

Profile of Indian Dairy Industry An Overview

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Dairy development in India has emerged as one of the modern India's most successful development programmes. India's White Revolution, which has quietly swept the country during the past few decades, deserves attention equal to that given to the better known Green Revolution. India has become the largest milk producer in the world. From being a major importer of dairy products in the 1950s, India has now become an exporter. The strength of Indian dairy sector lies in the fact that despite of limited investment, it has shown consistent and sustainable growth. Presently India ranks first in the World milk production with 88.02 million tones (2002 03) with an annual growth rate of 4.2 per cent. Planning Commission estimates that by the end of Xth Plan, milk production may touch 100 million tones.

I. Features of Indian Dairying

Indian agriculture is an economic symbiosis of crop and livestock production. Milk has become India's most important farm commodity, the value of its output exceeds that of paddy. Livestock sector plays an important role in the National economy and in socio economic development of the country, supplementing family incomes and generating gainful employment in the rural sector. Dairy sector provides cash income, draught power and manure, which augments the crop production. Since time immemorial dairying has provided a means of livelihood for our rural masses but it is only over the last half century that its role in contributing to their socio economic betterment became tangible and recognized.

Milk production by masses, characteristic of Indian Agriculture, is evident from the fact that India's 88 million tones plus milk production (2002 03) comes from a milch herd of around 100 million comprising 60 million cows and 40 million buffaloes involving 70 million dairy farmers. In contrast, USA's milk production of about 75 million tones comes from 9.11 million cows entirely (2001) with the number of dairy farmers being a mere 0.11 million. Another characteristic feature of Indian Dairy Industry is that buffalo milk constitutes about 55% of the total milk production.

II. Co-Operative System of Dairying

The co-operative system was initially a two tier type, the primary village Dairy Cooperative Societies of milk producers at the base, with a cluster of such societies forming a District Milk Producers' Union entrusted with procurement and processing. Further, Federation of Unions was created to market their milk and milk products. The organizations at each level are governed by their own bylaws and are managed by democratically elected boards. The facilities at all levels are entirely farmer owned. By appointing qualified technologists and professional managers, the cooperatives also made sure that the farmers' productive genius was linked to modern management and technology.

The Union has always ensured that productivity enhancement measures are available to its members. Modern plants produce high protein concentrate feeds and make them available at the cooperatives. The Union provides animal health care and breeding facilities. Artificial insemination service with good quality semen was introduced through trained village society workers. A mobile veterinary service was provided for veterinary first aid. Above all, the best incentive for enhanced production was the Union's undertaking to buy the entire quantity offered by the farmer irrespective of the season.

III. Operation Flood Programme

Operation Flood has been one of the largest and most successful rural employment schemes in the world. Cooperative dairying means regular income to lakhs and lakhs of small farmers. Operation Flood programme was launched in 1970 to replicate milk co-operative societies and create a flood of milk in India's villages. This programme involved strengthening the basic infrastructure and measures for production enhancement and animal healthcare and nutrition and thus consolidating the overall growth of dairy industry.

It has more than 81,000 cooperative societies to 170 milk producer unions who process and market it as liquid milk and processed products.

IV. Milk Production, Processing and Distribution Pattern

A large quantity of milk (about 50 percent of the total production) is being diverted for product preparations. Varieties of traditional dairy products to the tune of 42 million tones per year valued at Rs.250 billion with varying degree of shelf life are being manufactured. The major traditional products being produced for sale in the market are khoa, paneer, chhana, ghee and khoa and channa based milk products like rasogolla, burfi, gulab jamun, rajbhog, chamcham etc.

The success achieved in the augmentation of milk production in the country is reflected by the fact that milk production has raised from a mere 20 million tones in 1970 to 88 million tones in 2003. As against a per capita availability of 132 g per day in 1950, the present per capita availability is almost 225 g per day.

despite tremendous increase in population in the last 50 years. Almost the entire quantity (98 per cent) was produced in the rural sector. Only 10 per cent of the milk produced (20 million liters per day) was processed in dairy plants. The value of the output of the dairy plants was Rs 1,050,000 million. On the consumption side, 44 per cent of the total production was consumed in the rural sector either as liquid milk or after local conversion into products; the remaining 56 per cent was consumed in the urban sector. By far the major part (84.3 per cent) of the liquid milk consumed in urban areas is supplied by the traditional or unorganized sector of *dudhiyas* and milk shops. In the organized sector, while cooperative dairies sell 90 per cent of the milk they process as liquid milk, the private sector converts 80 per cent of its throughput into products.

The organized sector processes milk in 370 milk plants and product factories and is growing at an average annual rate of 10 to 15 per cent. In the last 25 years, its throughput has increased by six times. India's first automated dairy plant of 1 million liters per day capacity, the Mother Dairy at Gandhinagar in Gujarat, was commissioned in 1996. Amul III, which with its satellite dairies has a total installed capacity of 1.5 million liters per day, was commissioned in 1997. In the organized sector mainly liquid milk, *ghee*, *butter*, *dahi*, *khoa* and *paneer*, are being processed. The remaining 5 per cent of the 'western' type of products such as table butter, cheese, baby food and milk powders are gaining importance, especially among urban consumers. These products also have export potential. Though India is the largest milk producer in the world, milk production still falls far short of national requirements for adequate nutrition. As against the present production of about 88 million tones, national requirement will be as high as 173 million tones by 2020. Milk productivity per animal in India (1,250/lactation) is still very poor compared to international levels (2,038 kg/lactation) due to gradual breed deterioration.

V. Global Prospects

Though India achieved distinct growth in milk production, but the position in the Global Dairy Market is far behind the other developed countries because 'Made in India Brands' yet to conform to prescribed sanitary and phyto sanitary (SPS) standards. Major Dairy products which dominate the global trade are Skimmed Milk Powder, Whole Milk Powder, Cheese, Butter and Butter Oil. The Indian share in the Global trade of dairy commodities has been negligible (0.22%) although it produces 14 percent of the world milk. There has however been a marginal increase in the export during the recent years from 11.4 crores during 1996~99 to 17.50 crores during 1999 ~ 2000. With increasing milk production and possibly imports due to free market economy as a result of WTO Agreement, it is expected that significant quantities of surplus milk would be available for export in future years. It is, therefore, very pertinent and timely to seriously examine how compatible Indian dairy industry is with the global market requirements.

The challenges before the Indian dairy industry with reference to Global markets are mainly price competitiveness and to produce products of international quality. Comprehensive strategies are required to be formulated and followed to meet these challenges, with suitable legal back up and appropriate

Government support and action. The potential for export of dairy products particularly Indian dairy products is immense but it depends upon how India adjust effectively to the open trade regime under the WTO particularly sanitary & phyto sanitary (SPS) regime and distortions in the world agricultural markets due to reluctance of developed countries to cut tariffs and subsidies.

India does not provide any product specific subsidy to any livestock product. India enjoys a competitive advantage due to the low farm gate price of milk. Economic liberalization and the dairy industry's rapid growth have attracted Indian business and multinationals. Their entry carries the risk that big business will transform the dairy industry production by the masses to mass production.

VI. Conclusion

There is an immense potential for globalization of Indian dairy products due to steady rise in the ethnic Indian population throughout the world vis à vis considerable growth in demand for the ethnic dairy products. To catch and match global taste buds, it is high time that Indian sweet makers and the Government made all out efforts on priority to radically change the existing profile of the sector. Incentive upgradation and mechanization of the existing production system with in built total quality management is of paramount importance to meet the international standards.

The quality assurance of milk and milk products has assumed enormous significance in the Indian dairy industry today, and needs to be dealt with on priority basis, in order to gain access to world markets for the export of dairy products. Since the cost of production of milk in India is still the lowest in the world, we must take full advantage of this fact in the context of global competitiveness. It is high time Indian sweet makers and the government made all out efforts to radically change the existing profile of the sector. Incentive linked upgradation and mechanization of the existing production system to meet the international quality standards, applications of latest developments in biotechnology, bioinformatics, using latest gadgets and state of the art processing/preservation technologies are vital in this endeavor.

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