Milk Cooperatives and Dairy Farming in Karnataka: An Overview

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Abstract: Livestock and livelihood are very intimately related in our country and crop livestock integrated farming is the pathway of farmers' well-being. Crop residue forms the major source of feed to the livestock and livestock sector support the crop sector in the form of draught power and organic manure; supplies hides, skin, bones, blood and fibers to the industrial sector; and provides transportation. Livestock sector also plays an important and vital role in providing nutritive food rich in animal protein, in supplementing family income and generating gainful employment in the rural sector, particularly among the landless, small, marginal fanners and women, and thus is a dependable "bankon hooves" in times of need. With the galloping growth in human population, the demand for crop and livestock production is ever increasing.

I. INTRODUCTION

Agriculture throughout the world is still man's single most important activity despite, all the advances of high technology; it is still the only reliable source of food. Agriculture is the largest single employer in many third world countries. India with 2.4 per cent of the global geographical area, 16 per cent of the world human population and nearly 17 per cent of cattle population, still more than 65 per cent of population is dependent on agriculture in one or the other way. It is the main or only source of livelihood for over 50 percent of population, and contributes 13.9 per cent to the national income.

Livestock is an integral part of fanning and contributes substantially to household nutritional security and poverty alleviation through increased household income. It plays an important role in the rural economy. Livestock rearing is an important source of income and employment in the rural areas. Besides assisting crop production through provision of draft power, also helps in improving soil fertility. For many years to come, the bullock and buffalo will continue to be the main stay of agricultural operations particularly for small and marginal farmers. Even in future, despite modernization, a large proportion of motive power for rural transportation will be bullock based. Livestock also provide increased economic stability to the farm or household, acting as a cash buffer (small livestock) and as capital reserve (large animals), as well as adeterrent against inflation. In mixed-farming systems, livestock reduce the risks associated with crop production. They also represent liquid assets that can be realized at any time, adding further stability to the production system.

Livestock and livelihood are very intimately related in our country and crop livestock integrated farming is the pathway of farmers' well-being. Crop residue forms the major source of feed to the livestock and livestock sector support the crop sector in the form of draught power and organic manure; supplies hides, skin, bones, blood and fibers to the industrial sector; and provides transportation. Livestock sector also plays an important and vital role in providing nutritive food rich in animal protein, in supplementing family income and generating gainful employment in the rural sector, particularly among the landless, small, marginal fanners and women, and thus is a dependable "bankon hooves" in times of need. With the galloping growth in human population, the demand for crop and livestock production is ever increasing. Currently, livestock is one of the fastest growing agricultural sub-sectors in developing countries and this sector provides regular employment to 11 million people in principal status and 9 million people in subsidiary status.

Dairy farming is one of the important activities of the rural population of our country. The importance of the dairy, as a subsidiary industry to agriculture, has

stressed by the National Commission on Agriculture. Dairy enterprise, next to agriculture, not only provides continuous income and provides employment to a large number of the rural poor. Dairying can be used as a tool for poverty alleviation in the country.

Milk being an important source of protein in India, particularly in rural areas, the demand for milk is likely to increase with the increase in rural prosperity. With the growing demand for various products, Dairy farming can provide good opportunity, particularly for the small and marginal farmers and the landless to improve their economy. Livestock development is a labour intensive activity which demands very close attention throughout the year. This will be a boon for the small farmers and landless who are mostly unemployed or underemployed. Thus, animal husbandry can be promoted as a major economic activity in non-irrigated regions in the country.

Milk co-operatives are an integral part of the milk marketing and dairy development programme in India, popularly known as "operation flood" launched by the government of India in collaboration with the world food programme of the United Nations in July 1970.One of the world's largest rural development programmes ever undertaken, the operation flood aims at the setting up of modern dairy industry to meet the India's rapidly increasing need for milk and its products and making it capable of viable and self-sustaining growth. Operation flood helped dairy farmers to direct their own development, placing control of the resources they create in their own hands. A national milk grid links milk producers throughout India with consumers in over 700 towns and cities, reducing seasonal and regional price variations while ensuring that the producer gets fair market prices in a transparent manner on a regular basis. The bedrock of operation flood has been village milk producer's co-operatives, which procure milk and provide inputs and services, making modern management and technology available to members. Operation flood objectives included: (a) Increase milk production ("a flood of milk") (b) Augment rural incomes (c) Reasonable prices for consumers.

II. OPERATION FLOOD WAS IMPLEMENTED IN THREE PHASES

Phase-I (1970-78) was financed by the sale of skimmed milk powder and butter oil gifted by the European Union then EEC through the world food programme. NDDB planned the programme and negotiated the details of EEC assistance during its first phase. Operation flood linked 18 of India's premier milk sheds with consumers in India's four major metropolitan cities: Delhi, Mumbai, Kolkata and Chennai.

Phase II (1981-85) increased the milk sheds from 18 to 139. Totally 290urban markets expanded the outlets for milk. By the end of 1985, a self-sustaining system of 43000 village co-operatives covering 4.25 million milk producers had become a reality. Domestic milk powder production increased from 22000 tons in the pre-project year to 140000 tons by 1989, all the increase come from dairies set up under operation flood. In this way EEC gifts and World Bank loan helped to promote self-reliance. Direct marketing of milk by producer co-operatives was increased by several million litres a day.

Phase III (1985-1996) enabled dairy co-operatives to expand and strengthen the infrastructure required to procure and market the increasing volumes of milk. Veterinary first aid health care services, feed and artificial insemination services for co-operative members were extended, along with intensified member education. Operation flood Phase III consolidated India's dairy co-operative movement, adding 30000 new dairy co-operatives to the 42000 existing societies organized during Phase II. Milk sheds peaked to 173 in 1988-89 with the numbers of women members and women dairy co-operative societies increasing significantly. 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. From the outset, operation flood was conceived and implemented as more than a dairy programme. "Operation flood can be viewed as a twenty year experiment confirming the rural development vision" (World Bank report 1997).

III. THE CO-OPERATIVE STRUCTURE

KMF co-operative is a three-tier structure namely, (i) the Village Milk Producer's Co-operative Society (ii) The District Milk Producer Co-operatives Union and (iii) The State Milk Marketing Federation.

Primary Co-operative Society consists of members with in the village jurisdiction who own cattle and supply milk to the co-operatives on a regular basis. Milk is collected twice daily;

The sample of each producer is tested individually for fixing prices. The payment for milk supplied is also made daily to enable them to buy inputs like feed. An elected management committee of nine members manages the primary co-operative society for a term of three years, of which one will be the chairman. The management committee appoints a secretary, a treasurer and other staff. The staffs are trained in first aid and artificial insemination to meet the local emergency needs. The District Milk Producers Co-operative Union represents all the primary milk producers' co-operative societies, which are members of the union and is managed by an elected management committee of 19 directors, which elects its own chairman.

The union has a large professional staff lead by the managing director. The union is responsible for procurement, processing and marketing of milk and providing technical and input services like veterinary services, supply of feed, fodder, seeds and equipment besides training the staff. In the co-operative structure, the marketing federation forms the third tier for centralized marketing and purchase of milk. Its purpose is to maximize their turns to the primary producers in their unions through centralized marketing, purchase and quality control.

IV. HISTORY OF DAIRY CO-OPERATIVES IN KARNATAKA

In 1964, when late Prime Minister Lai Bahadur Shastri spent a night at Ajarpur, during his visit to Gujarat, was impressed with working of the village milk co-operative society. He requested Mr.Verghese Kurien, the general manager of AMUL, to extend Anand type of dairy co-operatives to other parts of the country. He also wrote to the chief ministers of different states to take the initiatives to set up Anand type milk co-operative societies. This led to the establishment of National Dairy Development Board (NDDB) in 1965 and its sister organization called Indian Dairy Cooperation in 1970 to implement a well-known programme known as Operation Flood which essentially entails the setting up of Anand type of dairy co-operatives throughout the country. In 1973, the Government of Karnataka prepared a dairy development project and submitted it to the World Bank for funding. The total project cost of Rs. 509.9million was to be met by the Government of Karnataka and the World Bank. The project report stipulated that the project should adopt Anand type dairy cooperative societies and NDDB should act as consultant to the project. The actual fieldwork was taken up in 1975. The project under Operation Flood-Iorganized the Karnataka Dairy Development Corporation (KDDC) which covered eight districts under four milk unions, namely Bangaluru (Bangaluru and Kolar), Mysuru (Mysuru, Mandya and part of Kodagu),

Hassan (Hassan, Chikkmagaluru and part of Kodagu) and Tumkur (Tumkur and part of Mandya). Later during 1983 under Operational Flood-II all the districts were covered.

Dharwad district co-operative milk producers federation limited, is Karnataka's one of the milk producing district organization. It is a district level apex body of milk co-operatives, which aims to provide remunerative returns to the farmers by eliminating the middlemen and also save the interest of consumer by providing quality milk and milk products at competitive price. It consists of 868 dairy co-operative societies, consisting of 127.85 thousand members and the quantity of milk produced by Dharwad KMF in the year 2011-12 was 40 thousand tonnes The White revolution of 70's had made spectacular land mark in the India's milk production scenario. India is the largest milk producer of the world and milk has been marked as the number one farm commodity. Dairy fanning is making a significant contribution to the national economy and socio-economic development in the country. In rural India where over 15-20 per cent families are landless and about 80 per cent of the land holders belong to the

category of small and marginal farmers, livestock is the main source of livelihood. In the absence of fertile land and assured irrigation which are controlled by a small population of rich farmers and lack of employment in the industrial and service sectors most of the rural families belonging to socio-economically weaker sections of the society maintain different species of livestock to supplement their income. Among various species of livestock, cattle and buffaloes are the major contributors from this sector to the National GDP.

Karnataka stands 11th in milk production producing 54 lakh tonnes of milk in 2011-12. Hence dairying has become an important source of income for millions of rural families and has assumed an important role in providing employment and income generating opportunities. In Karnataka, the share of animal husbandry in GSDP (Gross State Domestic Product) of agriculture and allied activities during 2010-11 was 26 per cent. The state ranks eleventh in milk production and its share in livestock and poultry population in the country is 6.20and 6.48 per cent, respectively.

V. IMPORTANCE OF THE STUDY

Due to continuous and intensive cultivation of land for meeting the objective of food security, the natural resources have drastically degrading and degraded over time. Many a times, this process is irreversible. Hence, such an alarming loss/degradation of natural resources must be prevented in future at all costs, otherwise the costs of recovery would be too high to imagine if left unattended. So far, studies conducted on Milk Producers Co-operative Societiesm betterment of dairy farmer's economy have been few and far between. Analysis of Milk Producers Co-operative Societies in betterment of dairy farmer's economy is gaining lot of importance in recent years. Such a study would throw light on the problems associated with Milk Producers Co-operative Societies in betterment of dairy farmers' economy and enable the academicians and policymakers to formulate and implement appropriate policies for a balanced, integrated agricultural development.

VI. REVIEW OF LITERATURE

Baviskar (2001) in his article has brought out the results of his study on two Co-operative societies in Sanjaya and Khada in Gujarat. He has quoted the various benefits enjoyed by the Milk producers, such as guaranteed market for milk at a fixed price, supply of cattle feed at a reasonable cost, provision of regular and efficient veterinary and extension services in the village itself. He has concluded that, while dairying adds to the profits of the big farmer, it contributes to the survival and viability of the small ones.

Thomas et al. (2004) in their report they have brought out the results of a study, which measured the various degrees of association that U.S. dairy farmers had with agricultural co-operatives. It was reported that dairy farmers tend to be affiliated with co-operatives in increasingly larger proportions as their farm size increased while about 50 per cent of the dairy farmers marketed milk through co-operatives. The same percentage purchased feed from co-operatives. It was concluded that the dairy farmers tend to be loyal members.

Deepak (2009) in his study addresses the issues relating to supply chain management of the Indian dairy sector with focus on both cooperative and private sector, the company's activities in India have facilitated direct and indirect employment and provides livelihood to about one million people including farmers suppliers of packaging materials, services and other goods. In the private sector reliance fresh has also been actively involved in supply chain management of milk in India. In order to ensure sustained supply, it not only extends low interest loan to farmers but also advices them on business development, livestock insurance and other technical advisory services. These private sector players involved in the supply chain management of milk have capability to handle larger volumes, expand reach, balance costs and addresses the demographic variations. They have also motivated dairy producers and others involved in the supply chain to invest and increase their earnings from dairy.

Chahal (1996) in his article has examined the data collected from members of milk producers' societies, milk sellers who disposed of milk to centres attached

to private milk Plants and milk sellers who sold milk to the milk vendors, sweet shops and local customers.

He has concluded that the milk co-operatives are playing a positive role in the rural milk market by providing tough competition to the private traders.

Mallick (1998) in his study attempted to examine the pattern of milk disposal and marketing costs and margins in milk marketing in Cuttack district of Orissa. The data were collected from a sample of 100 farmers, grouped under two locations (urban and rural) and the data was pertaining to the year 1996-97.The marketing costs and margins in milk marketing were analysed. The Orissa Milk Producers' Federation LTD. (OMFED) collected 58.54 percent of milk produced in rural areas of Cuttack district. It pasteurized, packed and distributed chilled milk in Cuttack and Bhubaneswar cities for final consumption. But the urban dairy farms sold about 55 per cent of milk at their door steps. The producer's share in the consumer's rupee varied from 65 percent to 97.50 per cent for the milk produced in rural dairy farms and from 69per cent to 98 per cent in urban dairy farms.

Patil et al. (1999) based on their study of 40 sample households conducted in April-May 1998 in a drought prone village of Sulikeri in Bagalkot district of Karnataka, concluded that as for as production of milk is concerned, the medium and large farm households produced more milk, on an average, than small and marginal farm households. However, the milk sold as a proportion of total production is very high in general, and still higher (80%) in respect of marginal farm households. Although the milk is marketed through three channels, viz., local sales by the households, sales to the milk vendors and to the milk producers' co-operative society. Milk vendors and MPCS accounted for a major proportion of milk collected. Out of the total sales of 165 litres per day, two-third is sold to MPCS. However, among small farmer households, milk sold to milk vendor is higher than that sold to MPCS due to the reason that many small farmers took hand loans from the vendors with an agreement to sell the milk to the vendor and secondly, due to the personal relationship existing between the vendor and the households. However, by and large, the sale to MPCS is higher.

Kumar and Mahalati (2000) analysed the price-spread, marketing costs and Margin in Eggs in different marketing channels in South-west M.P. of India. A study in price spread, cost and margin of the egg in different marketing channels was carried out on 50 respondents in south-west M.P. It showed that producer's share of consumer's rupee in egg marketing was highest under producer-consumer direct channel than other channel where in one or more middlemen existed.

Heinrich and Eva (2009) studied the structural market model for the Hungarian milk market. The results indicated that the abolition of export subsidies in 2004 led to considerable market distortions. The processors were able to exploit significant oligopsony power. However, the opportunities to benefit from this favourable market position eroded rather quickly with the development of alternative marketing channels for raw milk (exports lo Italy). The authors conclude that export subsidies had a negative welfare effect due to foregone specialization gains since they postponed the development of these markets.

Salem (2009) analysed the available Sheep Cheese supply chain: Governance system of channels in the Badia of Jordan. The data was elicited from archives, semi structured interviews, PRA (Participatory Rapid Appraisal), and survey with 118 participants carried out during the months of March-June 2007. The new trends have driven new organizational and institutional changes that led to the rise and use of contracts. Contracts varied in their attributes of delivery, prices, risk management, and provision of services such as credit and technical assistance. For the TA Factory, contracts remained unwritten and informal and did not set substantial requirements for technology upgrading and investment. The study recommends initiating written contracts for the benefit of the farmers as well as that of produce quality and standards.

Bardhan et al. (2012) analyzed the factors that determine dairy farmers' choice of marketing channel and to what degree their market choice influence the level of commercialization or market participation in Uttarakhand. The study has used multinomial logit model to ascertain major factors influencing producers' choice of marketing channels, Chow's

seminal test to examine differences between data from diverse regions (plains and hills) and a multivariate regression model to assess the level of market participation. The study has revealed that given the right institutional incentives and market infrastructure, marginal and small landholders are capable of scaling-up milk production and hence commercialize their dairy enterprises. The results of multinomial logit analysis have indicated that increase in the scale of milk production would lead a shift away from cooperatives to market as point of first sale. Milk production and extension contact have emerged as the two most important policy variables favourably influencing intensity of market participation. Distance to market has negatively influenced likelihood of producers' market participation, irrespective of hills or plains.

VII. CONCLUSIONS

Agricultural development leads to economic and social change of farmers. Increase in agriculture production and other allied activities increase the income of the farmers. The increase in income of farmers leads to more savings, which can be used either for further development of agriculture and can be spent for leading better life. The increase in purchasing power of a farmer determines, the socio economic conditions viz. the level of imparting education to the children of the farmers, social mobility, capacity to perform festivals, celebration of marriage functions, expenditure towards maintenance of health of the family members are the some of the indicators of socio-economic condition of farmers. It is advisable to encourage the dairy fanning through the authorized departments for better future.

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