

DIARY PROCESSING INDUSTRY: DEVELOPMENT AND OPPURTUNITIES

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ABSTRACT:

India produces more than 13% of the world's milk, making it the greatest producer of dairy products by volume. It also has the biggest dairy herd in the world. India was neither a significant importer nor an exporter of dairy goods previous to the year 2000 due to the fact that the nation consumes practically all of its own milk production. However, after Operation Flood Program's implementation, the situation has considerably changed and the imports of dairy products have fallen to extremely low levels. Since 2001, India has been a net exporter of dairy products, and since 2003, the country's dairy imports have decreased while exports have grown rapidly. However, the nation's part of the global dairy trade is still just between 0.3 and 0.4 per cent for each year. Due to the producer households' direct consumption of liquid milk as well as the rising demand for processed dairy goods brought on by rising income levels, there are now little dairy surpluses available for export. Finding trends and possibilities might encourage strategic actions and continued expansion of the dairy processing industry. In light of this setting, the article examines the dairy industry in terms of worldwide milk production together with the situation in India and the position of dairy product manufacturing and concludes with the challenges faced by dairy processing sector.

INTRODUCTION:

Since 1998, India has been the top milk-producing country in the world, and it also has the biggest bovine population. The amount of milk produced in India from 1950–1951 to 2017–2018 went from 165.4 Million Tonnes(MT) in 2016–17 to 176.4 MT in 2017–18, representing an increase of 6.65%. According to the FAO, global milk output increased by 1.46% in 2017 from 811.9 MT to 800.2 MT. Compared to the anticipated global average consumption of 294 grams per day in 2017, the country's per capita availability of milk, which was 130 grams per day in 1950–1951, climbed to 374 grams per day in 2017–2018. This shows a consistent increase in the supply of milk and dairy products for our population. Identifying the development and opportunities can promote strategic interventions and further growth of the diary processing sector. With this context the paper explores the diary sector in terms of global milk production along Indian scenario and position of manufacturing of dairy products.

OBJECTIVES:

1. To study diary industry development in global and Indian context.
2. To understand the manufacturing of dairy products opportunities.
3. To understand challenges faced by the diary processing sector in India.

GLOBAL PRODUCTION SCENIARIO OF MILK PRODUCTION:

The production of milk is a home activity in 150 million families worldwide. Smallholders produce milk in the majority of developing nations, and milk production supports household livelihoods, food security, and nutrition. For small-scale farmers, milk offers relatively quick returns and is a significant source of financial income.

India remained the world's top milk producer with an estimated 187.7 million tonnes of milk produced, an increase of roughly 6% from the previous year. Milk became more widely available, reaching 374 grams daily per person. From 522 million tonnes in 1987 to 828 million tonnes in 2017, the global milk production has climbed by more than 58%.

India produces 21% of the world's milk, followed by the United States, China, Pakistan, and Brazil. Since the 1970s, South Asia has seen the majority of the rise in milk production, making it the primary engine of milk production growth in the developing world.

Table 1: percentage global milk production

Countries	Production (in million tonnes)	% of global production
India	176.27	21
United States	97.76	12
Pakistan	44.29	5
China	34.87	4
Brazil	33.74	4
Germany	32.69	4
Russian	31.18	3.7
France	25.28	3
New Zealand	21.37	2.5
Netherland	14.54	1.7
Total global production*	827.88	100

*including all the countries, all figure from 2017, source: FAO

Due to poverty in some countries, milk production in Africa is expanding more slowly than in other emerging regions.

The nations with the largest milk surpluses are Ireland, Australia, Germany, France, New Zealand, and the United States of America.

China, Italy, the Russian Federation, Mexico, Algeria, and Indonesia have the greatest milk deficits . Currently, dairy products are consumed all over the world. Skimmed Milk Powder (SMP), cheese, and other milk products are traded internationally. Dairy exports totalled over \$45 billion in 2017, a considerable increase from just under \$39 billion the year before. The highest export market share of any global region belongs to the European Union, particularly the cheese- and butter-producing nations of France, Ireland, and Germany. The majority of the milk made in Australia and New Zealand (the Oceania region) is exported. India is the world's largest milk producer, although it barely participates in the global dairy trade .

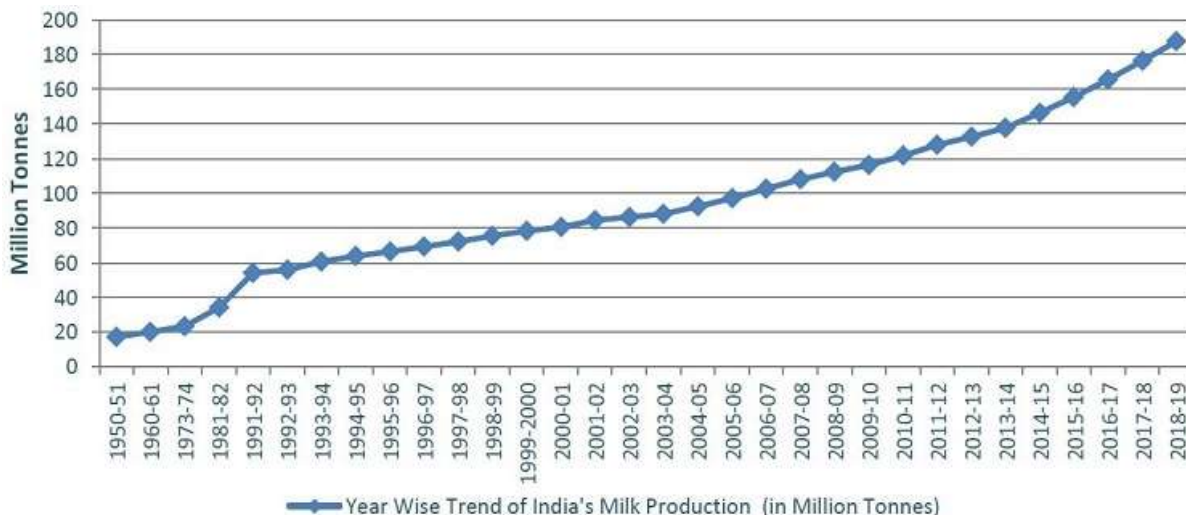
INDIAN PRODUCTION SCENIARIO OF MILK PRODUCTION:

India leads the world in milk production, accounting for 23% of it. From 146.31 million tonnes in 2014–15, milk output in the nation increased at a compound annual growth rate of roughly 6.2% to reach 209.96 million tonnes in 2020–21.

India produces more than 13% of the world's milk, making it the greatest producer of dairy products by volume. It also has the biggest dairy herd in the world. India was neither a significant importer nor an exporter of dairy goods previous to the year 2000 due to the fact that the nation consumes practically all of its own milk production. However, after Operation Flood Program's implementation, the situation has considerably changed and the imports of dairy products have fallen to extremely low levels. Since 2001, India has been a net exporter of dairy products, and since 2003, the country's dairy imports have decreased while exports have grown rapidly. However, the nation's contribution to the world's dairy trade is still only 0.3 and 0.4 per cent for exports and imports, respectively. Due to the producer households' direct consumption of liquid milk as well as the rising demand for processed dairy goods brought on by rising income levels, there are now little dairy surpluses available for export. However, India continues to export specialised goods like casein for use in food manufacturing or pharmaceuticals .

According to National Account Statistics 2019, the overall value of output from the top two food grains in 2017–18 was Rs. 27,22,21 crore (paddy) and Rs.1,73,984 crore, while the value of milk's output in that same period was Rs. 7,01,530 crore (at current prices) (wheat) . The output value of India's agriculture and related sectors is projected to be over Rs. 28 lakh crore, suggesting that milk accounts for more than 25% of the entire output value. The graph below displays the trend in India's milk production by year from 1950–1951 to 2018–19.

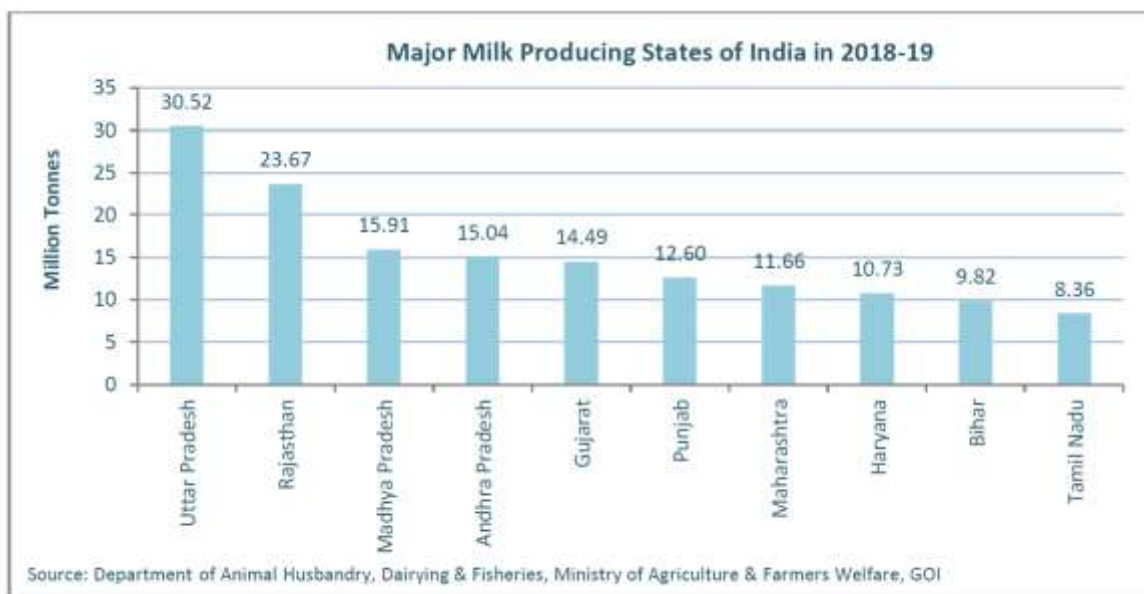
FIGURE 1: STATISTICS OF MILK PRODUCTION IN INDIA FROM 1950-2019



Source: BAHS, 2019 Basic Animal Husbandry Statistics, DAHD&F, GOI.

The major milk-producing states in India in 2018–19 are depicted in the image below. It is important to note that Rajasthan and Uttar Pradesh, which produced 30, 52 million tonnes and 23,67 million tonnes of milk respectively in 2018–19, are at the top of the list.

FIGURE 2: MAJOR MILK PRODUCTION STATES



According to NIC -2008, manufacture of food products were coded under division 10 with 18 sub-sectors. Manufacture of dairy products comes under 105 groups and 1050 class (MOFPI).

Table 2: Classification of food processing industries in India as per National Industrial Classification (NIC-2008)

NIC-2008		Description
Division (2-digit):10		Manufacture of food products
Group (3-digit)	Class (4-digit)	
105	1050	Manufacture of dairy products
108	1080	Manufacture of prepared animal feeds

Source: Annual survey of Industries (ASI-2019)

In the years 2014–15, India exported dairy products worth about USD 0.2 billion. These consist of items like cream, casein milk, skim milk powder, etc. Bangladesh, the United Arab Emirates, and other South East Asian states are among the principal destinations.

Figure 3: State wise performance of dairy processing

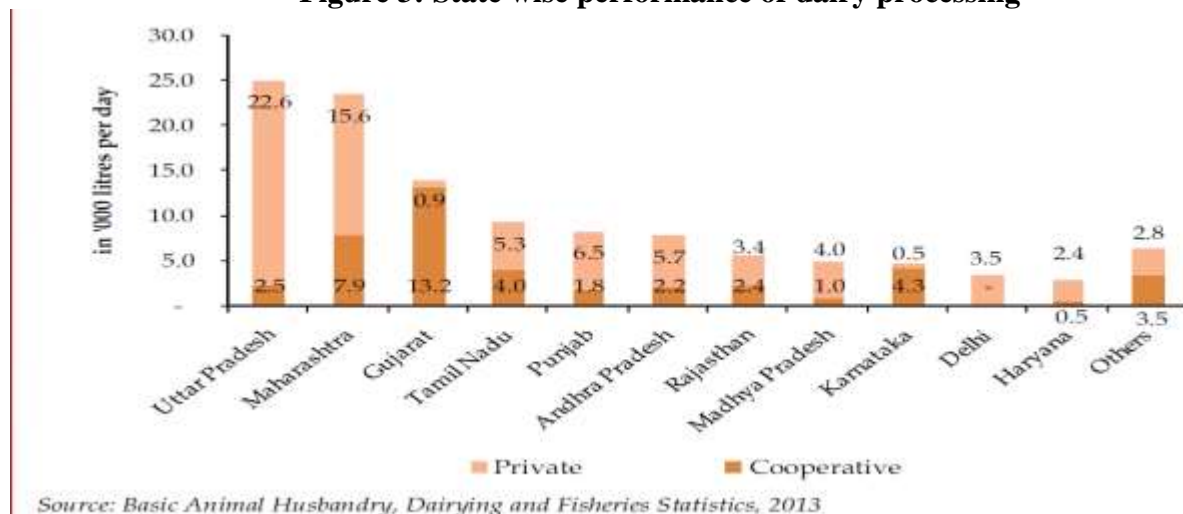


Figure 3 shows the state wise processing capacity of dairy products, in which we can observe that private sector processing capacity is more when compared to cooperative sector. Given below are the numbers of manufacture of dairy processing registered units in India. Table 3 and table 4 shows the number of dairy processing units in India and percentage share when compared to total number of units.

Table 3: Performance trends of dairy sector of registered food processing units in India

CODES / YEAR	1050
2008-09	1100
2009-10	1112
2010-11	1493
2011-12	1653
2012-13	1695
2013-14	1753
2014-15	1783
2015-16	1943
2016-17	2039
2017-18	2064
2018-19	2120

Source: Annual survey of industries.

Table 4: Percentage share of dairy sector of registered food processing units in India

YEAR	REGISTERED UNITS	Registered units in Manufacture of dairy products SECTOR	% SHARE
2008-09	27220	1100	4
2009-10	27479	1112	4
2010-11	35840	1493	4
2011-12	36880	1653	4

2012-13	37175	1695	5
2013-14	37450	1753	5
2014-15	38608	1783	5
2015-16	39319	1943	5
2016-17	39740	2039	5
2017-18	40162	2064	5
2018-19	40581	2120	5

Source: Annual Survey of Industries (ASI)

We can observe that only 4 to 5 per cent of the units in Indian food processing sector belong to manufacture of dairy products. This can be due to challenges faced by the dairy sector units in India.

Challenges of India dairy industry:

The advantage of low-cost production has been lost by the Indian dairy industry, according to Dr. N.G. Hegde of BAIF (Bharatiya Agro Industries Foundation) Development Research Foundation. As several nations, such Denmark, New Zealand, etc., have reduced their milk production costs, India is importing more milk and products related to it. Indian cattle farmers have been adversely impacted by this due to lower sale prices. According to Dr. N. G. Hegde, the dairy business in India has the following major difficulties.

Poor quality milk due to unhygienic milk handling

The main cause of the low milk production is a result of the unsanitary and subpar dairy and agricultural facilities. Even though there is a significant demand for milk products abroad, we cannot export them because of their subpar quality. Due to unsanitary milking practises, which result in a high microbe count in the milk, Indian milk products are sometimes rejected in foreign countries. Poor animal health, tainted food and water, and unclean farm environments are the causes of the quality issues in India. Therefore, all of these issues must be taken into account in order to increase milk production.

High production costs for milk:

Indian milk producers must lower their production costs. The average milk yield of Indian cattle is substantially lower than that of other countries, averaging 987 kg per year as opposed to 6273 kg in Denmark, 5289 kg in France, 5938 kg in Canada, 5462 kg in the United Kingdom, 7038 kg in the USA, and 11000 kg in Israel. Therefore, farmers in other nations must spend a great deal less than farmers in India. It is not the climate that accounts for the high milk production. Israel has a climate that ranges from 4C to 5C in the winter and 47C to 45C in the summer. Therefore, in addition to improved feed, water management, and housing practises, this high yield was attained.

High cost in milk handling and marketing:

India has a substantially lower dairy penetration rate. The majority of the milk is gathered by private players and sold to private dairies or other channel members. Milk goes through a number of levels before it enters the dairy's pasteurisation unit. After reaching consumers, milk also goes via a number of distribution channels, which raises the price of milk. The milk cost is doubled for the entire process. Gujarat cooperative dairy pays 25 to 28 rupees per litre to farmers for one litre of milk. Due to high milk handling expenses, some dairies sell milk to consumers at a price between 48 and 52 rupees per litre. However, there is room to minimise the number of organisations handling milk in order to save handling costs and we can significantly reduce the retail price of milk.

CONCLUSION:

India is the largest producer of milk and dairy products by volume. Although it was neither a significant importer nor an exporter until operation flood program was implemented. Global dairy trade is still less than 0.4 per cent for every year. Milk production is been a home activity for 150 million people worldwide. India is in 5th position with 21% of world's milk production. Uttar

Pradesh (30.52 %), Rajasthan (23.67), Madhya Pradesh (15.91%) were major milk producing states in India, in which private sector occupies major portion in processing of dairy products sector. While looking at number of industries in India food processing sector only 4-5 per cent of the units belong to manufacture of dairy products. Poor quality milk due to unhygienic milk handling, High production costs for milk, High cost in milk handling and marketing were identifies as major challenges faced by dairy processing industry.

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