various schemes of assistance on fulfilment of stipulated conditions.
- v. The Management vests in 51 members widely represented General Council to give shape to its policies and programmes and Board of Management with 12 members to cater to day-to-day activities. Besides its Head Office at New Delhi, NCDC functions through 18 Regional/State Directorates. The Managing Director is the Chief Executive. Various functional divisions look after the programmes. The field offices play an important role in project identification/formulation and oversee its implementation. NCDC is endowed with in-house technical and managerial capabilities in the areas of Cooperation, Organization & Methods, Financial Management, Management Information Systems, Sugar, Oilseeds, Textiles, Fruits & Vegetables, Dairy, Poultry and Livestock, Fishery, Handlooms, Civil Engineering, Refrigeration and Preservation to help cooperatives to identify/formulate projects and successfully implement them.

- vi. The sources of funds of NCDC include internal accruals, market borrowings and allocations from Government of India including international assistance. The funds are used to give assistance to cooperative societies as given below:
- vii. Margin money to raise working capital finance (100% loan)
- viii. Strengthening of share capital base of societies (100% loan)
- ix. Working capital to regional/state level marketing federations (100% loan).
- x. Term loan for creation of infrastructural facilities like go downs, cold storages, equipment financing, purchase of transport vehicles, boats and other tangible assets
- xi. Term and investment loan for establishment of new, modernization/ expansion/rehabilitation/diversification of Agro-processing industries
- xii. Subsidy for preparation of project reports/feasibility studies etc
- xiii. NCDC assistance is not individual beneficiary oriented but is meant for institutional development of Cooperatives. NCDC supplements the efforts of State Government. The State Governments recommend the proposal of individual society / project to NCDC in the prescribed schematic format. The Society may also avail direct funding of projects under various schemes of assistance on fulfilment of stipulated conditions. The proposals are examined in the concerned functional division and if need be, on the spot field appraisal is undertaken. Thereafter, formal sanction of funds is conveyed to the State Govt. / Society. The release of funds depends on progress of implementation and is on reimbursement basis. The period of repayment of loan ranges from 3 to 8 years. The rate of interest varies from time to time.

National Bank for Agriculture and Rural Development (NABARD)



The importance of institutional credit in boosting rural economy has been clear to the Government of India right from its early stages of planning. Therefore, the Reserve Bank of India (RBI) at the insistence of the Government of India, constituted a committee to review the arrangements for Institutional Credit for Agriculture and Rural Development (CRAFICARD) to look into these very critical aspects. The Committee was formed on 30 March 1979, under the Chairmanship of Shri B. Sivaraman, former member of Planning Commission, Government of India.

- i. The Committee's interim report, submitted on 28 November 1979, outlined the need for a new organizational device for providing undivided attention, forceful direction and pointed focus to credit related issues linked with rural development. Its recommendation was formation of a unique development financial institution which would address these aspirations and formation of National Bank for Agriculture and Rural Development (NABARD) was approved by the Parliament through Act 61 of 1981.
- ii. NABARD came into existence on 12 July 1982 by transferring the agricultural credit functions of RBI and refinance functions of the then Agricultural Refinance and Development Corporation (ARDC). It was dedicated to the service of the nation by the late Prime Minister Smt. Indira Gandhi on 05 November 1982. Set up with an initial capital of Rs.100 crores, its' paid-up capital stood at Rs. 5,000 crores as on 31 March 2016. Consequent to the revision in the composition of share capital between Government of India and RBI, the Government of India today holds Rs. 4,980 crores (99.60%) while Reserve Bank of India holds Rs. 20 crores (0.40%).
- iii. NABARD aims at building an empowered and financially inclusive rural India through specific goal-oriented departments which can be categorized broadly into three heads: Financial, Developmental and Supervision. Through these initiatives it touches almost every aspect of rural economy. From providing refinance support to building rural infrastructure; from preparing district level credit plans to guiding and motivating the banking industry in achieving these targets; from supervising Cooperative Banks and Regional Rural Banks (RRBs) to helping them develop sound banking practices and on boarding them to the core banking platform; from designing new ways to the implementation of Government's schemes; from training handicraft artisans to providing them a marketing platform for selling these articles. The SHG Bank Linkage Project launched by NABARD in 1992 is the world's largest micro finance project. Kisan Credit Card, designed by NABARD has become source of comfort for crores of farmers.
- iv. NABARD has financed one fifth of India's total rural infrastructure.

Lesson 13

Food Safety Regulations

Food Laws and Regulations



- i. Effective national food control systems are essential to protect the health and safety of domestic consumers. They are also critical in enabling countries to assure the safety and quality of their foods entering international trade and to ensure that imported foods conform to national requirements. The new global environment for food trade places considerable obligations on both importing and exporting countries to strengthen their food control systems and to implement and enforce risk-based food control strategies.
- ii. Consumers are taking unprecedented interest in the way food is produced, processed and marketed, and are increasingly calling for their governments to accept greater responsibility for food safety and consumer protection.
- iii. The Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) have a strong interest in promoting national food control systems that are based upon scientific principles and guidelines, and which address all sectors of the food chain. This is particularly important for developing countries as they seek to achieve improved food safety, quality and nutrition, but will require a high level of political and policy commitment.
- iv. In many countries, effective food control is undermined by the existence of fragmented legislation, multiple jurisdictions, and weaknesses in surveillance, monitoring and enforcement. These guidelines seek to provide advice to national authorities on strategies

to strengthen food control systems to protect public health, prevent fraud and deception, avoid food adulteration and facilitate trade. They will enable authorities to choose the most suitable options for their food control systems in terms of legislation, infrastructure and enforcement mechanisms.

- v. Globalization of the food supply chain, the increasing importance of the Codex Alimentarius
- vi. Commission, and the obligations emerging from the World Trade Organization (WTO) Agreements have resulted in unprecedented interest in the development of food standards and regulations, and the strengthening of food control infrastructure at the country level.
- vii. Globally, the incidence of food borne diseases is increasing and international food trade is disrupted by frequent disputes over food safety and quality requirements. The modern concept of risk assessment provides guidelines with important information on the principles and practices of food control and the trend away from a merely punitive to a preventive approach to food control.
- viii. Responsibility for food control in most countries is shared between different agencies or ministries with duplication of regulatory activity, fragmented surveillance and a lack of coordination commonly resulting in wide variations in expertise and resources between the different agencies and the responsibility for protecting public health may conflict with obligations to facilitate trade or develop an industry or sector.

Food Safety and Quality



- i. The terms food safety and food quality can sometimes be confusing. Food safety refers to all those hazards, whether chronic or acute, that may make food injurious to the health of the consumer. It is not negotiable.
- ii. Quality includes all other attributes that influence a product's value to the consumer including negative attributes such as spoilage, contamination with filth, discoloration, off-

odors and positive attributes such as the origin, color, flavor, texture and processing method of the food. This distinction between safety and quality has implications for public policy and influences the nature and content of the food control system most suited to meet predetermined national objectives.

Food control

- i. It is defined as a mandatory regulatory activity of enforcement by national or local authorities to provide consumer protection and ensure that all foods during production, handling, storage, processing, and distribution are safe, wholesome and fit for human consumption; conform to safety and quality requirements; and are honestly and accurately labeled as prescribed by law.
- ii. The foremost responsibility of food control is to enforce the food law(s) protecting the consumer against unsafe, impure and fraudulently presented food by prohibiting the sale of food not of the nature, substance or quality demanded by the purchaser.

Codex Alimentarius Commission



The Codex Alimentarius Commission (CAC) is an intergovernmental body based at Rome, Italy that coordinates food standards at the international level. There are 186 member countries and European Union in CAC. Its main objectives are to protect the health of consumers and ensure fair practices in food trade. The CAC proved to be most successful in achieving international harmonization in food quality and safety requirements. It has formulated international standards for a wide range of food products and specific requirements covering pesticide residues, food additives, veterinary drug residues, hygiene, food contaminants, labeling etc. These Codex recommendations are used by governments to determine and refine policies and program under their national food control system.

SPS and TBT Agreements

The conclusion of the Uruguay Round of Multilateral Trade Negotiations in Marrakech led to the establishment of the WTO on 1 January 1995, and to the coming into force of the Agreement on the Application of Sanitary and Phyto-sanitary Measures (SPS) and the Agreement on Technical Barriers to Trade (TBT). Both these Agreements are relevant in understanding the requirements for food protection measures at the national level, and the rules under which food is traded internationally.

Importance of food laws and regulations



- i. The development of relevant and enforceable food laws and regulations is an essential component of a modern food control system. Food law has traditionally consisted of legal definitions of unsafe food, and the prescription of enforcement tools for removing unsafe food from commerce and punishing responsible parties after the fact. It has generally not provided food control agencies with a clear mandate and authority to prevent food safety problems. The result has been food safety programs that are reactive and enforcement-oriented rather than preventive and holistic in their approach to reducing the risk of food borne illness. To the extent possible, modern food laws not only contain the necessary legal powers and prescriptions to ensure food safety, but also allow the competent food authority or authorities to build preventive approaches into the system.
- ii. The need for technical assistance in strengthening food control systems in developing countries is well recognized. FAO and WHO are the two main specialized agencies of the

United Nations involved in food quality and safety technical cooperation programs with developing countries.

Introduction to food laws and standards in India

- i. The Indian food processing industry is regulated by several laws which govern the aspects of sanitation, licensing and other necessary permits that are required to start up and run a food business. The legislation that dealt with food safety in India was the Prevention of Food Adulteration Act, 1954 (hereinafter referred to as "**PFA**"). The PFA had been in place for over five decades and there was a need for change due to varied reasons which include the changing requirements of our food industry.
- ii. The act brought into force in place of the PFA is the Food Safety and Standards Act, 2006 (hereinafter referred to as "**FSSA**") that overrides all other food related laws. It specifically repealed eight laws which were in operation prior to the enforcement of FSSA:
 - iii. The Prevention of Food Adulteration Act, 1954
 - iv. The Fruit Products Order, 1955
 - v. The Meat Food Products Order, 1973
 - vi. The Vegetable Oil Products (Control) Order, 1947
 - vii. The Edible Oils Packaging (Regulation) Order, 1998
 - viii. The Solvent Extracted Oil, De oiled Meal, and Edible Flour (Control) Order, 1967
 - ix. The Milk and Milk Products Order, 1992
 - x. Essential Commodities Act, 1955 (in relation to food)
- xi. FSSA initiates harmonization of India's food regulations as per international standards. It establishes a new national regulatory body, the Food Safety and Standards Authority of India (hereinafter referred to as "**FSSAI**"), to develop science-based standards for food and to regulate and monitor the manufacture, processing, storage, distribution, sale and import of food so as to ensure the availability of safe and wholesome food for human consumption. All food imports will therefore be subject to the provisions of the FSSA and rules and regulations which as notified by the Government on 5th of August 2011 will be applicable.

Lesson 14

National Act – Food Safety and Standards Act 2006

- i. The following are the laws and regulations passed by parliament and FSSAI, which are important for milk and milk products.
- ii. Food Safety and Standards Act 2006
- iii. Food Safety and Standard Rules 2011
- iv. Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011.
- v. Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011
- vi. Food Safety and Standards (Prohibition and Restrictions on sales) Regulations, 2011
- vii. Food Safety and Standards (Packaging and labelling) Regulations, 2011
- viii. Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011
- ix. Food Safety and Standards (Laboratory and Sample Analysis) Regulations, 2011
- x. All of the above which includes the Act, Rules and Regulations pertains to the different aspects relating to food products and hence are significant for milk and milk products too. Food recall procedure, advertisement and claim regulations; and import regulations, though not very recurrent; in addition are imperative for milk and milk products. An understanding of them shall be vital for a producer, consumer, enforcer or an interested academician. The salient points in regulations are discussed

Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011

These regulations are amended recently on 2nd August 2017 with revised standards for milk and milk products and certain restrictions on sale of cream. The enforcement shall commence only after the regulations are notified in the Gazette of India. The major highlights in the amended regulations are as given below:

- i. The definitions given in the earlier regulations for different kinds of milk like boiled, flavoured, double toned etc. are omitted and elaborate definitions are incorporated for pasteurization, sterilization, recombined milk, mixed milk etc.
- ii. The definition says that Milk which is adjusted for milk fat or milk solid-not-fat content or both, may also be named 'milk'. Another major difference is with regard to 'milk' when

offered for sale without indication of class shall have the standards of mixed milk (4.5% fat and 8.5% SNF) instead of buffalo milk.

- iii. The standards of cow milk is on all India basis, rather than regional; as given in earlier regulations. The minimum standards are 3.2% fat and 8.3% SNF (Solids Not fat). The standards are said to be revised because of the changes in breed of cattle, differing environmental conditions and quality of feed, fodder and water.
- iv. Camel milk which didn't find a place in earlier regulations has been added with minimum 2% fat and 6% SNF on all India basis
- v. It is specifically mentioned that the standards of milk shall be applicable only at the point of sale.
- vi. Important to note that 'milk shall not contain any food additives. Additives can be added to milk products and the same is to be in conformation with the Appendix A of the regulations.
- vii. Standards of milk products (all the major milk products, except milk sweets) are given with the description, composition and quality factors, food additives, contaminants, toxins and residues; hygiene, labelling and method of sampling and analysis.
- viii. The regulations are to be understood along with Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011; Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011; Food Safety and Standards (Packaging and Labelling) Regulations, 2011 and methods of sampling and analysis as given in the manuals of FSSAI.
- ix. The label of pre-packaged milk as well as packed milk should specify the class of milk and the heat treatment. If the milk is not pre-packaged, the name of the milk shall be declared and mentioned on the container from which milk shall be offered for sale to the consumer and shall be preceded with the term 'Raw'.
- x. Milk and milk products should confirm with the microbial standards as laid down in Appendix B of the regulations.
- xi. Also, earlier on 10 October 2016, FSSAI had amended the regulations relating to microbial standards of milk and milk products, intended to come into force after one year, which is now in practice. The microbial requirements are given in Table 2A (Process hygiene criteria) and 2B (Food safety criteria) replacing the earlier Table 2 of Appendix B given in the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011.
- xii. In continuation to the above amendment, FSSAI has uploaded draft standards for Colostrum and Colostrum products on August 1, 2017 for comments, objections and suggestions (details available at www.fssai.gov.in) These shall be added to the Dairy

products and Analogues regulations of the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011.

Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011

- i. The major points to be noted with regard to milk and milk products in Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011 are mentioned below:
- ii. 'Petty food manufacturer' (PFM) in case of milk includes any manufacturer procuring or handling and collecting milk up to 500 litres per day. In case of milk products, it denotes a manufacturer who undertakes business not exceeding an annual turnover of Rs. 12 lakhs. Petty food manufacturer has to obtain registration from the registering authority of FSSAI.
- iii. The regulations provides that a producer of milk who is an enrolled member of a Dairy Cooperative Society registered under Cooperative Societies Act and supplies or sells the entire milk to the Society shall be exempted from this provision for registration.
- iv. Any food business operator (FBO) other than 'petty food manufacturer' has to obtain license from licensing authority under FSSAI. Dairy units including milk chilling units equipped to handle or process more than 50,000 litres of liquid milk/day or 2500 MT of milk solid per annum comes under the purview of central licensing authority.
- v. Every licensee engaged in manufacturing of milk and/or milk products shall file half yearly returns for the periods 1st April to 30th September and 1st October to 31st March of every financial year in the form D-2, as provided in Schedule-2 of these regulations. Such returns will be filed within a month from the end of the period.
- vi. The various forms, schedules, formats and details of fees (Schedule 3) related to licensing and registration is given in these regulations. Food licensing and registration portal of FSSAI is <https://foodlicensing.fssai.gov.in/index.aspx>
- vii. The regulations specify the general requirements as well as hygienic and sanitary practices to be followed by Food Business Operators engaged in manufacture, processing, storing and selling of Milk and Milk Products in Schedule 4 (First 3 parts).
- viii. Through a notification updated on 27 July 2017, the FSSAI has proposed some changes in the Food Safety and Standards (Licensing and Registration of Food Business) Amendment Regulation 2017 related to revision of documents and condition of license; which shall be reported soon.

Food Safety and Standards (Prohibition and Restrictions on sales) Regulations, 2011

These Regulations restricts the sale of milk and milk products specified in Food Safety and Standards (Food Products Standards and Food Additives) regulations, 2011 containing a substance not found in milk, except as provided in the regulations.

Food Safety and Standards (Packaging and labeling) Regulations, 2011

The regulations declare milk and milk products explicitly as vegetarian food. It emphasizes that the sealing device for milk packing shall be so designed that once the container has been opened, the evidence of opening remains clear and easy to check. Though batch/code no. is not required for milk; the 'best before date' shall be compulsorily given on the label. Different types of fluid milk shall be labeled in full or with an alphabet as like Buffalo milk or 'B', Double Toned Milk or 'DT' etc. Pasteurized milk shall be denoted by 'P' and hence Pasteurized Toned Milk shall be abbreviated as 'PT'.

Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011

The regulations specify the maximum limit regarding presence of metal contaminants, toxins, residues of insecticides, antibiotic and other pharmacologically active substances in different food products including milk and milk products.

Food Safety and Standards (Laboratory and Sample Analysis) Regulations, 2011

The quantity of sample to be sent to food analyst is laid down in these regulations. For milk, it is 500 ml; while for dahi, paneer, cheese, ghee butter etc., it is 200 g. A detailed list is available in clause 2.3.1 of the regulations.

Food Testing



- i. Food samples received from the Food Safety Officer is tested by the Food Analyst or any person authorized under the Act. Samples are analysed at NABL accredited laboratories. An appeal against the report of Food Analyst shall lie before the Designated Officer who

shall, if he so decides, refer the matter to the referral food laboratory as notified by the Food Authority for opinion.

- ii. Apart from the above, FSSAI has started setting up mobile food testing labs (Food Safety on Wheels) in all states and union territories. Through these units, 24 tests can be conducted on milk. A 'National Milk Quality Survey' to assess the quality of milk with focus on unsafe/adulterated milk is being planned by FSSAI. The manual of methods of analysis of milk and milk products has been released on 25th May, 2016 along with other 8 manuals.

Consumer Protection Act



Consumer Protection Act is an Act of the Parliament of India enacted in 1986 to protect the interests of consumers in India. It makes provision for the establishment of consumer protection councils at Central, State and District to increase consumer awareness and other authorities for the settlement of consumers' disputes (District Consumer Disputes Redressal Forum, State Consumer Disputes Redressal Commission and National Consumer Disputes Redressal Commission) and for matters connected therewith also. This statute is used for checking the unfair trade practices and 'defect in goods' and 'deficiencies in services' as far as India is concerned. It led to the establishment of a widespread network of consumer forums and appellate courts all over India. It has significantly impacted how businesses approach consumer complaints and empowered consumers to a great extent.

Lesson 15**Food Quality Management**

Food quality can be defined as the combination of attributes or characteristics of a food product that have significance in determining the degree of acceptability of that product to the consumer. It can also be said as the measure of purity, strength, physic-chemical and organo-leptic characteristics. The quality characteristics of food include external factors as appearance (size, shape, color, luster, and consistency), texture, and flavor; and internal factors which includes chemical, physical and microbial characteristics. Food Quality Management is a way of preventing mistakes or defects in manufactured products and avoiding problems when delivering solutions or services to customers. The major threats to food safety are pathogens, heavy metals, pesticide residues, aflatoxin, drugs, adulterants, neutralizers, preservatives etc.

Introduction to Food Safety and Hygiene

Food safety is a scientific discipline describing handling, preparation, and storage of food in ways that prevent food-borne illness. Food hygiene includes the conditions and measures necessary to ensure the safety of food from production to consumption. Food can become contaminated at any point during harvesting, processing, storage, distribution, transportation and preparation. Food safety and hygiene is all about making sure that food is safe to eat by customer.

Factors affecting food safety

- i. The consumption of food: Whether the food consumed is raw, processed, packed etc will determine the safety of food.
- ii. Prevention of food poisoning: Adequate measures to be taken to prevent food poisoning by microorganisms, chemicals and other extraneous substances.

- iii. Personal hygiene: Brushing teeth, bath regularly, trim hair and beard, trim nails, wear clean clothes, covering wounds with water proof bandage, washing hands, wearing apron, gloves and head cover etc forms part of personal hygiene.
- iv. Proper training to staff: Training to staff on personal hygiene, safe food handling practices, cleanliness etc. to be given on regular basis and monitoring it.
- v. Pest control: Pest control on regular basis with all-round action. Along with destruction of pest's steps to be taken to deny entry, food and shelter to pests.
- vi. Food preparation practice: This includes management of food premises and facilities; reception, transport and storage.
- vii. Cleaning and Sanitation: Pre-cleaning, washing, rinsing, drying and sanitizing forms part of this.
- viii. Refrigeration and heating: Proper refrigeration and heating procedures as part of processing at to be followed (Standardized procedures)
- ix. Waste handling/disposal: Keeping different dustbins, disposal of garbage on day-to-day basis, cleaning and sanitizing dust bins etc. form part of this.

Lesson 16

Food spoilage

Food spoilage can be defined as a disagreeable change in a food's normal state. Such changes can be detected by smell, taste, touch, or sight. These changes are due to a number of reasons - air and oxygen, moisture, light, microbial growth and temperature. By spoilage, food deteriorates to the point in which it is not edible to humans or its quality of edibility becomes reduced. Signs of food spoilage may include an appearance different from the food in its fresh form, such as a change in color, a change in texture, an unpleasant odor, or an undesirable taste.

Food handling

'Safe Food' means there is nothing in food that can cause harm. For e.g. - broken glass, hair, harmful chemicals or germs. We cannot see germs with our naked eye but if they are present, it makes the food poisonous and dangerous to eat. All persons handling food should practice good personal and food hygiene to ensure that food served to consumers is safe to eat. Also, safe food handling practices should be followed at all stages of food handling. This is important to avoid introducing contamination with food being served. Food premises and facilities/equipments should be clean. Safe food handling is required during processing, receiving, transporting and storing food. Cleaning and sanitation, waste disposal and pest control are also important.

Special requirements for high-risk foods

Food-poisoning bacteria can grow and multiply on some types of food more easily than others. High-risk foods include: raw and cooked meat, including poultry such as chicken and turkey, and foods containing them. The biggest health risk that meat, poultry and fish products can cause comes from cross contamination. The common points of cross contamination could be the chopping boards, utensils, knives and hands. High risk non-vegetarian food products need to be handled with special attention right from purchase to consumption. It is for this reason that FSSAI has laid down certain regulations that ensure safety of the consumers. Food Business Operators must follow these guidelines, when dealing with non-vegetarian products.

- i. You must purchase non-vegetarian products, whether processed or raw, only from licensed vendors/ slaughter houses. Ensure that the temperature of chilled products you are buying is at 5°C or below and that of frozen foods – 18°C or below. You should also have the cold storage arrangement to maintain these temperatures.
- ii. You should never purchase meat or poultry products that either have torn packaging or have packets that are leaking.

- iii. Before preparing or using non-vegetarian products, wash them thoroughly in potable water
- iv. Clean and disinfect the processing area immediately after use
- v. Prepare and process meat, poultry and fish separately
- vi. Cook non-vegetarian products thoroughly. The core temperature of the cooked product should be 75°C for at least 15 seconds or according to an effective time/ temperature control of 65°C for 10 minutes, 70°C for 2 minutes
- vii. Cover all non-vegetarian products that you want to store in the refrigerator. Store nonvegetarian products below vegetarian products
- viii. You must also store raw and cooked products separately. Store cooked products on the top and raw products below the cooked products
- ix. Remove immediately all left over refuse or waste of raw meat, poultry and fish from the preparation area

HACCP/ ISO Standards/Food Safety/Quality Management Systems



HACCP and ISO Standards are necessary conditions for improving the overall quality of food safety & hygiene in the country and also to increase India's share in global food trade. The main standards are as given below:

- i. HACCP (Hazard Analysis Critical Control Points): It is a systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes that can cause the finished product to be unsafe, and designs measurements to reduce these risks to a safe level. Hazard analysis is the key to an effective food safety management

system, since conducting a hazard analysis assists in organizing the knowledge required to establish an effective combination of control measures.

- ii. ISO 22000:2005 (Food Safety Management System): ISO 22000 integrates the principles of the Hazard Analysis and Critical Control Point (HACCP) system and application steps developed by the Codex Alimentarius Commission. By means of auditable requirements, it combines the HACCP plan with prerequisite programmes.
- iii. ISO 9001: 2015 (Quality Management System): ISO 9001 is one of the most widely used management tools in the world today dealing with fundamental quality management systems. Third-party certification bodies provide independent confirmation that organizations meet the requirements of ISO 9001.
- iv. GMP (Good Manufacturing Practice): Good Manufacturing Practice (GMP) is a system for ensuring that products are consistently produced and controlled according to quality standards. It is designed to minimize the risks involved in any pharmaceutical production that cannot be eliminated through testing the final product.
- v. These standards enable adherence of food processors to the stringent quality and hygiene norms thereby protecting the health of consumers, enhance product acceptance by buyers, both domestic & overseas and keep Indian industry technologically abreast of international best practices.

Tips For Safe Food

1. CLEAN: Wash hands and surfaces often

Bacteria can be spread throughout the kitchen and get onto hands, cutting boards, utensils, counter tops and food.

To ensure that your hands and surfaces are clean, be sure to:

- i. Wash your hands with warm water and soap for at least 20 seconds before and after handling food and after using the bathroom, changing diapers and handling pets.
- ii. Wash your cutting boards, dishes, utensils and counter tops with hot soapy water after preparing each food item and before you go on to the next food.
- iii. Consider using paper towels to clean up kitchen surfaces. If you use cloth towels wash them often in the hot cycle of your washing machine.
- iv. Rinse fresh fruits and vegetables under running tap water, including those with skins and rinds that are not eaten.

- v. Rub firm-skin fruits and vegetables under running tap water or scrub with a clean vegetable brush while rinsing with running tap water. With canned goods, remember to clean lids before opening.

2. SEPARATE: Separate raw meats from other foods

Cross-contamination can occur when bacteria are spread from one food product to another. This is especially common when handling raw meat, poultry, seafood and eggs. The key is to keep these foods - and their juices - away from ready-to-eat foods.

- i. To prevent cross-contamination, remember to Separate raw meat, poultry, seafood and eggs from other foods in your grocery shopping cart, grocery bags and in your refrigerator.
- ii. Use one cutting board for fresh produce and a separate one for raw meat, poultry and seafood.
- iii. Never place cooked food on a plate that previously held raw meat, poultry, seafood or eggs.
- iv. Don't reuse marinades used on raw foods unless you bring them to a boil first.

3. COOK: Cook to the right temperatures

- i. Food is safely cooked when it reaches a high enough internal temperature to kill the harmful bacteria that cause illness. Refer to the Safe Cooking Temperatures Chart for the proper internal temperatures.
- ii. To ensure that your foods are cooked safely, always:
- iii. Use a food thermometer to measure the internal temperature of cooked foods. Check the internal temperature in several places to make sure that the meat, poultry, seafood, eggs or dishes containing eggs are cooked to safe minimum internal temperatures as shown in the Safe Cooking Temperatures Chart.
- iv. Cook ground meat or ground poultry until it reaches a safe internal temperature. Color is not a reliable indicator of doneness.
- v. Cook eggs until the yolk and white are firm. Only use recipes in which eggs are cooked or heated thoroughly.
- vi. When cooking in a microwave oven, cover food, stir, and rotate for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking. Always allow standing time, which completes the cooking, before checking the internal temperature with a food thermometer. Food is done when it reaches the safe minimum internal temperature.
- vii. Bring sauces, soups and gravy to a boil when reheating.

4. CHILL: Refrigerate foods promptly

Refrigerate foods quickly because cold temperatures slow the growth of harmful bacteria. Do not over-stuff the refrigerator. Cold air must circulate to help keep food safe. Keeping a constant refrigerator temperature of 40°F or below is one of the most effective ways to

reduce the risk of foodborne illness. Use an appliance thermometer to be sure the temperature is consistently 40°F or below and the freezer temperature is 0°F or below.

To chill foods properly:

- i. Refrigerate or freeze meat, poultry, eggs, seafood and other perishables within 2 hours of cooking or purchasing. Refrigerate within 1 hour if the temperature outside is above 90°F.
- ii. Never thaw food at room temperature, such as on the counter top. Food must be kept at a safe temperature during thawing. There are three safe ways to defrost food: in the refrigerator, in cold water, and in the microwave. Food thawed in cold water or in the microwave should be cooked immediately.
- iii. Always marinate food in the refrigerator.
- iv. Divide large amounts of leftovers into shallow containers for quicker cooling in the refrigerator.
- v. Use or discard refrigerated food on a regular basis.

PERSONAL HYGIENE



- i. No personnel suffering from a disease shall be allowed to enter into any food handling area.
- ii. Any person suffering from a disease shall immediately report illness to the management and medical examination of a food handler shall be carried out immediately.

- iii. All personnel shall be medically examined once in a year and a record signed by a registered medical practitioner shall be maintained.
- iv. All the personnel shall be compulsorily inoculated against the enteric group of diseases and a record shall be maintained.
- v. In case of an epidemic, all workers are to be vaccinated irrespective of the scheduled vaccination.

BEHAVIOURAL & PERSONAL CLEANLINESS

Personal cleanliness of food handlers is the most important link in preventing foodborne illness. These personal hygiene habits shall become a part of their behaviour.

1. All food handlers shall wear suitable clean protective clothing, head covering, face mask, gloves and footwear.
2. Food handlers shall always wash their hands with soap and clean potable water, disinfect their hands and then dry with hand drier or clean cloth towel or disposable paper.
3. Food handlers shall always wash their hands at the beginning of food handling activities immediately after handling raw food or any contaminated material, 115 tools, equipment or work surface, where this could result in contamination of other food items or after using the toilet.
4. No Food handlers shall be engaged in smoking, spitting, chewing, sneezing or coughing over any food and eating in food preparation and food service areas.
5. The food handlers should trim their nails and hair periodically.
6. Food Handlers shall avoid certain hand habits such as scratching nose, running finger through hair, rubbing eyes, ears and mouth, scratching beard, scratching parts of bodies etc. When unavoidable, hands should be effectively washed before resuming work after such actions.
7. Street shoes inside the food preparation area should not be worn while handling & preparing food. 8. Food handlers should not handle soiled currency notes/cards to avoid cross contamination.

What Is Waste Management?

Waste management is the process of controlling and minimizing the amount of waste produced by individuals, businesses, and communities. There are many types of waste management, each with its advantages and disadvantages.

How Does Waste Management Help Control Pests?

Pests are attracted to places where there is food or garbage. Keeping your home or office clean and organized can reduce the risk of pest infestation. Proper waste management is one of the most effective ways to control pests. Following a few simple

guidelines listed below can minimize the amount of waste produced and keep your environment clean and safe.

Indoor Waste Management

- i. Waste management is often categorized as indoor waste management and outdoor waste management.
- ii. Each has subcategories below it.

Bin Collection

- i. Bin collection is the most common type of indoor waste management. It involves collecting garbage in trash bins or sacks and taking it to a local landfill or incinerator.
- ii. This system is efficient and easy to use, but it can be expensive to set up and maintain.

Tipping

- i. Tipping is a popular alternative to bin collection.
- ii. It involves tipping garbage into a large container on wheels that a truck empties at a landfill or incinerator.
- iii. This system is cheaper than trash bin collection, but it can be not easy to keep clean and sanitary.

Composting

Composting is a green alternative to traditional waste management methods.

- i. It composes organic materials like food scraps, decaying matter, and leaves to create a nutrient-rich fertilizer.
- ii. Composting is slow and takes up space, but recycling organic matter is an efficient way.

Outdoor Waste Management

- i. Outdoor waste management is what happens to waste after it leaves your home or office.
- ii. It can be disposed of in a number of ways.

Landfill

- iii. A landfill is a large area where garbage is dumped and buried.
- iv. This system is cheap and easy to use, but it can harm the environment.

Incinerator

- i. An incinerator is a large furnace that burns garbage to create heat or electricity.
- ii. This system is efficient and does not produce toxic fumes if managed well, but it can be expensive to operate.

Recycling

- i. Recycling is an effective way to reduce the amount of waste produced by individuals and businesses.
- ii. It involves sorting recyclable materials like paper, plastic, and glass and sending them to be recycled into new products.
- iii. Recycling is easy to do and can help save the environment.

How to Manage Waste and Control Pests

- i. Waste management is critical to controlling pests inside the home.
- ii. Proper waste management entails separating food waste from other types of waste, storing food waste, and disposing of all waste.

Separating Food Waste

- i. One way to help control pests is to separate food waste from other types of garbage.
- ii. This can be accomplished by using designated trash bins or containers for food waste. Be sure to wash this bin or container regularly.

Storing Food Waste

- i. Another way to help control pests is to store food waste. Store food waste in a cool, dry place in a covered container with a tight-fitting lid.
- ii. Be sure to empty the bin or container on a regular basis.

Immediate Disposal of Waste

- i. The final step in waste management is the immediate disposal of all waste.
- ii. All food waste should be disposed of in a covered trash can or dumpster.
- iii. Other types of waste should be disposed of according to local regulations.

Pest Infestation Consequences

- i. If pests are not controlled, they can cause a variety of problems. Pests can contaminate food, damage property, and spread disease.
- ii. In some cases, pest infestations can even lead to death.

Pest Control Methods

- i. If you find yourself dealing with an outbreak, there are many different pest control methods.
- ii. Each has its own advantages and disadvantages.
- iii. Some standard techniques of pest control include traps, poison, and chemicals.

Traps

- i. Traps are a popular method of pest control.
- ii. They work by capturing or killing pests.
- iii. Traps can be effective, but they must be monitored regularly to ensure they are working correctly.

Poison

- i. Poison is another popular method of pest control.
- ii. It works by killing or controlling pests.
- iii. Poison can be effective, but it can also harm humans and animals.

Keeping Your Surroundings Clean

- i. One of the best ways to prevent pests is to clean your surroundings.
- ii. This means cleaning your home and yard often.
- iii. It also means practicing the correct disposal of trash. Keeping your surroundings clean will make it less inviting for pests to live and breed.
- iv. Monitoring Your Surroundings
- v. Another way to prevent pests is to monitor your surroundings.
- vi. This means being on the lookout for evidence of pests, such as fecal matter or property damage.
- vii. If you see any evidence of pests, be sure to contact our professionals right away.

Other Pest Control Tips

- i. Here are some tips to help you control pests.
- ii. Identify the type of pest infesting your home. Determine the best time to use pest control methods.
- iii. Read the labels on all pest control products before using them.

- iv. Follow all instructions when using pest control products. Store all pest control products safely away from children and pets.
- v. Call us at NJ Pest Control in New Jersey for the best and safest way to remove and control pest problems.

Practice Proper Waste Management to Control Pests and to prevent pest infestation consequences

- i. Proper waste management to control pests inside and outside the home is critical for various reasons.
- ii. Pests can contaminate food, damage property, and spread disease.
- iii. In some cases, pest infestations can even lead to death.
- iv. By separating food waste from other types of waste, storing food waste properly, and disposing of all waste promptly and adequately, you can help keep your home pest-free.
- v. If a pest infestation does occur, NJ Pest Control is a professional pest control company that can help you get rid of your pests.
- vi. Contact us today to learn more about our services.

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