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Dairy

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Report Highlights:

Post estimates India's 1998/99 milk production at 74.5 million tons, making India the world's largest producer of milk. Production has been growing at an average rate of 3 percent per year, and is forecast at 77.0 million tons in 1999/2000. Production of NFDMM and butter/ghee increased by 9 percent in 1998/99 to an estimated 120,000 tons and 1.6 million tons, respectively.

Includes PSD changes: Yes
Includes Trade Matrix: No
Annual Report
New Delhi [IN1], IN

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Executive Summary

Higher farmgate prices and the greater availability of feedstuffs have led to a 3.5 percent increase in India's milk production, enabling it to displace the U.S. as the world's largest milk producer. This year's output is estimated at 74.5 million tons, while 1999/2000 production is forecast at 77 million tons. A fat-based pricing system has encouraged production of buffalo milk, which now accounts for 55 percent of total output. Private investment in dairy processing continues to expand as the demand for value-added dairy products is growing at an estimated rate of 10 percent annually. The production of butter/ghee (melted butter) and non-fat dry milk (NFDM) increased by 9 percent during 1997/98 to 1.6 million tons and 120,000 tons, respectively. Imports of NFDM declined from 1,130 tons in 1995/96, to 283 tons in 1996/97, while imports of butter/ghee declined from 4,010 tons to 283 tons. Indian dairy exports are negligible.

Commodity: Dairy, Milk, Fluid ('000 Head) ('000 metric tons)

PSD Table						
Country:	India					
Commodity:	Dairy, Milk, Fluid					
		1997		1998		1999
	Old	New	Old	New	Old	New
Calendar Year Begin		04/1997		04/1998		04/1999
Cows In Milk	34000	34500	35000	35000	0	35500
Cows Milk Production	34500	34500	35500	35500	0	36000
Other Milk Production	37500	37500	38500	39000	0	41000
TOTAL Production	72000	72000	74000	74500	0	77000
Intra EC Imports	0	0	0	0	0	0
Other Imports	0	0	0	0	0	0
TOTAL Imports	0	0	0	0	0	0
TOTAL SUPPLY	72000	72000	74000	74500	0	77000
Intra EC Exports	0	0	0	0	0	0
Other Exports	0	0	0	0	0	0
TOTAL Exports	0	0	0	0	0	0
Fluid Use Dom. Consum.	32000	32000	33000	32500	0	33000
Factory Use Consum.	40000	40000	41000	42000	0	44000
Feed Use Dom. Consum.	0	0	0	0	0	0
TOTAL Dom. Consumption	72000	72000	74000	74500	0	77000
TOTAL DISTRIBUTION	72000	72000	74000	74500	0	77000
Calendar Yr. Imp. from U.S.	0	0	0	0	0	0
Calendar Yr. Exp. to U.S.	0	0	0	0	0	0

Production

Higher farm gate prices for milk and larger availability of feed led to a 3.5 percent increase in India's milk production, estimated at 74.5 million tons in 1998/99. Thus, India has displaced the United States as the world's largest producer of milk. Assuming continued favourable prices for milk and milk products, and adequate availability of feed and fodder, 1999/2000 milk production is forecast to increase to 77.0 million tons.

Private investment in the dairy sector has increased significantly in the past few years following the government's 1995 decision to partially liberalize the licensing requirements for new dairy processing units. Growth in this sector has also been fueled by strong demand for value-added dairy products, which is growing an estimated 10 percent annually. Increased dairy processing capacity has led to stronger demand and higher farm gate prices for raw milk, encouraging dairy farmers to invest in better cows and improved feeding practices.

Production Developments

Milk production in India is typically a backyard venture, with a majority of rural households owning an average of 2-3 cows. These farms are low-cost producers of milk due to low maintenance and feeding costs. Indigenous cows typically yield around 2-3 liters of milk/day, crossbred cows, 8-10 liters/day and buffalos, 4-6 liters/day. The marketing of fluid milk follows a fat-based pricing system which has led to higher growth (1.5 percent) in the buffalo population compared to the cow population, (0.5 percent since 1990). Consequently the share of buffalo milk in total milk production has increased from 50 percent in 1996 to about 55 percent in 1998. The average price received by producers in March 1998 was rs. 9.40 - rs. 13.00/liter (\$224-310/mt) for buffalo milk (7% fat, 9% SNF) and rs. 6.40-10.00/liter (\$152-\$238/mt) for cow's milk (4% fat, 8.5%SNF).

Typically, one-third of milk production is consumed by producer households and the balance is marketed either through village-level vendors, dairy cooperatives or private dairies. The share of milk purchased by cooperatives and private dairies has increased at the expense of local vendors, with the quantities purchased by private dairies growing especially fast. About 85 percent of the milk procured by cooperatives is marketed as fluid milk, whereas private dairies market only 42 percent in fluid form, with most milk being processed into value-added products such as ghee (melted, clarified butter), milk powder, cheese and ice-cream.

Government programs to improve the milk yield of local breeds rely heavily on the use of artificial insemination (AI). Preferred breeds are Holstein, Brown Swiss and Jersey. The number of AIs performed increased from 17 million in 1996/97 to 18 million in 1997/98. However, due to a low success rate, growth in the number of crossbred animals has been static. Embryo transfers have been tried on an experimental basis, but commercial application is still not viable. At present, the use of BST-type products is restricted to buffalos. However, use is not viewed as economically viable.

Improved feeding and husbandry practices, combined with increased returns from dairy farming, have led to increased usage of compound feeds. Total usage in 1997/98 is estimated at 4.5 million tons, compared with 4.0 million tons in 1996/97. The growth occurred despite a 5-6 percent increase in fodder prices and a 7 percent increase in the price of protein meal.

Production Policy

In addition to agricultural universities and research institutes, the government supports dairy development by funding various breeding and health care programs. Funding for these programs totaled rs. 2 billion (\$47 million) in 1997/98 (April/March). Cooperatives also support development of the dairy sector through a variety of programs covering artificial insemination, improved health care, compound feeds and improved fodder seed.

Consumption

Per-capita milk consumption in 1998/99 is estimated at 208 grams/day, compared to 202 grams/day in 1997/98. This is still well below the WHO recommended level of 283 grams/day. As milk production is growing at almost twice the rate of the population, per capita consumption should continue to improve. About 45 percent of milk is consumed in fluid form, with the balance used largely in the production of traditional milk-based products such as butter, ghee, paneer (cottage cheese), curd, milk powder and sweet meats. In light of the rapid growth in private sector dairy processing capacity, consumption of fluid milk as a percentage of the total milk supply is expected to decline to around 40 percent by 2001.

Higher average income coupled with changing lifestyle and food habits have contributed to the growing demand for western-style milk products such as table butter, processed cheese and ice cream. A handful of dairy companies are currently producing western-style cheese to cater to the demand of fast food chains, and a leading French company is manufacturing speciality cheeses locally. A small but growing quantity of milk is used in the production of other high-value products such as lactose and casein. Production of ice-cream is growing at an annual rate of 17 percent, and totaled 44 million liters in 1997.

Trade

Except for informal cross-border trade in fluid milk, trade is negligible.

Trade Policy

Milk and dairy products are categorized as consumer goods under India's current trade policy, which effectively bans the import of most dairy products. Exceptions are NFDM and butter oil which can be "freely" imported at a duties of zero and 35 percent, respectively. Effective April 1, 1997, imports of cheese are permitted with a Special Import License (SIL) at a tariff rate of 40 percent. In addition, luxury hotels can import all types of food products, including dairy products, against their foreign exchange earnings at an average tariff of 25 percent.

Bulk exports of milk powder and ghee are subject to an annual export quota established by the Department of Dairy Development, Ministry of Agriculture, and monitored by the Agricultural and Processed Foods Exports Development Authority (APEDA). Exports of branded dairy products in consumer packages of 5 kilograms or less are exempt from the quota restriction. The 1998/99 (April/March) export quotas for milk powder and ghee were established at 25,000 tons and 7,500 tons, respectively.

Market Development Opportunities

During the hot summer months of May and June, production of milk declines, creating a window for imports. Traditionally, the National Dairy Development Board (NDDB) has imported significant quantities of butter oil and NFDM during these months for use in the production of reconstituted milk. The private sector imports butter oil for mixing with ghee whenever there is a price advantage. Demand for processed cheese and high quality dairy products by luxury hotels and fast food chains is also expected to increase. Rapid growth in ice cream consumption offers a niche market, and one US company is already exporting ice cream to India.

Commodity: Dairy, Milk, Non Fat Dry ('000 metric tons)

PSD Table						
Country:	India					
Commodity:	Dairy, Milk, Nonfat Dry					
		1997		1998		1999
	Old	New	Old	New	Old	New
Calendar Year Begin		04/1997		04/1998		04/1999
Beginning Stocks	23	23	18	21	14	21
Production	110	110	116	120	0	130
Intra EC Imports	0	0	0	0	0	0
Other Imports	0	0	0	0	0	0
TOTAL Imports	0	0	0	0	0	0
TOTAL SUPPLY	133	133	134	141	14	151
Intra EC Exports	0	0	0	0	0	0
Other Exports	8	2	10	5	0	5
TOTAL Exports	8	2	10	5	0	5
Human Dom. Consumption	107	110	110	115	0	120
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	107	110	110	115	0	120
TOTAL Use	115	112	120	120	0	125
Ending Stocks	18	21	14	21	0	26
TOTAL DISTRIBUTION	133	133	134	141	0	151
Calendar Yr. Imp. from U.S.	0	0	0	0	0	0
Calendar Yr. Exp. to U.S.	0	0	0	0	0	0

Production

Continued expansion in milk processing capacity by the private sector and the need to sustain fluid milk supplies during the lean season have led to an increase in total milk powder production estimated at 240,000 tons in 1998/99 (compared to 220,000 tons last year). Production of NFDM is expected to increase by 9 percent, and is estimated at 120,000 tons in 1998/99. It is forecast to reach 130,000 tons in 1999/2000. Whole milk powder, skimmed milk powder and infant milk food constitutes 15, 25, and 10 percent, respectively, of total milk powder production.

Consumption

Whole milk powder and partially skimmed milk powder are mainly used by bakeries and confectioneries, whereas infant milk food is consumed by households. NFDM is used mainly by cooperatives and private processors in the production of reconstituted milk. NFDM is also used to a smaller extent as a tea and coffee whitener. Wholesale market prices of NFDM were rs. 70-75/kg (\$ 1.70-1.80 /kg) in September 1998, compared

with rs. 60/kg (\$ 1.70/ kg) a year ago. Trade sources expect prices to continue to increase.

Trade

The National Dairy Development Board (NDDB), an apex organization of Indian dairy cooperatives, imported 283 tons of NFDM in 1996/97, compared with 1,130 tons in 1995/96. Imports are expected to be negligible in 1998/99 and 1999/2000 as the domestic industry has expanded its processing capacity to meet lean-season demand. However, India will continue to remain an occasional importer of NFDM during periods of scarcity.

India exports small quantities of NFDM, mostly to Bangladesh and the Middle East. However, the average domestic price for NFDM is much higher than world prices, making large scale exports unlikely. Against an export quota of 5,000 tons in 1997/98, actual exports were 2,052 tons. Despite reduced exports of NFDM during 1997/98, the government established a higher export quota of 25,000 tons in 1998/99.

Trade Data : Non Fat Dry Milk (metric tons)

Imports 1996/97 (April/March)

Country	Imports (metric tons)
New Zealand	221
UK	30
Singapore	16
Latvia	16
Total	283

Exports 1996/97 (April/March)

Country	Exports (metric tons)
Bangladesh	150
USA	121
Philippines	100
UAE	75
Others	1
Total	447

Commodity: Dairy, Butter ('000 metric tons)

PSD Table						
Country:	India					
Commodity:	Dairy, Butter					
		1997		1998		1999
	Old	New	Old	New	Old	New
Calendar Year Begin		04/1997		04/1998		04/1999
Beginning Stocks	0	0	0	0	0	0
Production	1470	1470	1540	1600	0	1750
Intra EC Imports	0	0	0	0	0	0
Other Imports	5	1	10	5	0	10
TOTAL Imports	5	1	10	5	0	10
TOTAL SUPPLY	1475	1471	1550	1605	0	1760
Intra EC Exports	0	0	0	0	0	0
Other Exports	2	2	2	3	0	5
TOTAL Exports	2	2	2	3	0	5
Domestic Consumption	1473	1469	1548	1602	0	1755
TOTAL Use	1475	1471	1550	1605	0	1760
Ending Stocks	0	0	0	0	0	0
TOTAL DISTRIBUTION	1475	1471	1550	1605	0	1760
Calendar Yr. Imp. from U.S.	0	0	0	0	0	0
Calendar Yr. Exp. to U.S.	0	0	0	0	0	0

Production

Butter/ghee production increased from 1.47 million tons in 1997/98, to 1.60 million tons in MY 1998/99, with production of ghee (clarified butter) estimated at 1.35 million tons and butter at 250,000 tons (including 35,000 tons of table butter). Higher ghee prices have encouraged processors and traders to mix it with imported butter oil. Most ghee is produced at the household level for home consumption. Assuming a 3 percent growth in milk production and a continued increase in the consumption of value-added dairy products, butter/ghee production is forecast to increase by 9 percent to 1.75 million tons in 1999/2000.

Consumption

Due to its flavor, ghee is used as a premium cooking medium in most Indian households. During the lean season, butter oil and white butter are utilized by cooperatives and some private dairy processors in the production of reconstituted milk. Table butter/processed butter is largely consumed by upper and middle income urban households. The average wholesale price of ghee in Delhi was rs. 145/kg (\$ 3.50/kg) in September 1998, compared with rs. 128/kg (\$ 3.40/kg) a year ago.

Trade

Due to larger domestic availability, imports of butter oil during 1996/97 declined to 243 tons compared with 4,010 in 1995/96. Imports were mostly from Nepal and France.

Indian exports of ghee/butter are mostly confined to packaged, branded products. Against an export quota of 2,500 tons for 1996/97, actual exports totaled only 455. The Middle East is the major export market, where it caters to the demand of the ethnic Indian population.

Trade Data: Butter/Butter Oil (metric tons)

Imports 1996/97 (April/March)

Country	Imports (metric tons)
Nepal	247
France	36
Total	283

Exports 1996/97 (April/March)

Country	Exports (metric tons)
UAE	200
UK	110
Philippines	36
USA	30
Bahrain	24
Oman	12
Kuwait	10
Others	33
Total	455