

Perspective Planning for the Marketing of Dairy Products in India

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Introduction

Recent years have brought such extraordinary gyrations in the Global dairy market that trends are becoming increasingly obscure due to high market volatility. Global dairy commodity prices have indeed shifted to a higher average trading range. Higher dairy commodity prices have manifested along the supply chain in higher prices at retail and farm-gate level. Farmers in export-oriented regions have fared better, narrowing the traditional premium for raw milk prices in the United States and the European Union. Further, regional commodity markets are showing signs of convergence. Volatility may also come from a more prominent role in market for less stable buyers and sellers, such as India and US, who have a lot of products to sell or buy in some years and less in others. With this global backdrop, suitable strategies need to be evolved for the marketing of dairy products in India.

Dairying has also been recognized as an instrument to bring about socio-economic transformations in the rural sector. The dairy sector has helped national economy by emerging as the highest milk producing country in the world. According to FAO's Economic and Social Development Report, India's milk production has increased from a mere 17 million tones produced in 1951 to ~110million tones in 2010; with a share of close to 15% of world milk production. In sharp contrast to the industrially advanced nations of the world, Dairying in India differentiates itself in several socio-economic features. It ranks first in bovine population holding of about 51 percent of Asia and about 19 percent of world bovine population. With an annual increase of 4.7% in milk production since 1971, Dairying has played a prominent role towards household nutrition security and also in strengthening rural economy.

The unique feature of the system is that 70 million rural families with 2-4 cattle holding are engaged in the milk production. Efforts for sustenance of growth of dairy industry under the liberalized economies of the WTO regimen present formidable challenges that need to be addressed through a pragmatic policy plan.

Policy for Strategic Planning

The strategic approach focuses on faster and more inclusive growth of the economy at an average rate of 9 percent leading to doubling of per capita GDP over the next 10 years so that the aspirations of the entire population can be met. The goal for agricultural sector as a whole is growth of about 4 percent and for the dairy sector, a growth rate of about 5 percent in milk production, so that the expected contribution of the dairy sector to the nation in terms of milk availability, incomes and employment is ensured. Further, Dairying has been identified as an important component for diversification of Agriculture sector.

The strategy would require action on both supply and demand sides besides institutional restructuring. This is expected to create an enabling environment in which farmer will invest to improve productivity of livestock and building participatory institutions that allow livestock farmers to get vertically integrated with processors of livestock products and input suppliers / service providers.

The Government does not finance product specific farm or export subsidies for dairy sector. The prices of milk paid to farmers, and those paid by the consumers, are determined by the market forces. Government support to dairy sector is largely in the areas of R&D, livestock disease control, improvement in quality of milk etc.

To promote the dairy sector, the Government of India has kept all dairy products exempted from excise duty. Likewise, in order to augment processing of agricultural products, including dairy products, the Government has reduced Custom Duty on food processing machinery from 7.5 % to 5%. The rates of Value Added tax (VAT) currently

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applicable to dairy products are 4% for skim milk powder and 12.5% for other products, such as butter, condensed milk etc. Fresh milk and pasteurized milk are exempted from VAT.

Policy Support for Boosting Milk Production:

A well-defined policy for the Crop-livestock Production with integrated systems appropriate for the 14 distinct agro-climatic zones of the country is the main requirement at present. It is well known that local breeds of milch animals thrive best under their native agro climatic conditions and feed resources. Infrastructure is needed to cover ~80 percent of the breedable livestock, which is not covered by the State Governments. Progeny testing and evaluation programmes are almost non-existent, so paradoxically no genetic progress takes place from generation to generation. Moreover, any effort for genetic up-gradation is scuttled by the culling of high yielding buffaloes taken to metros like Bombay and Calcutta for beef. The genetic drain of the elite buffaloes has been going on for decades and the top most germplasm continues to be destroyed year after year. There is a need to find economically viable alternatives through policy support to put this atrocious practice to an end.

Cattle and Buffalo breeding policy needs to be defined keeping in view the production traits, economic performance and draftability of breeds of animals in context with the agro-climatic factors and feed resources. Strategic policy planning envisages consideration of the following mentioned features:

- Environmental challenges to intensive Dairy Production in various agro-climatic zones.
- High Population Pressures (Human and Animal) on Cultivable land
- Comparative Economic Merit of Dairy Production Vis-à-vis Grain crop, Oil crops and Commercial crops etc.
- Technologies appropriate for region specific Climatic, Cultural and Socio-Economic Patterns.

Infrastructure:

- Establishment of the 'Model Villages' with focus on dairy development and diversification of agriculture in the 14 Agro-climatic zones to propagate region specific plans for boosting milk production.
- Application of Biotechnology for the conservation and faster multiplication of superior germplasm for creating elite herd of

high producers meant for the organized farms.

- Increased investments in animal health infrastructure.
- On the institutional side, primary attentions needs to be given on creating infrastructure for production of clean milk and to improve the marketing and transport facilities.
- Evolving cost effective 'shelter management' of dairy cattle / buffaloes. The emphasis should be on the control of micro-environment in the cattle-sheds to alleviate summer-winter climatic stress for productivity enhancement and reduce incidence of diseases / mortality.
- Address environmental concerns regarding ruminal methane to total green gas output.

Cattle:

- Genetic improvement and conservation of nationally important indigenous breeds of cattle through selection breeding in their home tracts to increase milk production potential and draught ability.
- Cross-breeding of low producing non-descript cattle with exotic dairy breeds.
- Inter-se-mating among cross bred cattle using proven/pedigreed cross bred bulls

Buffaloes:

- Murrah being the best dairy breed, utilize the precious national resource for promotion of this breed globally the same way as Holstein breed has been utilized by the Western countries for economic benefit.
- Genetic improvement and conservation of nationally important buffalo breeds through selective breeding in their home tracts to increase their milk production potential.
- Genetic improvement of non-descript buffaloes through upgrading with improved breeds.

Augmentation of Feed Resources:

- Enhancement of production through the infusion of scientific interventions at rural level to increase the availability of feed as well as improve their utilization through the application of biotechnology.
- Infrastructure for the chemical treatment of straw to enhance bioavailability of nutrients
- Development of unconventional sources of Feeds on region specific basis.

- Infrastructure for the application of Probiotics for promoting nutrient utilization and health care of dairy animals.

STRATEGIES FOR STRENGTHENING THE PROCESSING INDUSTRY

The Indian dairy industry is moving steadily towards self-reliance. Processing quality make buffalo milk eminently suitable for the manufacture of certain dairy products such as tea/coffee whitener, casein and caseinates, whey protein concentrates, lactose and its derivatives, mozzarella cheese, ice-cream and frozen desserts, concentrated milk products, fat rich products etc. With increasing trends towards globalization, Indian dairy industry needs to cope with the International market standards with regard to technology, application of 'good manufacturing practices' and quality assurance.

Prospects for Newer Products

Significant changes are rapidly taking place in the consumer dynamics, lifestyles and demographics across the globe. In their quest for health and wellness, focus is on obesity, diabetes, osteoporosis and cardiovascular diseases. The issue of health and nutrition is a particular important area for future focus and growth (European Dairy Association statement, 2007). Furthermore, an increased emphasis on the nutritional aspects of foods and reduced role of medicines in human health is being evinced. The main impellers of consumer dynamics are: growing awareness about health and nutrition; food integrity with respect to safety, expectation of good taste; convenience and value for money. Growing automation in homes (cooking robots, microwave ovens) would also influence the kind of newer dairy products that are going to be needed. New residential complexes in many countries do not feature a conventional kitchen, but only a microwave and a refrigerator. The upcoming new generation of housewives among the urban elites lack basic cooking skills and have greater reliance on 'ready-to-serve' processed foods. A growing tendency to outdoor eating would influence the packaging considerations. In the metropolitan cities, consumers are looking for newer dairy products with extended shelf-life. A spectacular increase in demand for convenience foods is being projected by marketing experts. The needs of the market will determine the change in technology that will be required in the future. All of these trends indicate scale enlargement of organized food marketing channels at the regional and

national networks. Going to market with anything less than a great-tasting product isn't going to cut it. Shoppers expect healthy foods not just to deliver nutritionally, but with great taste as well.

In the coming years, an agenda for Environmental policy would have to be developed. Adoption of biodegradable packaging material is required to replace the presently used flexible films and laminates.

Functional Foods

Recent years have evinced a paradigm shift from treatment to prevention. It is widely recognized that unique bioprotective factors present in milk such as immunoglobulin, lactoperoxidase, lactoferrin, lysozyme, vitamin binding proteins, etc. play an important extra-nutritional role. Dairy foods that have pharmaceutical attributes would be the harbinger of new trends in the medical world to help people to a healthier and better life. Scope is indicated for the collaborative initiatives between the dairy- and pharma- industries to design new concepts for enhancing the life quality. In the new health age, services need to be restructured to create a new holistic health system accommodating the individual. Dairy industry needs to develop new concepts for the emerging food culture towards a pragmatic future. R&D initiatives are needed to developed foods with special health attributes and food ingredients derived through fractionation of milk by employing newer emerging technologies. Some of the prospective nutritional sectors are:

- Therapeutic variants
 - Source of 'Probiotics'
 - Prebiotics' cheese and cultured dairy foods / frozen dairy foods.
- Sport food variants
 - High energy content, muscular fatigue.
 - Traditional Indian Milk Deserts.
- Clinical nutrition variants
 - low sugar / low cholesterol / low residue / high calcium products.

Traditional Dairy Products

Traditional milk products represent the most prolific segment of the Indian Dairy Industry. Despite the immensity of volume of milk handled, preparation and marketing are confined to the unorganized sector. Transformation of the unorganized sector of dairy industry engaged in processing more than 54 percent of the milk

produced in the country provides a formidable challenge. Fast changing socio-economic environment will drive the requirements for traditional dairy products to be processed and packaged in new forms. Projected domestic demand for major traditional products is 250,000 tones. Prospects for the export of traditional milk products conforming to the international quality and packaging standards present exciting opportunities for orchestrating further growth. Some 20 million Indians living abroad are in upper income group. In North America alone, this market is estimated at US \$500million. A large variety of Indian Dairy Products are sold in the super markets in North America, UK and South Africa produced by small scale entrepreneurs. A Canadian firm, IDP Foods, Inc. is the largest producer of Indian Dairy Products. Australians are also looking into the prospects of marketing these products in the international segment. Noteworthy success have been achieved for the production / packaging of gulabjamun, shrikhand, burfi etc. at Sugam Dairy, Baroda.

However, the image of Indian sweets with regard to health and safety raises certain concerns. Persons with Obesity, Diabetes, and Cardiovascular Diseases are concerned about the High sugar and fat content. Recently, there have been adverse reports regarding adulteration. Scope is also indicated for the application of Biotechnology in developing innovative traditional dairy foods with enhanced nutritional and therapeutic attributes.

Development of appropriate dairy equipments to permit commercial production and packaging systems calls for intensive financial and scientific inputs. Intensive R&D efforts are needed to develop suitable technologies for large scale manufacture and packaging of traditional milk products. Faster growth may be achieved through integration with newly emerging, energy efficient unit operations off the shelf involved in the manufacturing process.

Delivery Systems for Newer Innovations

Based on the past experience, need is felt for the integration of Industry, R&D and Financial Institutions as 'stake holders' for exploring new frontiers. These stake holders need to come together on a common platform with the objective of:

- Establish a National Demonstration Centre for Process up-gradation, Mechanization, New Product Development, Evolving Innovative Packaging systems and Test Marketing of commercially important products.

- This initiative should be spearheaded by professional with 'Vision' and leadership qualities and promote synergistic work culture appropriate for an effective delivery system.
- Financing and undertake research relevant to the problems of the industry.
- Promote the extension of worldwide research findings to the industry
- Provide advice to the dairy industry on practical problems encountered in the field
- Assist in the scientific training of experts to service the dairy industry
- Raise financial support for these purposes.

HARMONIZATION WITH INTERNATIONAL STANDARDS

Inter-Institutional collaborative efforts are needed for coordinating with the National Committees for harmonization of the Indian Standards with the Codex Standards. Under the new WTO regimen, Codex standards would be used as the basis for the international trade of dairy commodities. Therefore, necessary infrastructure needs to be developed with following objectives:

- Promote the use of sound science as a basis for Codex standards.
- Promote the application of risk analysis principles and processes to food safety.
- Promote positions agreed with international organizations.
- Base India food safety measures on Codex standards.
- Promote international co-ordination of food safety work.

International Linkages

Scope is indicated in the newly emerging WTO regimen for taking major initiative for Integration of Dairy Industries at regional and international levels as strategic partners in regard to preparedness for the global markets. Policy aspects of dairy industry need to be taken up for ensuring food security to suit their national economies. For example, the Asian-Australian Association of Animal Production Societies (AAAP) is almost twenty years old and one of the largest organization of its kind in the world. The association exists to promote technology transfer among the livestock industries of the Asia-Pacific region. Planners of Dairy Industry in the

region visualize distinctive prospect for the integration of Asian and Austral-Asian Dairy Industry as partners in global market. Various stake holders aim at identifying synergies in the economic strengths of participating countries and developing suitable strategies to consolidate newly emerging opportunities for production as well as marketing aspects.

During the past five decades, India has gained an impressive experience in tropical dairying. In most of the developing countries in the tropical region, when western technologies are used for the intended dairy development programs, a number of socio-economic difficulties are encountered. India can play an important role in sharing our own experiences in the planning process and HRD programs at the multi-tier level in assisting the intended developmental programs.

Epilogue

India has a vast potential to surge ahead as a powerful dairying country, and stresses on the need for having a resolute commitment for achieving the intended developmental objectives through policy support. Presently, in the Agriculture Sector, milk is the largest contributor towards India's GNP. Policy support and financial inputs in form of requisite infrastructure are needed to consolidate the potential advantage of this internationally competitive sector for strengthening National economy. Efforts need to be directed to promote application and adoption of modern technologies to develop the National Milch Herd. Infrastructure needs to be strengthened for the improvement of local milch breeds of cattle and buffaloes in context with the ecological systems prevailing in the 14 agro-climatic zones of the country. Scope is also indicated for the development of newer range of dairy products to meet the social and nutritional needs for health, safety, convenience and shelf-life. Modern processing facilities need to be expanded towards the strategic product diversification to improve the availability of dairy products to meet

the requirements for domestic market as well as exports for value added dairy products. Intensive financial and scientific inputs are needed to mechanize the processes for the manufacture of indigenous milk products through a collaborative effort of stake holders in the R&D organizations and entrepreneurs. In view of the unique experience in Tropical Dairying India could serve as the Global Centre for sharing with the 'Under-developed Countries' as well as for 'Human Resource Development'. To attain these objectives, national development programs need to develop effective linkages between state Governments programs on animal husbandry and dairying, poverty alleviation programs, R&D organizations, Agricultural universities and other developmental agencies.

For orchestrating further growth of dairy industry in the liberalized global economies, pragmatic planning is required to consolidate the inherent advantage of milk production potential at competitive prices for the domestic and export markets. India has to confront important challenges that envisage clean milk production, adoption of cost effective, energy efficiency eco-friendly technologies for milk production and processing, diversification of product range, industrial production of Indian dairy products, development of eco-friendly / cost effective packaging systems, good manufacturing practices to meet international norms, food safety, government legislation, effective management of resources and energy, proper disposal of industrial wastes and customer services.

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