

“ Role Of Milk Cooperatives In Village Development Of Karnataka State.”

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Abstract: *This paper aims at studying and revealing the role of the milk cooperatives in village development through the recovery and growth of the overall dairy chain in Karnataka. The study reviews and analyzes the outcomes of the milk cooperative Development Program implemented by the KMF Marketing Assistance Program and continued by the Center for Agribusiness and village Development. The paper also identifies and discusses the forms of vertical integration occurring in the dairy sector of the State and concentrates on several important issues viz., contractual mechanism between farmers and cooperatives and farmers and processors, problems and challenges milk producers face, farm social investments. The paper also aims at studying the relationships between member farmers and milk marketing cooperatives.*

Keywords: *Milk cooperatives, live stock, animal husbandry.*

I. Introduction

The dairy cooperatives of Karnataka have played an important role in the expansion of milk and dairy production in India. The expansion of the dairy co-operative network in India was by far the most important factor in the remarkable increase in milk production in India. Milk production increased from about 20 million tonnes in 1950s, when India was an importer of milk and milk products, to over 144 million tonnes, when India became the second largest producer of milk in the world in 2014. In India, it is generally observed that in the north and west the cow are better milkers, but as one gets to the south and east the milk producing quality deteriorates. This characteristic of milk production system coupled with perishable nature of milk imposes several constraints on devising improved system for assembling, processing and distribution of milk and its product. Dairy cooperatives were among the first type of agricultural cooperatives organized in the India .The Cooperative movement started in India in the last decade of the 19th Century with two objects in view, i.e. to protect the farmers from the hands of the private money lenders and to improve their economic condition. Madras province was the birth place of this movement. With the setting up of an Agricultural Cooperative Bank there the movement took root in our Land and slowly gained strength.

The history of the Dairy Development Movement in India is a new one. During the pre-independence period this movement was limited to a few pockets of Calcutta, Madras, Bangalore and Gujarat. The most notable of this venture was Kaira District Cooperative Milk Producers' Union Limited of Anand, Gujarat. But after independence, the National Government took great initiative in setting up new Dairy Co operatives in many parts of the country. The National Dairy Development Board (NDDB) was set up to make the ambitious project a success over the span of three decades, India has been transformed from a country of acute milk shortage to the world's leading milk producer, with production exceeding 144 million tonnes in 2014 gains of 4–5 percent per annum.

This phenomenal success is attributed to a Government initiative known as Operation Flood (1970–1996) and its intense focus on dairy development activities. In that initiative, rural milk shed areas were linked to urban markets through the development of a network of village cooperatives for procuring and marketing milk. And milk production and productivity were enhanced by ensuring the availability of veterinary services, artificial insemination (AI), feed and farmer education. The investment paid off, promoting production Livestock in general and dairying in particular play a vital role in the Indian economy. The contribution of the livestock sector to total national gross domestic product (GDP) was 5.9 percent in 2000-01, with the milk group making the highest contribution to the total value of the agriculture and allied sector (Rs. 1,44,088 crores). As indicated above in the introduction, millions of people are employed in the livestock sector and women constitute about 70 percent of the labour force.

Dairying has become an important secondary source of income for millions of rural families and has assumed a most important role in providing employment and income generating opportunity. Indian Dairying is unique in more than one way. It ranks first with its 185.2 million cattle and 97.9 million buffaloes, accounting for about 51 percent of Asia's and about 19 per cent of the world's bovine population (Karmakar:2006). It also ranks first in milk production with a production of 144 million tonnes in 2014. Contributing about 5.3 per cent to India's agricultural GDP, milk is a leading agricultural produce. The value of output from milk at current

prices, during 2006-07 has been over Rs.1,44,386 crores, which is higher than the output from paddy(Rs.85032 crore) alone and is also higher than the value of output from wheat (Rs.66,721 crore) and sugarcane (Rs.28,488 crore), put together. The unique feature of the system is that about 120 million rural families are engaged in milk production activities, as against big specialized dairy farmers in the west (Hegde: 2006). In spite of India's position as highest producer of milk, productivity per animal is very poor. It is only about 987 kg/lactation, as against world average of 2,038 kg/ lactation. The country's per capita availability of milk also is lower than the world's daily average of about 285 gm.s, though it has doubled from 124 gms in 1950-51 to 256gms per day in 2007-08 (Periyasami:2006). low productivity is due to the gradual genetic deterioration and general neglect of animals over the centuries and consequent to the rise in the population of non-descript cows (80%) and buffaloes 50%). Other factors contributing to low productivity include continuing droughts in some parts of the country, chronic shortages of feed and fodder coupled with their poor nutritive value and poor fertility of dairy animals and the inability of the farmers to raise the cows properly, which may be due to their poor economic conditions. Hence, the dairy industry faces twin challenges i.e., increasing milk productivity of animals with the limited resources on one hand and making the best use of the available milk to high quality. (Karmakar: 2006).

Now, Karnataka with milk production of 4.10 metric tons is the 11th largest milk producing state, constituting about 5 per cent of the country's total milk production. Further, Karnataka ranks 3rd in India in the procurement of milk by the Milk Producers' Co-operative Societies (MPCSs). MPCSs functions at village level, which acts as Catalyst between farmers & co-operative milk unions. Functions throughout the year in two shifts and helps the farmers to produce more milk. In Karnataka there is 1,33,00000 house holds seeking employment as per 2011 censuses in this 60% of households got the employment directly and indirectly. in this connection milk cooperatives play asignificant role in proving supplement income and employment.

The different review of literature stating the role of milk cooperatives in village development. The important studies are, **Shiyani (1996)** found that the milk production of the cattle owned by households associated with dairy cooperatives was significantly higher than milk production of other cattle in the villages. The study also found that members of cooperatives allocated the inputs better than independent producers. A **study of a village cooperative in Kheda district, Patel (1988)** found that over 75 per cent of the households that owned land were members of the cooperatives while only about 11 per cent of the landless labourer households were members. In another study on cooperative in Kheda district, **Bavisker (1988)** found that 88 per cent of the big landowners (households that owned more than 5.71 acres of land each) produced milk; the corresponding proportion for landless households was only 30per cent. Also as seen in Verhagen (1990), George (1994) and Rajaram (1996) there has been increased pressure to increase efficiency of livestock production: more milk, meat, and eggs with fewer inputs and decreased greenhouse gas emissions per unit of production.

Similarly, over nutrition is not confined to rich countries; nearly one in three African urban dwellers is overweight or obese, with the fastest rates of body weight increase among the poor (Ziraba et al., 2009) Milk, meat, and eggs currently provide around 13% of the energy and 28% of the protein consumed globally; in developed countries, this rises to 20 and 48% for energy and protein, respectively. The world's 17 billion livestock occur in three main types of production systems: confined intensive, mixed crop–livestock, and open grazing systems. Estimates, based on data for 2001 to 2003, suggest that grazing systems supply 9% of the world's meat and 12% of milk; mixed crop–livestock systems contribute 46% of meat, 88% of milk, and 50% of cereals; while intensive systems provide 45% of meat Shinde et al.1990, While vulnerability of animal production to climate change has hardly been documented in the context of India, experimental studies have been conducted on effects of season and climate on production, performance and other physiological parameters of dairy animals. These studies have shown milk yield of crossbred cows in India (e.g., Karan Fries, Karan Swiss and other Holstein and Jersey crosses) to be negatively correlated with temperature-humidity index. **Nelson et al., 2009**, In the longer term, livestock production can impact negatively on food security through production of greenhouse gases that contribute to climate change. In tropical regions, climate change is expected to result in significant yield reductions, although in temperate regions, the impacts might be beneficial in places Estimates of the current contribution of livestock to anthropogenic climate change, expressed in carbon dioxide equivalents, range from 8.5 to 18%. This includes carbon dioxide itself, mainly due to land use changes; methane emissions through enteric fermentation by ruminants; and nitrous oxide emissions, mostly from manure-handling practices. Tarawali et al., 2011 Shifting to fewer, more productive animals of more productive breeds is one way to do this although doing so would require enhanced access to breeding, animal health and feed services, and inputs to keep these less hardy animals alive and productive Such an approach also provides an opportunity for **“WIN-WIN solutions”** as described by Moran and Wall (2011), from the above literature there is scope studied under development of villages. Villages Development in India, unlike foreign countries where, co-operatives have been trained to develop milk dairies with the bent of corporate structure should be made possible only with strong development of co-operatives.

Objectives

1. To understand milk cooperatives facilities available and village development.
2. To understand impact of milk cooperatives on social development.

II. Methodology And Data Source.

The is based on Primary data and secondary data. In the back-drop of pre-stated objective, the study relied on field observations and interviews and the reports of KMF.

Sample Design. Milk farmers are selected randomly. were analyzed using simple statistical tools such as average, data regarding the cattle census, the district milk production and productivity, animals inseminated, calves born, vaccinations, mini kits distributed, women milk cooperatives, milk subsidy and growth of milk cooperatives analysed for the reference period from 2000-2014.

The Variables Of The Study : The present study is conducted in the state of Karnataka. The variables of the study included the livestock holding, land holding, dairy type/category, herd size and composition, family labour utilization, annual family income, family milk consumption pattern, inter caving period, proportion of crossbred animals, breed up gradation efforts, cost of milk production, cropping pattern, feeding practices, extension support and service delivery, technology adoption, productivity, access to market, price realization, market channels, effect of processing units/dairies, income and employment generation, Social development aspects like migration, school dropouts, infant mortality rates, malnutrition,

The Role of Co-Operatives in Villages Development in Karnataka:

Role of Co-Operatives in villages development is crucial and that is why this paper aims to understand milk cooperatives and village development in selected areas of Karnataka region and to understand the impact of milk cooperatives on social development.

And hence, the study included the livestock holding, land holding, dairy type/category, herd size and composition, family labour utilization, annual family income, family milk consumption pattern, inter caving period, proportion of crossbred animals, breed up gradation efforts, cost of milk production, cropping pattern, feeding practices, extension support and service delivery, technology adoption, productivity, access to market, price realization, market channels, effect of processing units/dairies, income and employment generation, Social development aspects like migration, school dropouts, infant mortality rates, malnutrition, incidence of farmers suicides, etc., Data were also collected from secondary sources of information such as official documents, records, registers and reports of Department of Animal Husbandry, Milk Unions / Private dairies.

Cooperatives provide farmers with an organizational arrangement at the grassroots level to assist them in planning, decision-making and implementing schemes that involve them and their families and that are designed to raise their socioeconomic standards. The common need of milk producers is to obtain a fair price for their milk and this is fulfilled through collective marketing. Milk is considered to be one of the most sensitive agricultural commodities, requiring special and timely care, and this can be provided conveniently as well through the collective operation of cooperative dairy societies. Apart from the collection and marketing of milk, other services, such as dairy inputs, extension services, veterinary health care, artificial-insemination services, provision of animal feed, fodder seed, planting material, fertilizers and credit, and training and education, can also be provided through cooperatives. These would act as business associations owned and operated by members for their entire benefit. Many countries are attempting to increase livestock and especially milk production by assisting small-scale farmers, since they are the most numerous and poorest of the population, and very often also landless. Such a policy has a social as well as a commercial purpose since while it provides rural employment, more cash income and diversification away from traditional crop production (by-products), it also enhances the utilization of potential family labour. Karnataka Milk Federation (KMF) is the largest Cooperative Dairy Federation in South India, owned and managed by milk producers of Karnataka State. KMF has over 2.32 million milk producers in over 13082 Dairy Cooperative Societies at village level, functioning under 14 District Cooperative Milk Unions in Karnataka State. The mission of the Federation is to usher rural prosperity through dairy development. During the last four decades of Cooperative Dairy Development by KMF, the dairy industry in Karnataka has progressed from a situation of milk-scarcity to that of milk-surplus. Karnataka Milk Federation (KMF) initiated the Support to Training and Employment Programme (STEP) The STEP Programme in Karnataka from October 1997. Since then, KMF has organized 800 Women Dairy Cooperative Societies (WDCS) in three Phases and in Phase IV converted 250 WDCS organized prior to the advent of STEP into STEP WDCS. In addition to these in the year 2007, the Government of India has approved two more Phases – Phase V for organizing of 200 new WDCS and Phase VI for bringing the 200 existing WDCS into the fold of STEP. Thus 1450 WDCS are sanctioned by Government of India (till Jan'09 WDCS are 1189) at a total

outlay of Rs.3974.64 lakh and has released till January-2009 Rs.2686.10 lakh. Each WDCS gets a grant of

Sl.No	Facilities	Cost/Unit	Granted Amount	Total Amount	% of Grant
1	Cattle Feed Sales (500 Mts)	40	20	80	50%
2	Mineral Mixture (720 Mts/Year)	40	20	144	50%
3	UMB(24000 No's)	50	25	6	50%
4	GhodarShakthi (Bypass Fat) (60Mts)	120	25	18	25%
5	Silage(100 No's)	30000	15000	15	50%
6	Motor Operated Chaf Cutter (200 No's)	40000	10000	20	25%
7	Electrical Milking Machine (200 No's)	60000	30000	60	40%
8	Artificial Insemination (4.40 Lakhs)	50	40	176	75%
9	Emergency Call (1,32,000 Cattle)	160	120	198	75%
10	TheileriaVaccination (30,000 Cattle)	60	Free	18	100%
11	Safe Kits (12000 No's)	80	50	4.8	60%
12	Deworming (2.0 Lakhs Cattle)	40	20	40	50%
13	Premium for Yashwini (2.20 lakhs Members)	200	50	120	25%
14	Premium for Cattle Insurance (1.50 lakh cattle)	1000	500	750	50%
15	Model Cow Shed (125 No's)	80000	40000	50	50%
16	Calf Rearing Sceme (10,000 Calves)	4000	1000	100	25%
17	Ajola Growing Plant (1000)	2000	1000	10	50%

approximately Rs.2.50 to 3.00 lakh for establishment, management and for granting interest-free loan for purchasing milch animals. The share of Government of India is 90% and implementing agency i.e. KMF and its Member Milk Unions share is 10%.

Table-1 Facilities available for milk producers

From the above table-1 it is clear that,there is maximum effort from the govt.to encourage milk farmers by supplying different dairy inputs at concessional rate. From this farmers can avail the facilities and there over all standard of living will be improved.At the village level some of the dairy- agricultural inputs available at concessional rate even small and marginal farmers can avail these facilities and in the state more population depended on dairy farming.

Nature of milk cooperatives in karnataka

All 29 districts of the State are covered by co-operative dairying activity implemented through 13 District Milk Unions. The coverage is as below:

- 3 Unions - 1 district each
- 5 Unions - 2 district each
- 4 Unions - 3 district each
- 1 Unions - 4 districts

The Following are the Institutions engaged in dairying in Karnataka.

1. Primary level : Primary Milk Producers Co-operative Societies at Rural level.
2. District level: District Co-operative Milk Producers Union Ltd.
3. State level : Karnataka State Cooperative Milk Producers Federation Limited, Bangalore. (K.M.F)

Table -2:Total number of milk cooperatives

Sl no	Year	No.
1	2004-05	8266
2	2005-06	8674
3	2006-07	9084
4	2007-08	9422
5	2008-09	9924
6	2009-10	10415
7	2010-11	10923
8	2011-12	11568
9	2012-13	12072
10	2013-14	12320

From the above table no-2 it is clear that,because of the development number of milk cooperatives have increased from 8266 in the year 2004-05 to 12320 in the year 2013-14 during this period it has more and more other opportunities.

Table-3:Total number of employees in KMF

Sl no	Year	Union	KMF	TOTAL
1	2008-09	4097	1172	5269
2	2009-10	3890	1172	5062
3	2010-11	3995	1171	5166
4	2011-12	3888	1146	5034
5	2012-13	3861	1121	4982
6	2013-14	3953	1282	5235

From the above table it is clear that, since milk cooperatives are rural based created employment 5235 in the year 2013-14. This number of employment opportunities in rural area itself is great progress in the rural development.

Table-4: Total number of milk products

SL NO	Year	No.
1	2004-05	23
2	2005-06	24
3	2006-07	25
4	2007-08	29
5	2008-09	30
6	2009-10	32
7	2010-11	35
8	2011-12	36
9	2012-13	36
10	2013-14	40

From the above table it is clear that, total number of milk products available over the period of time that is 23 products in the year 2004-05 and it is increased to 40 products in the year 2013-14. With increased more number of milk products will also increased demand for milk products so there by indirect increase in milk demand and ultimately caused village development.

Table -5: Average milk procurement per day

SL NO	Year	LKPD
1	2004-05	26.99
2	2005-06	29.64
3	2006-07	29.24
4	2007-08	30.25
5	2008-09	32.53
6	2009-10	35.77
7	2010-11	37.59
8	2011-12	42.84
9	2012-13	49.06
10	2013-14	51.53

From the above table it is clear that, milk procurement over the period of time has increased, it shows the growth in numbers of milk cooperatives and their income. In the year 2004-05 milk production was 26.99 LKPD (lakh kilogram per day) and it is increased to 51.53 LKPD in the year 2013-14.

Table -6: Women milk cooperatives

SL NO	Year	No.
1	2004-05	1245
2	2005-06	1409
3	2006-07	1589
4	2007-08	1798
5	2008-09	2043
6	2009-10	2285
7	2010-11	2486
8	2011-12	2746
9	2012-13	2928
10	2013-14	3007

From the above table it is clear that, role of women in the development of dairy is also pointed out the number of women milk cooperatives was 1245 in the year 2004-05 and it is increased to 3007 in the year 2013-14 so with this women empowerment is also encouraged.

Table -7: Subsidy paid to the milk farmers

SL NO	Year	IN CRORES
1	2008-09	136
2	2009-10	266
3	2010-11	281
4	2011-12	319
5	2012-13	362
6	2013-14	441

From the above table, it said that, to encourage milk cooperatives govt. of Karnataka giving Rs.4 per litre of milk in recognising therole of milk co operatives. Rs. 234 crore was given in the year 2008-09 and it has increased to 441 crore in the year 2013-14.

Table-8:Milk given to the scools in Bangalore rural

SL NO	District	No of schools	No of Childrens	WMP Supply (In Kgs)	No of schools	No of Childrens	WMP Supply (In Kgs)
1	Bangalore Urban	2250	331314	286383	2097	124050	156306
2	Bangalore Rural	1192	84783	72722	1209	51014	58060
3	Ramanagara	1484	101017	79811	1525	59054	54449
	Total	4926	517114	438916	4831	234118	268815

From the above table-2 it is clear that, social development by Bangalore milk union there are total 4926 school with 517114 students and supplied 438919 Kg of milk similarly 4831 anganavadi schools with 234118 students supplied 268815Kg of milk under Bangalore milk union, there by dropout rate decreased.

Findings of the study

- 1) Karnataka with milk production of 4.10 metric tons is the 11th largest milk producing state, constituting about 5 per cent of the country's total milk production.
- 2) About 17 milk inputs available at subsided rate.
- 3) Karnataka State are covered by co-operative dairying activity implemented through 13 District Milk Unions.
- 4) number of milk cooperatives have increased from 8266 in the year 2004-05 to 12320 in the year 2013-14
- 5) total number of milk products available over the period of time that is 23 products in the year 2004-05 and it is icresed to 40 products in the year 2013-14.
- 6) Rural based employment created 5235 in the year 2013-14.
- 7) Number Women milk cooperatives was 1245 in the year 2004-05 and it is increased to 3007 in the year 2013 -14
- 8) Milk subsidy Rs. 234 crore was given in the year 2008-09 and it has increased to 441 crore in the year 2013-14
- 9) Social development by Bangalore milk union there are total 4926 school with 517114 students and supplied 438919 Kg of milk similarly 4831 anganavadi schools with 234118 students supplied 268815Kg of milk under Bangalore milk union.

III. Conclusion

In developing countries, the dairy cooperative has been recognized as an important means of organizing the supply of agricultural inputs, processing and marketing agricultural produce and providing agricultural credit, among other related activities. It has proved to be a strong economic institution and a vehicle for improving the condition of the impoverished rural population. The farmer cooperative system has proved to be an effective vehicle for livestock development in general and for dairy development in particular in rural areas.

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