CHAPTER - II

REVIEW OF LITERATURE
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A detailed survey on research and non-research studies on various aspects relating to dairy industry both at national and international level have been made and from the survey relevant and selected studies are presented below as literature review.

M. Barbosa, (1990),” Goat's Milk Research in Portugal”. This brief paper emphasizes both the interest in producing goat's milk in countries where conditions for producing cow's milk are unfavorable and the increasing trend noted in recent years towards goat breeding as a basis for regional and national socio-economic development in Portugal. In Portugal, the goat dairy sector is characterized by emphasizing the market value of cheese. An assessment is made of the future development of this sector at a national level, drawing attention to the need to implement high-quality standards in production, processing and marketing. The necessity of technical and scientific support for balanced development within this sector justifies setting up research programs in cooperation with central and regional units. The main research centers are referred to and a list of the recent publications on goat's milk studies has been included.

Shrestha B, (2000) “Milk Production Dynamics and the Animal Feed Situation in The Jhikhu Khola Watershed”. The study conducted in 1998 which was designed to examine the positive and negative aspects of the increasing milk production in the Jhiku Khola watershed, Nepal, and to determine possible benefits and consequences for forestry and agriculture.
The specific aims of the study were to: (1) determine the milk dynamics in the watershed with an emphasis on the rate of change in milk production and milk marketing over the past five years; (2) document milk production and sources and supplies of feed; (3) examine the income obtained from the milk trade, women's workload dynamics, feed demands from forests, and feed use from arable lands; and (4) evaluate farmers' perceptions regarding milk production, and identify the causes, coping strategies, and possible opportunities. All the animals were stall fed. The majority of winter feed derived from crop residues, while the majority of summer feed was fresh grass. There was a shortage of crop residues from April to July in the spring and early monsoon, and of grass between October and May. Women generally had sole responsibility for collecting grass from agricultural and forested land. Men more commonly collected fodder from fodder trees on private land, and were mainly responsible for the transportation of milk to the cooperative centres. Farmers purchased water buffaloes in order to make money by selling milk, but they felt that they were not able to benefit sufficiently from this activity. They had great difficulty maintaining the buffaloes as they require special treatment and care throughout the day. At present the chilling centre accepts only 75% of what the farmers are producing for sale. This new system is creating hardship for many farmers because the surplus exceeds home consumption needs, and there are limited possibilities for processing the excess milk. Suggestions have been made that the milk be processed into other products, but at present this does not appear to be viable because of the lack of fuel wood, poor infrastructure, poor transportation network, and poor market access.
Todd M. Schmit and Harry M. Kaiser (2000), “Impact of Generic Fluid Milk and Cheese Advertising on Dairy”. Previous constant-parameter demand models have estimated generic advertising elasticities for cheese to be below that for fluid milk. The researchers relax this assumption, allowing for generic advertising response to vary over time. Cheese advertising elasticities were found below fluid milk up until the mid-1990s; average elasticities since have been similar. A benefit-cost ratio of the farmer-funded generic advertising program was estimated at $6.26:1 over the period of 1999-2001, indicating that generic advertising for fluid milk and cheese continues to be a viable and worthwhile program for milk producers.

Jacques Somda, et.al., (2001)“Characteristics and Economic Viability of Milk Production in the Smallholder Farming Systems in the Gambia”. It is pointed out that the domestic milk production has been for a long time hindered by many factors including lack of interest from decision makers, distorted economic policy and biotechnical constraints. For the last 20 years, many developing countries have been attempting to develop the domestic milk production sector. However, research on the basic realities and the viability status of enterprises within this sector remain largely unproved in many developing countries. This study focuses on the characteristic of smallholder milk producers in The Gambia. Data were collected from 90 smallholder farm households to characterize milk producers and evaluate the profitability and viability status of this activity. Based on current typology of farms and gross margin analyses at farm level, the study identified two resource-based types of smallholder farms.
The current milk production system is surely viable. Constraints to increased productivity include lack of improved technology at farm level and weak institutional support. Despite the low viability status, it is shown that milk production generates reliable incomes, which could be a departure for most farmers to intensify farming systems, particularly in areas where no loan schemes exist for purchasing agricultural inputs.

Karlheinz Knickel, (2001) “The Marketing of Rhöngold Milk: An Example of the Reconfiguration of Natural Relations with Agricultural Production and Consumption”. As late as the first half of the 20th century, the moderately mountainous area of the Rhön has been considered as the Armenhaus (poor peoples home) of Germany. Relative poverty and even food scarcity have been quite common. Physical conditions for farming are very marginal due to a high altitude, light soils, a rather harsh climate and a short growing season. Until the late 1980s the rate of farm abandonment and the proportion of younger people leaving the area has been significantly higher than in most other rural areas in Germany. In the late 1980s and particularly in the course of the 1990s, however, the rather negative image has almost been reversed. The region is now seen in terms of providing a model of sustainable (rural) development. This study examines the developments in society that have led to this re-evaluation of regional conditions. Reference is made to food quality, the reassessment of the use of natural resources, the perception of the quality of living conditions in rural areas and the idea of sustainability.
It is concluded that agriculture and, more generally, the potential of rural areas, are no longer being evaluated in monofunctional terms, and that, as a result, more industrial forms of agricultural production have lost a substantial part of their credibility and prestige. In contrast, the more traditional, less intensive and more diversified forms of agriculture are now esteemed, because they tend to be better adapted to natural conditions and because of their more favourable linkages with an integrated development of rural areas. The final section of the study examines the theoretical implications of the case study in terms of the reconstitution of nature-society relations. Reference is made to the redefinition of ‘production’, the rediscovery of the multifunctionality of agriculture, the interconnectedness in agricultural and rural development and the active construction of synergies at farm household, farm and regional level in rural development initiatives.

K O Osotimehin, et.al., (2001), “An Economic Analysis of Small Scale Dairy Milk Processing In Kogi State, Nigeria”. The Nigerian dairy industry represents an important component of the agribusiness sector of the economy with great economic, nutritional, and social implications. This study examined the profitability as well as operational efficiency of milk processing enterprise in Kogi state, Nigeria. Data used to achieve this objective were obtained from 100 nomadic households, which were randomly selected using a multi-stage sampling procedure. Data were generated using a questionnaire as well as direct observation (cost-route method). Descriptive statistics, budgetary analysis as well as operational efficiency index were used to analyze the data.
Results showed that milk processing enterprise was profitable and flexible. A net farm income of N18,011.20 per month was realized by an average processor, while the fixed costs accounted for about 1% of the total costs of processing milk into different products. It was also shown that operational efficiency was not generally high among the processors. Based on these results, the study advised less efficient processors to adopt the practices of the efficient ones in order to make the enterprise more profitable.

Ashoke Kumar Ghosh and Keshav Lall Maharjan (2002), “Milk Marketing Channels in Bangladesh: A Case Study of Three Villages from Three Districts” This study has been undertaken to understand a general features of milk marketing in Bangladesh and explore some of the issues on milk production among dairy households and their conditions under various milk marketing channels. This study highlights share of milk marketed in urban and rural region, quality of milk and price variations under different stages of marketing and selling spots. This study also identifies problem faced by farmers in milk marketing and their probable solutions. It is observed that most of the dairy farmers were small in size, their milk production low and they market the surplus milk after consumption. However, the cooperative farmers had more cows and were producing more milk per cow compared to non-cooperative farmers. Farmers were following dominant marketing channels for selling major portion of their milk according to the locations. Price fluctuation in marketing is one of the important constraints for the small dairy farmer. The seasonal price fluctuation was higher for both the villages of Labutta and Tarabunia at local as well as at urban markets. However, the cooperative price was fixed and it varied according to the fat content of the milk.
The average price of milk received by the dairy farmers was higher for the Potajia, with cooperative marketing system compared to other places. It means marketing channels of cooperative are more efficient than the other channels. The higher and fixed price of milk would help farmers to better dairy farm planning. The milk price is not fixed under the traditional marketing system and milk producers frequently suffer from low price, seasonal price fluctuation and irregular payments. Middlemen on the other hand, appropriate larger margins from milk market often mixing fresh milk with water and powder milk. The milk quality supplied to urban markets through middlemen was not of good standard and price of milk varied according to different types of consumers even at the same market. Generally, the infrastructures for milk marketing are not available in the markets. Lack of infrastructure also damages the quality of milk. But the cooperative provides all modern marketing facilities to their members for marketing their milk. The milk supplied under cooperative system is hygienic and guaranteed with price and quality. Therefore further development of dairy farming depends upon the organized marketing channel in which farmer can get fair price. Collective marketing like cooperative system can also reduce the transportation cost. Majority of the dairy farmers are satisfied with cooperative marketing system. So, keeping in mind for mass of the small producer, cooperative milk marketing system can be developed for betterment of the rural dairy farmers.
Leslie J. Butler, (2002) “Survey Quantifies Cost of Organic Milk Production in California”. This study measures the cost of organic milk production, and in particular, the differences in cost of production between organic and conventional milk in California. Results show that the total cost of production on a per cow and a per hundredweight basis is about 10% higher for organic producers than for conventional producers in the surveyed regions, and about 20% higher when compared on a statewide basis. The higher costs appear to be due to reduced milk production, higher feed costs, higher average labor costs, significantly higher herd replacement costs and significant transition costs. The higher costs associated with organic milk production are exacerbated to some extent by lower milk yields, and at the same time, are mitigated by the substitution of lower cost pasture for higher priced roughage and concentrate feeds. The higher prices paid for organic milk may more than offset these higher costs compared to their regional, same-sized neighbors.

Helene Hill, and Fidelma Lynchehaun, (2002) “Organic Milk: Attitudes and Consumption Patterns” This study considers consumer attitudes and motivation towards organic food, and milk specifically. This is then linked to the resulting purchase behaviour. Based on a combination of secondary and primary research, the results indicate the dynamics between these concepts. The resulting discussion highlights the importance of the associated internal and external factors within this area, and their impact for marketing managers.
Meenakshi Venkateswaran and Henry W. Kinnucan, (2003) “Evaluating Fluid Milk Advertising in Ontario: The Importance of Functional Form”. Generic advertising and promotion of milk and milk products have assumed increasing importance in Canada over the past two decades. The present research evaluates the Ontario generic fluid milk advertising campaign and determines the functional form that best describes the response of sales to advertising. The research also investigates whether appropriate amounts are being spent on fluid milk advertising. Empirical results indicate the generic fluid milk advertising program has significantly increased milk consumption. Using the empirically preferred inverse functional form, estimate Ontario fluid milk sales to have increased by 40 million litres during the last quarter of 1984 as a result of increased advertising. The associated increase in farm income is estimated at $16 million, or $24 per additional media dollar invested. Results indicate that the computed optimal spending levels are sensitive to functional form selection, and the empirically preferred inverse form suggests fluid milk advertising expenditures can profitably be increased to 1.7 times the current rate.

Jeremy Franks (2003) “Current Issues In Marketing Organic Milk In The UK”. The study pointed out that the recent background to the UK market for organic milk is reviewed to establish the background to the Organic Dairy Production: A Sustainable Future for Organic Dairying conference held in March 2002. The presentations given at that conference are critically reviewed. Several of arguably the most important determinants of the sustainable future of organic dairying did not find their full expression at that conference.
Issues largely or wholly excluded include: a priori evidence for expecting a higher level of co-operation among organic than conventional farmers; the distinction between “competitive pricing” and “sustainable pricing”; import penetration and substitution, and post-conversion subsidies; utilizing innovative information technologies to “tell the organic story”; policing organic standards and traceability; and the ownership of the “organic label” and the number of organic standard bodies. The importance of these issues is shown by reference to the current market situation for organic milk in the UK. There is a need for considerable developments in the marketing of organic milk. More distance must be placed between associations that campaign for market growth and an organization that will need to be appointed to take responsibility for providing reliable and impartial market-based information.

Harry M. Kaiser, (2003), “An Analysis of Policy Alternatives to the Dairy Price Support Program”. This study investigates the impacts of alternative federal dairy policies on the U.S. dairy sector. In addition to the current dairy price support program, five alternatives are investigated: (1) immediate deregulation, (2) gradual deregulation, (3) target price-deficiency payment program without supply control, (4) target price-deficiency payment program with supply control, and (5) mandatory supply control. An econometric model of the national dairy industry is used to simulate quarterly equilibrium price and quantity values at the farm and wholesale levels for each policy over the period 1980-90. Consumers are better off under both immediate and gradual deregulation, as well as the target price-deficiency payment scenarios because prices are lower, enabling them to consume more dairy products.
Farmers, as a group, are better off under the two target price-deficiency payment program and supply control scenarios, where milk prices and producer surplus are highest.

Randela R. (2003), “An Economic Assessment of the Value of Cattle to the Rural Communities in the Former Venda Region”. This study assesses the economic value of livestock to rural communities in quantitative terms. A quantitative valuation of livestock is assessed in terms of milk production, manure use, draught power and offtake/sales criteria. The study is based on a cross-sectional survey of 125 small-scale cattle farmers interviewed in the Venda region of the Limpopo Province of South Africa. The results of the study estimated the average total value of an adult cow to be R1 152. This value should be viewed as an opportunity cost of the cattle. A quantitative valuation of livestock is important in indicating the degree of impact of cattle mortalities on the livelihood of rural households. In addition, it offers important guidelines for farmers' compensation by the government, should a disaster occur.

Prashant Khare, H. O. Sharma And T.B. Singh1 (2003) “Marketing Analysis Of Milk Production In Bhopal District Of Madhaya Pradesh”. In this study the personal investigation method was adopted for the collection of primary data. Interview schedule was prepared carefully and after pre-testing the required data was collected by personal contact with the respondents. All possible precautions were taken for getting the reliable information. The collected information were also tested through cross-questioning at the time of investigation.
The result of the study indicates that the (i) Seasonal variation was observed in the collection of milk during the months. Milk collection was higher in healthy season (from September to February) and lower in unhealthy season (from March to August) Hence, efforts should be made for increasing the quantity of milk throughout the year specially in the unhealthy season by means of giving training to their producer members about hay and silage making. (ii) It is also observed that in spite of more production in the month of July and August. The producer members of the society were not in position to transport their milk due to lack of all weather roads. Hence, efforts for developing all weather roads by people’s participation are made. (iii) As the distance of the milk producer’s co-operative societies increases from the dairy plant, the volume of milk collection decreases, the milk collection was higher in those societies, which are well connected to the dairy plant. Hence, efforts should be made to connect all the societies lively to the dairy plant or sub centres of dairy plant to overcome this problem. (iv) The variable cost was the main component of cost of milk production and the maximum cost incurred in the purchase of feed and fodder and in labour management. Hence, it is concluded that efforts should be made so that farmer’s share some of their land in the cultivation of the fodder as the average milk produced devoted only 0.08 and 0.03 hectare are in Kharif and Rabi respectively in the cultivation of fodder (Barseam). (v) The charges borne by milk producer in the collection of milk from his farm to milk producer’s co-operative society was only Rs. 0.34 per litre in which transportation cost (51.45%) was the main component, which can be lower down if the quantity and quality (fat%) of milk is increased by various efforts such as training of quality milk production, feed and fodder cultivation, by providing medical facility and opening of A.I. centre in the area.
(vi) Producers got only 71.84 per cent share in consumers rupees, which can be increased by reducing their cost of milk collection from producers to consumer. In the collection of milk highest profit earned by the Dairy Plant (6.66%), followed by milk producer’s co-operative society (2.34%) and retailer of milk distribution (2.06%) share in the consumer’s rupees, which can also be increased of by the quantity and quality of milk. (vii) Low price of milk the most important problems in the collection of milk, followed by lack of cold storage, delay in payment, inadequate water for animals, lack of all weather roads, small quantity of marketable surplus of milk, improper treatment, lack of cross breed animals and uncertainty of electricity. Hence, efforts should be made to solve all there constraints. (viii) Lack of cold storage is main problems faced by milk producer’s co-operative society followed by lack of all weather roads, private trading and local politics. Hence, efforts should be made to solve all there constraints.

Andrew M. Karanja, (2003), “The Dairy Industry In Kenya: The Post-Liberalization Agenda”. The research report presents an analysis of various policy issues of concern to the dairy sub sector in Kenya. Specifically the study focuses on analyzing the competitiveness of the various dairy production systems in Kenya, the supply and demand of animal genetics since liberalization, the structure and performance of the informal and formal milk markets, export and import of dairy products, the trends in international dairy products market and the lessons for the country. Through the supply chain analysis, the study concludes that the emerging structure of post-liberalization dairy sector in Kenya is characterized by lack of co-ordination between production, processing and marketing.
This lack of vertical co-ordination continues to impact negatively on the performance and efficiency of the sub-sector. At production level, farmers find themselves with milk that they cannot find dependable market outlets. The dominant informal milk traders who have emerged after market liberalization are also found to be ill equipped to handle milk as a perishable commodity. This has led to heavy and unnecessary losses along the marketing chain. Milk hygiene continues to be compromised due to lack of proper handling and transport facilities. There is therefore real danger of milk consumers being exposed to public health risks. Nevertheless, most consumers continue to depend on raw milk mainly due to its low price as compared to the pasteurised milk. The market innovations of the informal milk traders has led to shrinkage of the pasteurised milk market which seems to lack market innovativeness to capture higher market share. The decline in the formal milk market has led to increased consumer, overhead costs as well as loss of competitiveness of the processed milk. The current dairy processing structure is not only found to be fragmented but also not ideal for export trade as well as domestic trade.

Ganesh Kumar B. and Serma Saravana Pandian A (2003), Cost of milk production in the milk shed area of Tamil Nadu”. The study on cost of milk production in the milk shed area of Tamil Nadu was carried out during 2000. The total cost per indigenous cow per day was Rs 33.03, total fixed cost and total variable cost accounting for 3.81 and 96.18% of total cost respectively. A category-wise analysis of farmers revealed that the total cost decreased with increase in farm size.
The total cost per buffalo per day was Rs 53.72 and total fixed cost and total variable cost accounted for 4.67 and 95.33%, respectively, the total cost per crossbred cow per day was Rs 72.86, total fixed cost and total variable cost accounted for 7.69 and 92.31% of total cost respectively. No specific trend was observed as far as the relationship between the total cost and category of farmers was concerned for both buffaloes and crossbred cows. The cost of milk production was lower in crossbred cows followed by buffaloes and indigenous cows.

B. Ganesh Kumar and Raj Vir Singh (2004) “Resource Use Efficiency of Cow Milk Production in Tamil Nadu” A study was conducted to analyze the input-output relationship, productivity of inputs and resource use efficiency of milk production for local and crossbred cows using production function analysis under rural conditions in Villupuram district of Tamil Nadu. The input data such as green fodder, dry fodder, concentrates, human labour (both family and hired), veterinary expenses and other miscellaneous expenses and inventory comprising milch animals, cattle shed, stores, dairy and watering equipments, etc. and the output data such as milk and dung were collected from selected households. The collected data pertained to the agricultural year 1996-97. The estimated Cobb-Douglas function explained about 72 and 70 per cent of variation in returns from milk yield of local and crossbred cows respectively. In case of local cows, expenditures on dry fodder, concentrates and labour were having positively significant impact on returns from milk production. In case of crossbred cows, expenditures on dry fodder and concentrates had positive and significant impact on returns from milk production. One thing that appears to be surprising is that green fodder, an important dairy input, turned out to be non-significant in milk production for both local and crossbred cows.
In case of local cows, the Marginal Value Product (MVPs) of dry fodder and concentrates were significantly less than unity, signifying over utilization of these inputs; while that of labour was observed to be significantly more than unity indicating its underutilization. Conversely, for crossbred cows, MVPs of dry fodder and concentrates were significantly greater than unity, indicating thereby their underutilization in the milk production process. However, the MVPs of green fodder and labour turned out to be statistically not different from unity, signifying optimal use of these inputs.

R B; Dayal, Rekha (2004) “Economic Analysis of Production and Marketing of Milk in Central Region of Uttar Pradesh” The study examines the economics of production and marketing of milk in the state of Uttar Pradesh. Linear and log-linear functions were used to work out the estimates of factors affecting marketed surplus of milk both for the private and cooperative systems. The results of the study indicate that the feed and fodder cost was the most important item of the total maintenance cost accounting for 55 to 65 per cent of the total cost in Zone I and 51 to 66 per cent in Zone II. The net profit per day of a milch buffalo was very low due to the higher maintenance cost.

Ansari, S A; et.al., (2004), Cows and Buffaloes in Different Regions Of Uttar Pradesh: A Multi-Dimensional Study . In this study an attempt has been made to understand the regional disparity and pattern of growth of bovine population among the different agro-climatic regions, namely, Western, Central, Bundelkhand and Eastern region of Uttar Pradesh, based on the data for the periods 1982, 1993 and 1997.
The analysis indicated that there are marked differences in the socio-economic status, distribution of land, livestock, liquid and fixed assets among the four regions. The Eastern and Bundelkhand regions are the poorest as compared to Western and Central Regions of the state.

Yoko Kijima, (2004), “Emerging Markets in the Post-Liberalization Period: Evidence from the Raw Milk Market in Rural Kenya”. This study examines how the raw milk market in western and central Kenya has developed after the dairy sector liberalization in 1992 by using panel data of 862 rural households. From the late 1990s to 2004, the proportion of rural households who sold milk increased from 37 to 51%. During the same period, the proportion of households who sold milk to traders more than doubled, while it declined from 29 to 12% for those who sold milk to dairy cooperatives. On the basis of the price differentials between the farm gate and retail prices, the researcher find that the functioning of the market improved between the late 1990s and 2004; in turn, the development of the milk market has increased the adoption of improved cows, resulting in higher milk sales.

K. Rajendran and Samarendu Mohanty (2004) “Dairy Co-operatives and Milk Marketing in India: Constraints and Opportunities”, in this study it is pointed out that the Operation Flood and dairy co-operatives emerged in India as the largest rural employment scheme, enabling the modernization of the dairy sector to a level from where it can take off to meet not only the country’s demand for milk and milk products but can also exploit global market opportunities. This study reviews the existing status of milk marketing and dairy co-operatives in India and provides recommendations to meet future challenges.
The results of the study indicate that 80 percent of the milk produced by the rural producer is handled by an unorganized sector and the remaining 20 percent is handled by an organized sector. It is found that the dairy co-operatives play a vital role in alleviating rural poverty by augmenting rural milk production and marketing. Involvement of intermediaries; lack of bargaining power by the producers; and lack of infrastructure facilities for collection, storage, transportation, and processing are the major constraints which affect the prices received by producers in milk marketing. Milk quality, product development, infrastructure support development, and global marketing are found to be future challenges of India’s milk marketing.

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Nori, Michele, et.al., (2006), “Milking Drylands: The Marketing of Camel Milk in North-east Somalia”. Increasing market integration appears to be an unavoidable process for most pastoral societies. Raising substitution rates between direct utilisation of animal products and consumption of cereals exchanged through markets is the most important reason for consistent population growth on rangelands (Helland 2000). To some extent, market exchanges are therefore a determinant of pastoral livelihoods, especially during the dry season when internal food production does not always satisfy households’ energy requirements. While offering potential for development, market integration of pastoral economies also presents critical risk factors. Increasing interdependence on regional and global political and economic environments compound pastoral vulnerability to climatic extremes. The Milking Drylands research initiative addresses these issues in one particular area of the world, Somalia. In this study, mechanisms regulating the marketing of camel milk in north-eastern Somalia (Region of Puntland) are analysed in order to provide relevant insights into a society that continues to experience a lack of central government and institutional capacities. The preliminary research findings provide some indications that pastoral dairy marketing serves a number of economic as well as social functions, through the exchange of a number of commodities, non-commodity services and information, which aims to satisfy the needs of both pastoral and urban communities.
Kinoshita, et al., (2006), “The Degree of Vertical and Horizontal Competition among Dairy Cooperatives, Precessors and Retailers in Japanese Milk Markets”. In this study, the researchers present a conceptual bilateral oligopoly model for measuring the degree of "vertical power balance" or the comparative degree of market power between sellers and buyers in Japan's fluid milk market. The model also simultaneously measures the degrees of horizontal competition among sellers, as well as horizontal competition among buyers. The researchers estimate the model based on available data and several simplifying assumptions, in order to illustrate how the model could be tested. The results presented here are tentative due mainly to data constrains, but they constitute the first econometric evidence supporting the general perception that retailers, through they face nearly perfect horizontal competition among each other, have extremely dominant vertical market power over fluid milk processes. Also, the results constitute the first econometric evidence that processors may have some vertical market power over dairy cooperatives.

Ryll, E. (2006), “The Evaluation Of Non-Marketing Premiums In Comparison To Other Alternative Milk Marketing Policies From The Point Of View Of Budget Policy, Consumer Policy And Welfare Economics” The study arises from a German article on cost-benefit analysis comparison of milk marketing systems by R. Wolffram and H. Hantelmann in Agra Europe (GFR) (1981) 10. This explored the effects for 1981/85 of (A) continuation of an income oriented price policy through the present intervention system with 2% annual rises in intervention price; (B) as (A) but with a non-marketing premium of 2135 EUA per cow, aiming to reduce cow numbers by four million or milk production by 16 mill t. (Bb similar but with a production levy);
(C) reducing the intervention price by 5.3% per year and compensation through income subsidies to maintain incomes at the same level as A and B (Cb similar but with a levy); (D) a deficiency payment system and (E) a quota system linking any price increases to the quantity produced in a base year (Eb similar with levy). The study examines the effects of these same policies on the EC budget and on consumer surplus and their general welfare economic effects. The detailed conclusions are compared with those of the cost-benefit analysis and the reasons for the conflicting conclusions are discussed in some detail.

Tanvir Ali (2006) “A Case Study of Milk Production and Marketing by Small and Medium Scale Contract Farmers of Haleeb Foods Ltd in Pakistan”. This case study examines Haleeb Foods Ltd. (HFL) a milk processing and marketing company that purchase its raw milk from small and medium scale producers. Haleeb Foods is at the forefront of product and packaging innovation. It has achieved market leadership in several food categories with a very strong portfolio, consisting of leading national and international brands. It is the fastest growing packed food company in the country; in 2005, the company reported an annual turnover of PKR7.2 billion. HFL has acquired various international quality and environment certifications, including ISO 9001-2000, HACCP and ISO 14001 (EMC). The purpose of the study was to generate policy-relevant research and to identify HFL’s innovative marketing practices using qualitative research techniques. A team of three researchers was trained in qualitative data gathering techniques and supervised by a senior researcher who gave back-up support. Key informants were identified in several scoping visits and were interviewed in ensuing visits.
Observations were also conducted at milk collection centres and milk quality testing laboratories. Field data were collected from Pakpur zone and the main plant site of Chenab Nagar, Kasur. The main characteristic of the marketing innovation of HFL was the exclusion of big milk contractors from the supply chain in the late 1990s. The big contractors were used to blackmail the company on one hand and the small-scale milk producers on the other. Therefore, the company decided to exclude the big contractors and started a policy of self-collection. This strategy saved the company from collapse by ensuring the sustainable involvement of small milk producers in the market chain. Another very important aspect of HFL’s innovation is its strict and stringent quality policy regarding the intake of raw milk. At every Plate Heat Exchanger (PHE) plant, rigorous quality tests are conducted to ensure that only fresh milk of the highest quality is accepted at the plant premises. These tests have led to a reduction in milk adulteration by the producers/suppliers and consumer confidence in HFL products is high as a result. These and other evolutions in the supply chain have led to the sustained inclusion of small farmers. The establishment of quality standards has ensured better marketing of the processed milk. The smallholders have had no problem selling milk, receiving a higher price for it than from other milk processing companies and they are now safe from blackmailing by big contractors who also paid less money per unit milk. On the other hand, inclusion is not very appreciable if examined from the point of view of any backward or forward linkages. The company does not provide any technical or other assistance to the farmers, especially the small farmers. This has a serious limiting affect on the growth of small farmers, as they seem destined to remain small subsistence farmers with no chance to rise up the supply chain.
Also, farmers are still potentially vulnerable to unfair or fraudulence behaviour from the independent middlemen who collect the milk from the farm gate. For example, although HFL pays its agents and contractors in advance for milk supplied, these middlemen sometimes only pay the farmers a fortnight after delivery. Another serious issue is the absence of any formal or even informal farmers’ organization, such as a milk producers association. Across most other major dairy producing countries, dairy farmers are organized into their own associations, which support farmer training and management, enable investment in infrastructure and provide support services. Due to the absence of any such association, farmers are unable to bargain collectively with the HFL or any other company procuring milk from their area. In conclusion, it was found that although milk production systems prevailing in Pakistan were plagued by lower milk yields, they offered immense potential for growth. Changes in animal management and basic animal feeding practices, especially by small dairy farmers, could substantially increase milk yields. Sustained effort on the part of the government and the private sector is needed to improve animal stocks and feed, management practices, and production technologies in order to harness the immense potential of this important livestock sector, in view of its contribution to GDP. Private companies engaged in milk collection and procession could help farmers to: upgrade supply chains by facilitating investment in chilling tanks for purchasing and collecting of milk, which would give farmers a guaranteed sale for quality milk; improve the quality of feed to ensure a better quality of milk in the form of advances tied to procurement of better feed; and demonstrate the health and safety problems associated with poor quality milk that would increase the potential sale of processed milk and milk products.
The government could: improve and enforce existing food safety standards in line with international standards; provide practical training to farmers on modern farming practices; raise capacity of training institutions to provide required training and qualifications; and investigate modern technologies, systems, and underlying seasonal economics of dairy production to better inform investment decisions and correct market distortions. Finally, on a social level, attempts to enhance production of smallholder dairying are important not only for raising milk yield in the country but could also become an effective tool for raising income levels of impoverished rural households. Successful interventions in this type of dairy farm could be the key to alleviating poverty in rural areas.

Oghaiki Asaah Ndambi, (2007),” Milk Production Systems in Central Uganda: A Farm Economic Analysis”. The Ugandan dairy sector is developing rapidly over recent years and is dominated by small-scale farmers owning more than 90 percent of the national cattle population. Due to market forces and higher competition for production factors, milk production systems are intensifying, necessitating proper understanding of the new production tendencies. Three intensive and four extensive production systems were identified and analyzed, using TIPI-CAL (Technology Impact Policy Impact Calculations model). The results show that the production systems are very different in many respects but share similar development trends. Whereas intensive systems use graded animals and invest heavily into feeding, buildings and machinery, extensive systems use local breeds and invest minimally. Total cost of milk production falls with increasing herd size, while dairy returns vary among farms from 18 to 35 USD/100 Kg of milk.
All systems make an economic profit, except the intensive one-cow farm, which heavily employs family resources in dairying. Due to better management of resources and access to inputs and markets, dairy farming closer to urban areas and using improved breeds is highly profitable, especially with larger herd sizes. Stakeholders should favour such practices as well as others which can improve productivity, especially in African countries where traditional systems dominate dairying.

Verma, A R, (2007), “Economics of Production, Marketing and Constraints of Buffalo Milk in Indore District of Madhya Pradesh”. An attempt has been made in the study to analyze the economics of production, marketing and constraints of buffalo milk in Indore district of Madhya Pradesh. It examines the cost and returns per year, the net return, cost of milk production per litre, benefit-cost ratio, evaluate the resource use efficiency, price spread and marketing efficiency of small, medium and large size-groups of buffalo farms. Multistage stratified sampling method was used for the selection of the ultimate unit of the sample.

Diansheng Dong, (2007), “Modelling Milk Purchasing Behaviour with a Panel Data Double-Hurdle Model”. In this study, the double-hurdle model typically used in cross-sectional data is extended to panel data structures. The new double-hurdle model can account not only for the censored nature of commodity purchases, but also for the dynamics of the purchase process. In this model, a flexible error structure is assumed to account for state dependence and household-specific heterogeneity.
In the empirical application for milk purchases, it is found that generic advertising increases the probability of market participation as well as the purchase quantity and incidence. Temporal dependence is also found in both purchase and participation equations.

Sertac Gonenc, Erkan Rehber, (2007) “Privatization in Agro-Food Sector: The Case of Turkish Dairy Industry”. This study aims to focus on the issue of privatization movement in the agro-food sector, in the light of the Turkish Dairy Industry Enterprises (TSEK) case, and the effects on the sector following privatization. In order to make an appropriate evaluation, the background of the privatization movement and the general structure of the dairy sector in Turkey are examined first. After a brief evaluation, the privatization process of TSEK and its effects on the sector are discussed in the light of the results of empirical data that obtain from the ANOVA model. It has been concluded that the liberalization process has been adopted without the setting up of market regulatory policies, thus, the price balance in the dairy sector has changed to the disadvantage of both producers and consumers, while market concentration has increased and regional differentials have become more apparent.

Hasan Cicek and Murat Tandogan, (2008) “Economic Analysis Of Dairy Cattle Activity In Afyonkarahisar Province”. The purpose of this research was to determine dairy enterprise’s production activities by doing economic analysis and economical principle how can redeem under present economical conditions in enterprises in Afyonkarahisar.
According to the finding results, cost factors, include firstly 47.82% feed, after 26.97% labor, 7.84% amortization, 7.28% other costs (energy + liquid fuel + liability capital interest + other current costs), 4.25% vets and meds, 3.25% repair and maintenance, 2.59% general management costs. Average income distribution observed in these enterprises were as follows; milk sales, change of inventory value, calf revenues, 52.68%, 40.83% and 6.49% respectively. In the enterprises, it was founded that average financial profitability is -3.77%, economic profitability is -3.56% and profitability factor is -22.40%. Returns to scale was 0.99.

Ayenew, Y.A, et.al., (2009), “Handling, Processing And Marketing Of Milk In The North Western Ethiopian Highlands” In order to describe the ways of handling, processing and marketing of milk in urban and peri-urban production systems of the North western Ethiopian highlands, 256 and 54 dairy farms were selected for survey and monitoring data collection, respectively. Due to poor market access and high transaction costs and the perishable nature of raw milk, the amount of sold milk (products) and prices were significantly lower for peri-urban producers. Prices were also low during fasting periods and during the wet season; when milk production was reactively high. Traditional ways of milk processing at household level include practices which may contain risks for product quality affecting consumers’ health. Providing basic handling and health education for producers therefore is likely to result in improved milk (product) quality on the markets. Direct delivery to the nearby consumers was the largest primary milk outlet for producers of both systems, while retailers and milk cooperatives were the second most common outlets for the urban and the peri-urban system, respectively.
Therefore, to enhance dairy production and marketing, milk co-operatives that could be able to market larger volumes and sufficiently reduce transaction costs should be supported by governmental and non-governmental organizations through providing technical and infrastructural support.

Ellis, K.A, (2009) “Public Opinion on UK Milk Marketing and Dairy Cow Welfare”. Interview questionnaires were administered to the general public in central Scotland and northern England during summer 2007 to investigate consumer awareness of UK dairy production methods, welfare issues and recognition of 'quality assurance' product logos. Fifty percent of respondents gave UK dairy animal welfare a positive rating. Recognition of individual quality assurance logos was poor and 75% of respondents stated that they did not intentionally seek to buy products with any of the logos. Respondents' perceptions of good dairy welfare included: appropriate feeding, good stockmanship, plenty of space, freedom to roam/free range and environmental cleanliness. Half of respondents felt they were poorly informed about food production and the majority of respondents (68%) would like more information on food production. Respondents believed that information on animal welfare provided by veterinarians and farmers would be reliable. Most respondents (93%) said they would pay more for good dairy welfare. The findings show that the general public are interested in animal welfare but could be better informed on dairy animal production and welfare. Veterinarians and farmers may have a potentially important role in providing this information with increasing demand for higher welfare provenance products potentially helping to improve animal welfare.
Sekar Murugan (2009), “A Study on the Marketing Practices of the Kovilpatti Co-Operative Milk Supply Society Ltd”. The objectives of the study are to review the structure and functions of the Co-operative milk supply society, to find out the existing marketing practices and to identify the problems which it has to face in the marketing of milk, to analyze the cost structure involved in the pricing of milk, to assess the functioning of the society from the consumers point of view, to offer suitable solutions to overcome the problems identified.

The major findings of the study include, As far as the Kovilpatti Co-operative milk supply society is concerned, the management is vested with a board, which consists of nine members elected by the general body as per the election procedures. In addition to the procurement and sale of milk, making arrangements with the nationalized banks for issuing loans to members. Selling green fodder to its members at subsidized prices and providing employment are the other functions of the society. The current study has given due importance to the marketing practices of the society. At present, the society procures milk both from its members and the chilling centre in order to meet the demand and requirements of the consumers in Kovilpatti. A careful analysis of the selling price shows that the price has increased from Rs. 12.00 in 2005-2007 to Rs19.00 in 2007-2008, thus representing an increase of Rs 7.00. On personal enquiry, it was found that it is due to the fact that the rate charged by the chilling centres has considerably increased during that period. The pricing policy of the society is divided into two stages, namely policy regarding purchase price and selling price. Regarding the purchase policy, it is found that the society is following the two axis pricing system for its procurement from the members.
Under this system, the society is making payment on the basis of Fat & SNF contents in the procured milk. Regarding the sales policy, it is found that the society is not having any scientific policy. All the costs incurred are not independently and scientifically maintained by the society. Hence, an attempt has been made by the researcher to find out the actual cost on scientific lines by adopting the single or unit output costing. The researcher suggested that in order to increase the numbers of milking members and to procure more milk from members. It is suggested that the area of operation of the society shall be extended to a radius of at least 12 kms. It is also recommended that the society shall make their procurement rates known to all residing in the area of operation so as to attract more suppliers of private dealers and thereby achieve the target of the required number of milking members. In order to tackle out the problems related to the payment of high price to the chilling centers, it is advised that the society shall take efforts to take payment on the basis of the Fat and SNF contents so that the society can have an effective control over its procurement price. Again, the study suggests that the society shall try to supply milk according to the convenience of consumers also by introducing some flexibility in their distribution time schedule. Regarding the reduction in price of milk the present study would like to suggest that the society shall try to reduce its existing price at least by a very small margin since the price reduction has much impact on the level of their purchases. The Success of any business depends on the attitude and preferences of the consumers.
A survey of the various studies on the dairy industry in India reveals that research study on the economic analysis of production and marketing of cow and buffalo milk in Madurai district of Tamilnadu is not yet attempted. The present study Economic Analysis of Production and Marketing of Milk in Tamil Nadu (With Special Reference to Co-Operative Milk Producers’ Union Ltd, Madurai District) attempts to fill the research gap. The study focuses mainly on the cost and returns structure of milk production, existing distribution and marketing system of Madurai District Co-operative Milk Producers’ Union Ltd, and constraints faced by the milk producers and the Madurai District Co-operative Milk Producers’ Union Ltd. It is excepted that the results of the study may have practical utility on the dairy industry in Madurai District for improving milk production especially in the global competitive scenario.