

Study of Indian Dairy Sector: Analysis and Evaluation

1. Uttama Sorout

Research Scholar, MUIT, Lucknow (UP)- India

Email: dolly.rashi@gmail.com

2. Dr Chandra Prakash Tripathi

Professor, MUIT, Lucknow (UP)-India

ABSTRACT

The structural transformation of Indian agriculture and the growing importance of livestock and dairying in the agricultural economy of India is clearly evident from the research & studies. Milk provides nutritious food and supplements the income of rural people of the country. The study investigates the growth and development of the dairy industry in India. It studies the status of milk production and consumption of the country. The study attempts to forecast the production of milk in the country at the current trend of production.

Keyword- regional Unbalancing, Socio-economic development, household income.

INTRODUCTION

Dairy is one of the biggest agri-businesses in India and a significant contributor to Indian economy. It is the largest single agricultural commodity with ~4 per cent share in economy. India is the largest producer of milk globally with an ~188 million MT production in 2019-20. The spreading use of dairy and the livestock products play a very crucial role in providing dietary assistance/nutritional benefits to a larger part of the population for developing countries whereas most of them are still not accessible to it due to unaffordable prices. There is a fast development in the production and consumption of agricultural commodities/livestock products which also puts human and animal health at high risk creating challenges for the smallholders in profit making but providing a fair chance to the small and medium scale dairy industries. The major role in the total milk production and economy of our country is played by commercial and small scale dairy farming and its business/industry can be set in any part of India. Small scale traditional methods are growing rapidly in India and many dairy farmers are raising animals for it as they are unaware of the modern and improved techniques of dairy farming which leads them to losing their investments rather than gaining from it. For maximum production and benefit from the farming business, its very essential for the farmers to properly plan the business and manage it with care and in an organized manner. India is rich in livestock resources and plays a vital role in an overall rural household development economically and socioeconomically. Statistics state that the total possession of the country is, 57% of the world's total buffaloes and 16% of the world's total cattle population (Livestock Census, GOI, 2007) and Indian contribution in the gross domestic product in 27%, which is higher than most of the other countries. It contributes 15.03% and 3.6% to the national GDP in the agriculture and livestock sectors (Central Statistical Organization GOI, 2012), respectively which sums up to more than a total of 750 million people that are engaged in milk production worldwide, majorly that are in developing countries like India Hemme & Otte. In drought prone areas, livestock, particularly dairying, plays a very significant role. Some statistics show that in semi-arid tropics of India, around 65% of the total rural poor earn their living from livestock and it also uses it for drought insurance (Walker and Rayan, 1990). A study by Nagaratna et al states that a huge downfall in the annual income of the respondents was recorded in the drought year where it was figured that the livestock is less prone to the challenges caused by the rainfall and other climatic conditions as compared to the crops. Livestock sector is a very promising provider of income and employment (Rangnekar, 2004).

Employees involved in the milk cooperatives are small, marginal or even landless farmers. In India, dairying is an occupation/job of very small farmers and constitutes 60% of 11 million farmers in

Philosophical Readings XIII.4 (2021), pp. 3316-3322. 3316

Info@philosophicalreadings.org

10.5281/zenodo.5929332

about 100,000 villages into it. India is the largest milk producer in the world and is the source of livelihood for millions of poor people in our country. In India, the distribution of livestock is more just than the distribution of land and same is the case with other developing countries too. It plays a vital role in not only providing the livelihood to the poverty-stricken but also the only subsistence to the landless for the private gain. It is an important part of the Indian agriculture and at the national level; the dairy sector leads in the first place with 17% followed by rice (14.4%) and wheat (8.7%) in 1998-99 (CSO, 2001).

LITERATURE REVIEW

Dorsten (1986) conducted a milk production research in Gujarat's Kheda area. According to the findings, the average annual milk yield per cow was around 504 kg. The main restrictions were feed and fodder supply and quality. Concentrates, 19.8 MT of green fodder, and 16.2 MT of dry fodder were predicted to fall short by the year 2000. Despite diminishing trends in the dairy cattle population, the shortfall was foreseen. The study made several recommendations for enhancing dairy cow diet and fodder conditions, as well as their wealth and breeding.

India's dairy sector has gone through multiple changes over a period of time. Society has seen several forms of value chain system & network system of the sector. Participation of private players over the years in production distribution and supply of milk products has also become significant (Rajendra and Mohanty 2004). The lack of cause of effect relationship to closely examine the quality of milk is a prevalent challenge. Establishing innovative & scientific constructs will provide us an understanding of creating long term solutions for improving milk yield and sustainable growth of the sector (Singh & Dutta 2010).

How much milk will an animal will produce will depend of the health and food input to the animal (Tarapdar, 2011 :Tanwar et al, 2013). There are other factors also which are so important in reducing efficiency of the dairy sector in india that includes our diagnosis, clinic and medical support to animal. Despite of government private efforts to improve animal husbandry health, the morbidity and mortality is still a big concern of worry (Bangar et al 2013). Reducing morbidity and mortality of the animals should the greatest priority of government, health department and agriprenuership will also induce the productive reproductive parameters of the animals (Prasad et al 2004)

Haryana is leading state in India in term of milk production which produces around 74.42 MT milk every year. Dairy farming is a major source of employment in rural part of Haryana which counts around 83% people are either directly or indirectly associated with animal husbandry. The dairy sector is an important source of livelihood for landless, small & Marginal farmers (Iqbal 2010). Rural portion of Haryana faces many challenges in improving the health of animals and cattle these challenges include-proper housing facilities, conventional fees deficit and medical facility (Sen et al 2014). NDRI has set up a network of Dairy Vikas Kendras (DVKs) in the selected villages of Haryana. The marketing efficiency of cooperative society mild dairy is found much better in comparison to their private diary counterparts (Dhaka & Rangasami 2008). The primary factor behind determining the price of milk and milk product was primarily cost of milk production (Saravankumara & Jainb 2009).

The indicators had shown a positive & strong association between employment generated by the cooperative society members to their income level where as the association was not that strong among non-members (Srikant 2007). Most of the dairy initiatives were found profitable .the study was to understand profitability and its measurement with respect to investment made by the agriprenuers (Hima Bindu & Subrahmanyam 2012).

The author build a case study on "Gokul Cooperatives" union which was understood with help of strengths, weaknesses , opportunities and threats faced by Gokul cooperatives. The authors finds that the cooperative has to work hard to improve upon the total efficiency of the organization in terms output and profitability (Rathod 2011)

RESEARCH OBJECTIVE

The specific objectives of the study are as follows:

- a) To assess the production of dairy products among the various states in India.
- b) To study the state of dairy production at the international level.
- c) To analyse the performance of export and import of the dairy industry in India.
- d) To provide the suggestions for the development of the dairy industry in India

RESEARCH METHODOLOGY

Secondary data used for the present research investigation. The data collected from the relevant annual reports, COMTRADE, United Nations, FAOSTAT, Basic Animal Husbandry Statistics, DAHD&F, DGCIS, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, GoI. The data were classified and tabulated as per the objectives of the study. The study used simple statistical tools. Mean Standard Deviation, Coefficient of Variation, Annual growth rate, Compound average growth rate (CAGR) use for analysis. In this study discuss with Nominal Protection Coefficient (NPC) and Revealed Comparative Advantage (RCA) techniques for evaluating trade competitiveness.

DATA ANALYSIS

Dairy Sector: An overview

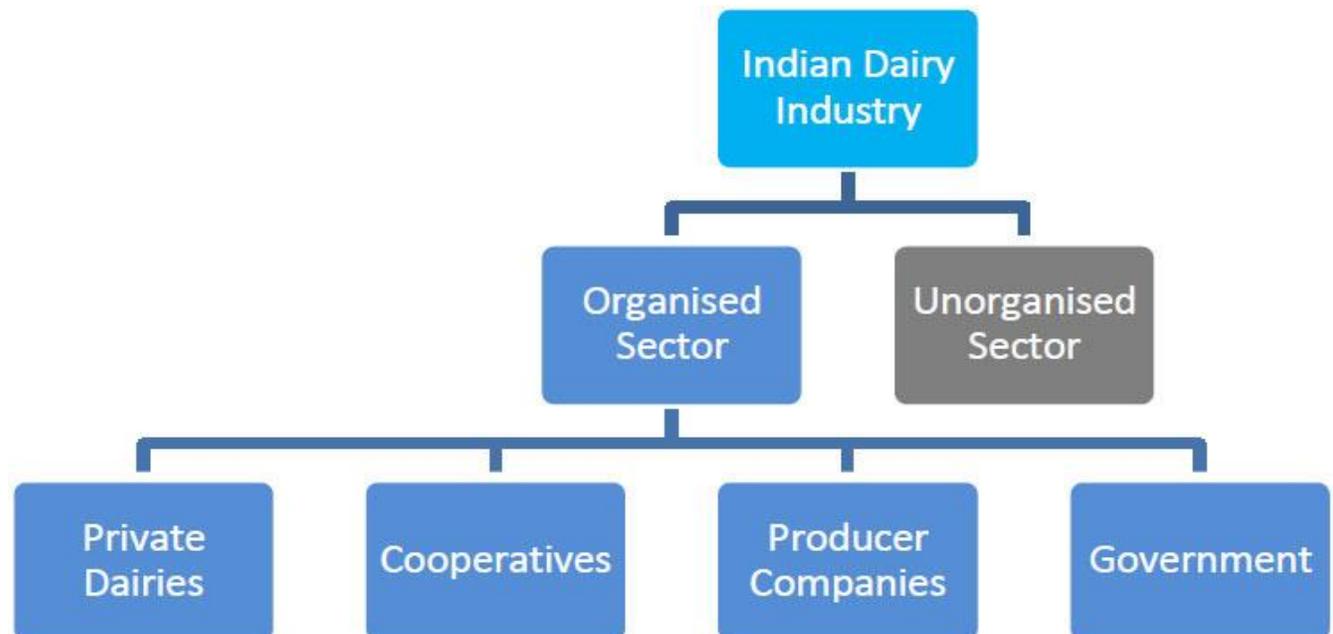


Figure-1: Dairy sector structure

Dairying is a vital part of the global food system, providing economic, nutritional and social benefits to a large proportion of the world's population. Up to one billion people in the world earn their livelihood through dairy farming.

India is the world's largest milk producer and accounts for 17% of the total milk production of the world. The Indian dairy sector is the largest contributor to the agriculture Gross Domestic Product (GDP). In terms of output, milk is now the single largest agricultural commodity in India. Dairy sector contributes 17% of the country's total expenditure on food. The milk production is growing at the rate of 7% by volume and 10% by value annually. Currently, around 46 per cent of the milk is consumed in the form of liquid milk, 47 per cent of traditional dairy products and 7per cent as Western dairy products.

Output of various Subsectors

The value of output of livestock has grown at a much faster rate of 4 percent compared to the crop sector which grew at 2.9 percent between 1980 to 2010-2011. The growth in the value of milk was 4.35 percent per annum during this period (Figure 1).

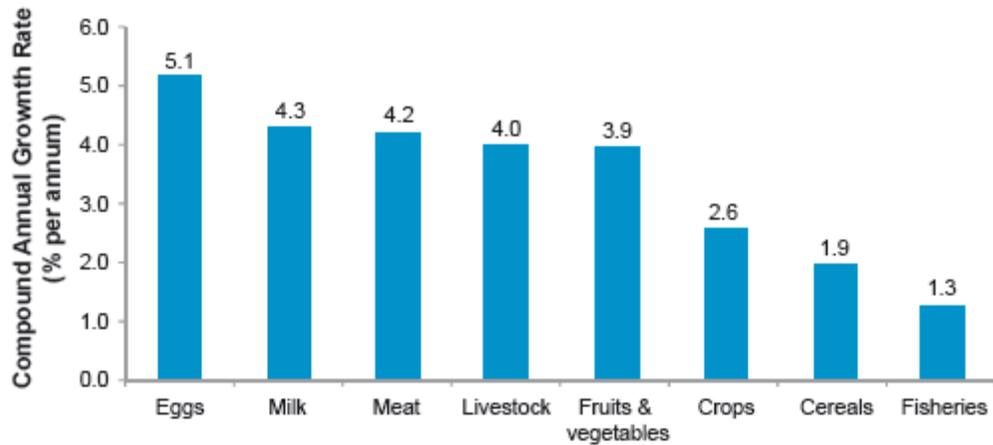


Figure-2: Growth trends of major subsectors of Indian agriculture

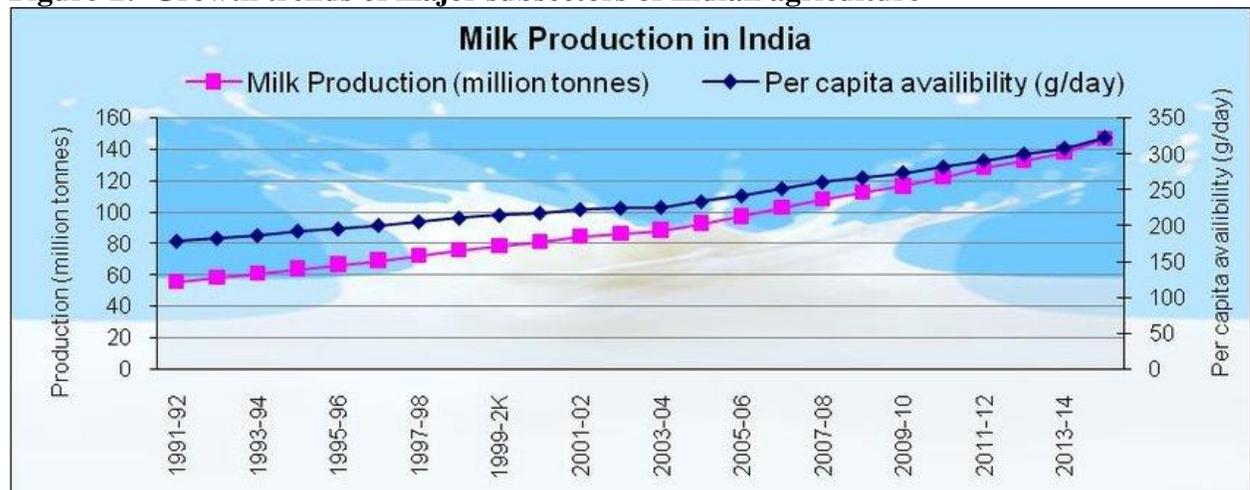


Figure-3: Year Wise Milk Production and per capita availability in India (1991-2014).

PRIVATE DAIRIES' FINANCIAL PERFORMANCE BETWEEN FY12-FY16

Company	Revenue CAGR	Ebitda CAGR	PAT CAGR
Hatsun Agro	21.1	29.3	22.8
Heritage Foods	14.0	26.4	56.1
Kwality Ltd.	27.6	23.6	17.1
Parag Milk Foods	16.3	15.7	25.8
Prabhat Dairy	24.8	25.1	26.7

Note: Figures in % Source: IIFL

Figure-4: Private Dairies Financial Performance

As the Indian dairy market is set to grow at a 7% compounded rate through 2016 to 2021 driven by growing demand for branded and value added products, the sector is likely to see more action from private dairies, especially in the area of procurement and new product launches. In fact, private dairies like Parag, Hatsun and Kwality who have seen significant net profit growth in the last few years, feel that with focus on value added products, it is an imperative to source directly from the farmer and not contractor.

DATA ANALYSIS AND INTERPRETAION

The dairy context in India India's dairy business is dominated by millions of rural small holder milk producers, who account for 62 percent of the country's total milk production. Crops and cattle populations in India form an economic synergy. Animal husbandry is the most important economic activity in rural areas, and livestock plays a critical part in the economy. Today, the dairy industry provides nutritional food, supplemental income, and useful employment for family labour, primarily for women, to 80 million rural households. Animal husbandry is a source of self-employment for millions of rural households. In animal farming, women account for 71% of the labour force; 75 million women work in dairying, compared to 15 million males. Women in rural areas play an important part in animal husbandry, helping with feeding, breeding, management, health care, and other tasks. Dairying using crossbred cattle and high-yielding buffaloes has shown to be a profitable venture. In marginal, small, and medium-sized properties, studies have indicated that dairying outperformed crop production in terms of profit. Dairying and crop production were more profitable than crop farming alone for small-scale farmers with irrigated land. Small-scale farmers prefer animal husbandry to crop cultivation because of the quick cash supplied by animal husbandry components. Dairying provides milk farmers with a support system that does not disrupt their agro-economic systems. Dairy farming is deeply entwined with the socioeconomic fabric of rural India. Dairy animals have traditionally served a variety of purposes, including producing milk for human consumption, dung as manure and fuel, and male livestock as a source of draught force in agricultural operations. Furthermore, dairy animals have frequently performed essential financial and insurance duties. Animal breeding acts as a savings account, with offspring serving as interest. Animals provide a steady stream of revenue and act as a buffer against income shocks caused by crop failure. Furthermore, milk is a

cash crop for smallholders, turning low-value agriculture wastes and crop leftovers into a value-added market commodity and utilising family labour. Many aspects of small-scale farmers' household behaviour in relation to cattle are difficult to explain only from an economic and rational standpoint. As a result, interpreting the livestock production system as a pure input–output economic system frequently misrepresents the reality in India (GOI, 1996). Farmers have traditionally kept livestock in proportion to the free crop residues and family labour available in their own household production systems, converting these into food, fuel, and farm power, effectively making each farm household a self-contained production system with few marketed outputs. In recent decades, this age-old trend has shifted dramatically. Despite the fact that small-scale animal production still exists, household production systems are progressively becoming linked into both input and output markets. The economic components of livestock husbandry have become increasingly important in farm household behaviour as a result of a steady transition from subsistence to market systems (see Kurup, 2001). In India, land holdings are typically marginal, small, and scattered. The holdings of medium and big companies make up less than 10% of the total. Landless, marginal (less than 1 hectare), and small (1-2 hectare) landholders account for almost 80% of rural households and nearly 33% of total farming land holdings. Across all species, India's livestock sector is characterized by enormous numbers and low productivity

DISCUSSION AND CONCLUSION

This study investigated the entrepreneurship development through milk production. India's position in the global market as the supplier is shallow despite its massive production. It was also found that the productivity of cattle is comparatively very low with that of developed and also developing countries in the world. Maximum of the milk products are consumed domestically, which are also handled by the unorganised sector. The present study is incongruent with the study by (Imam, Zadeh, & Dubey, 2011), where they pointed out that India consumed 100% of its production. Analyzing the current economic conditions, the technical knowledge that our farmers possess, the climatic condition, and the lifestyle of rural India, it is observed that promoting indigenous cattle with the available resources and inputs from the government can boost production of milk in the country

CONCLUSION

India's production of milk has strongly increased over time with significant technical, policy and institutional support. This led to significant changes in the Indian dairy sector. In fact, the Indian dairy sector has undergone significant structural changes over time and some interesting patterns are unfolding along the milk value chain.

India's big and uniquely structured dairy sector has been seeing substantial annual growth. Despite this increase, the dairy industry is characterized by low yields across the crossbred, indigenous, and buffalo herds. Private-sector dairies are likely to become more prominent in the industry's development. India is currently a net exporter of dairy products, with exports of SMP and casein products, in particular, expanding and generally competitive in price. However, data on export-unit value shows that India is less competitive in milk-fat-based products like butter and ghee.

There are major gaps in data gathering and analysis of changes in the dairy industry. The shifting dynamics of crossbred and buffalo dairy herds are important themes for continuous analysis and research. Changes in milk producers' land and animal holdings are also important topics for long-term analysis.

References

[1] Nahid Mohammed Tawfik Fawi and Mohamed Osman Mohamed Abdalla, —Milk Preferences of Consumers and Effect of the Marketing Mix on Consumers' Purchase Decision of Dairy Products, Indian journal of marketing, Vol. 43, No.2, February 2013.

- [2] Narayanan Nayar, K., —Milk Production in Kerala: Trends and Prospects, *Economic and Political Weekly*, Vol. 14, No.12/13, March 1979.
- [3] Neeraj Rao, Prasant Kumar, Govind Pal and Chandra Sen., —Economics of Milk Production in District Khanpur (Dehar), Uttar Pradesh, *Indian Journal of Agricultural Economics*, Vol. 59, No. 3, 2004.
- [4] Nishi, A. K. Sah, and Ram Kumar, —Dairy Farmer's Satisfaction with Dairy Cooperative Societies: A Case Study, *Indian Research Journal of Extensive Education*, Vol. 11, No.1, 2011.
- [5] Parminder Singh and Parminder Kaur, —Price Spread and Marketing Efficiency in Marketing of Milk in Punjab, *Indian Journal of Agricultural Marketing*, Vol. 27, No.2, May-August, 2013.
- [6] Parminder Kaur, Arjinderkaur and Parmindersingh, —Milk market structure in Punjab – Organized Vs. Unorganized Sector, *Indian journal of Agricultural Marketing*, Vol. 24, No. 2, 2010.
- [7] Pradeep Singh and P. S. Khattra, —Factors Affecting Milk Marketed Surplus and Marketing Channels for Milk in Faridkot District, *Indian Journal of Agricultural Marketing*, Vol. 12, No. 1 & 2, 1998.
- [8] Prashant Khare, H.O, Sharma and T.B. Singh, —Marketing Analysis of Milk Production in Bhopal District of Madhya Pradesh, *Agricultural Marketing*, Vol. VI, No. 2, July-September, 2003.
- [9] Raj Vir Singh and Vijaypaul, —Resource-Use Efficiency in Milk Production in Hill Economy, *Indian Journal of Agricultural Economics*, Vol. 47, No. 3, July-September, 1992.
- [10] Babcock Institute for International Dairy Research. 2006. *The Dairy Sector of India: A Country Study*. Babcock Institute Discussion Paper No. 2006-2, University of Wisconsin, Madison. <http://ageconsearch.umn.edu/bitstream/37353/2/2006-02.en.pdf>
- [11] Balakrishnan, V. 2004. "Developments in the Indian Feed and Poultry Industry and Formulation of Rations Based on Local Resources," Protein Sources for the Animal Feed Industry. Food and Agricultural Organization of the United Nations, Animal and Production Health Proceedings. <ftp://ftp.fao.org/docrep/fao/007/y5019e/y5019e00.pdf>
- [12] Bearak, M. 2014. "Upscale Dairies Grow in India, Promising Safer Milk," *New York Times*, June 3, http://www.nytimes.com/2014/06/04/business/international/dairy-industrys-reputation-in-indiaopens-door-for-upscale-farms.html?_r=0
- [13] Mattigatti, R.M., —Performance of Milk Producers Cooperative Societies and their Impact on Dairy Farming in Dharwad District, Karnataka, M.Sc. (Agri) Thesis, University of Agricultural Sciences, Dharwad, 1990
- [14] Srikanth, K.N., —Performance of Dairy Cooperatives and their Impact on Milk Production, Income and Employment in Kolar District-An Economic Analysis, Thesis Submitted to University of Agricultural Sciences, Dharwad, November 2007.
- [15] Jaiswal & Naitan- Contribution of dairy farming in employment and household nutrition in india-2017