

USDA Foreign Agricultural Service

# GAIN Report

Global Agricultural Information Network

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## India

### Dairy and Products Annual

**2014**

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**Report Highlights:**

Calendar year (CY) (January-December) 2015 fluid milk production is projected to increase to 147 million metric tons (MMT) assuming a normal monsoon and continued private and public sector efforts to improve farm management and production through extension services. CY 2015 fluid milk consumption is forecast to increase to 59.75 MMT on population growth and rising incomes, which likely will pressure the formal dairy sector to expand.

## **Executive Summary:**

Calendar year (CY) (January-December) 2015 fluid milk production is projected to increase 4.6 percent to 147 million metric tons (MMT) assuming a normal monsoon and continued private and public sector efforts to improve farm management and production through extension services. CY 2014 and 2015 non-fat dry milk (NFD) production levels are projected at 520 and 550 MMT on growing domestic demand for reconstituted milk during the lean season and expectations of continued strong export demand. CY 2015 fluid milk consumption is forecast to increase 4.8 percent to 59.75 MMT on population growth and rising incomes, which has resulted in Indian buying more nutritious food, especially milk and dairy products. As incomes and demand for safe, higher quality dairy products rise, this likely will pressure the formal dairy sector to expand. However, any expansion will need to find solutions to ongoing challenges such as a declining water table, less land availability, animal disease, and insufficient feed and fodder.

## **Commodities:**

Dairy, Butter

Dairy, Milk, Fluid

Dairy, Milk, Nonfat Dry

## **Production:**

CY 2015 fluid milk production is projected to increase 4.6 percent to 147 million metric tons (MMT) assuming a normal monsoon and continued private and public sector efforts to improve farm management and production through extension services. CY 2014 and 2015 non-fat dry milk (NFD) production levels are projected at 520 and 550 MMT on growing domestic demand for reconstituted milk during the lean season and expectations of continued strong export demand. CY 2015 combined butter and ghee (clarified butter) production is projected to rise 3 percent to 5 MMT on strong domestic demand. (**Note:** *Post production, supply and demand (PSD) estimates for fluid milk, NFD, and butter have been revised to reflect the calendar year in lieu of the April/March marketing year*).

India is the world's largest dairy producer. According to the National Dairy Development Board (NDDB), Indian dairy demand in 2021-22 is estimated to be between 200 to 210 MMT. From 2007 to 2012, Ministry of Agriculture (MOA) statistics show a 4.5 percent increase per year for dairy production. Using MOA statistics from 2012-13, Indian dairy production needs to grow approximately 5 percent per year in order meet NDDB's 2021-22 demand projection.

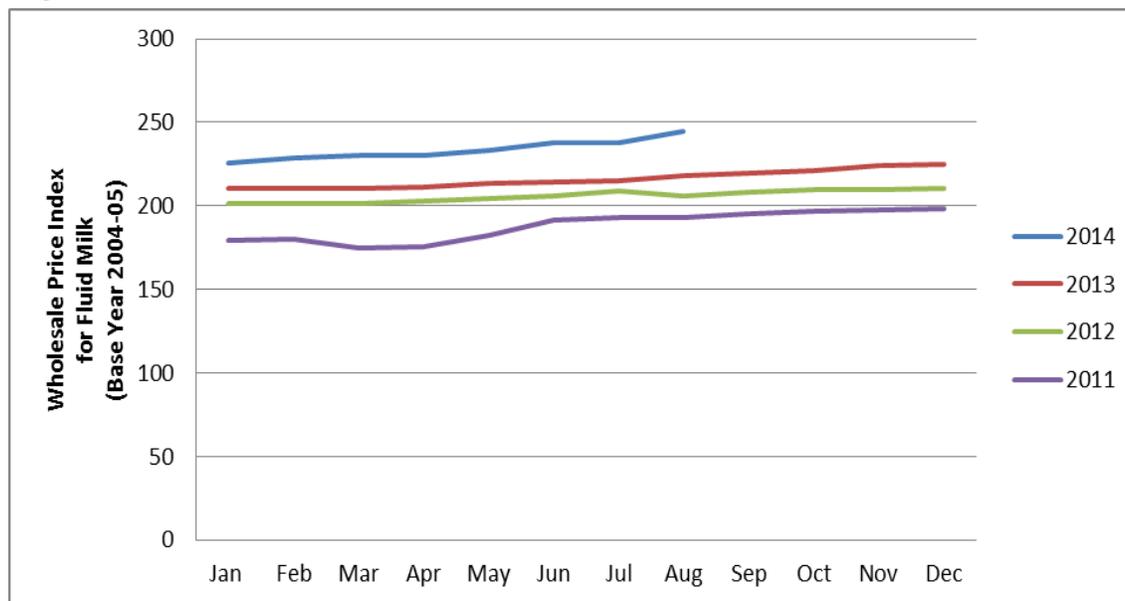
## **Production Policy and Environs**

India's dairy industry challenges mainly include low farmer knowledge/expertise, less land due to urban sprawl, a declining water table, animal disease, and insufficient animal feed and fodder, which affects dairy productivity. Limited resources and inputs, especially feed, have reportedly caused dairy prices to rise in the last few years (see Figure 1 below). In order to address these issues, the government of India (GOI) offers subsidies and other assistance through schemes to enhance production, including allocating

monies to the Indian Council of Agricultural Research to increase research and development. However, government initiatives only focus on assisting state-supported cooperatives and processors. It is unclear whether these initiatives will be able to boost dairy production to meet India's future demand needs. For a detailed list of other ongoing government initiatives, please see GAIN reports [IN4080](#) and [IN3098](#).

Founded in 1965, the NDDB has focused on developing dairy cooperatives (in 2013, approximately 15.1 million dairy farmers were members of a dairy cooperative) through extension services and other programming. The NDDB is in charge of implementing the National Dairy Plan (NDP), which currently concentrates on genetic improvement, animal nutrition, and procurement in the dairy sector. Phase I of the NDP will be implemented from 2011-12 to 2016-17, and has a financial outlay of USD \$416 million (more than 20 billion rupees). The first phase is focused on 14 major milk producing states: Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. These states account for over 90 percent of total milk production. For more information on the NDP, please refer to [IN2031](#).

**Figure 1. India: Fluid Milk Prices Climb**



Source: Ministry of Commerce & Industry, Govt. of India

In recent years, more private sector dairy processors have entered the market. Some private sector processors provide farmers access to modern extension services, which help improve farm management, feeding, fertility (including artificial insemination and genetics), food safety/hygiene, and veterinary care. In return for these services, farmers agree to provide milk to collection centers owned by these private companies. Dairy farmers are paid by volume and fat and solids-not-fat content.

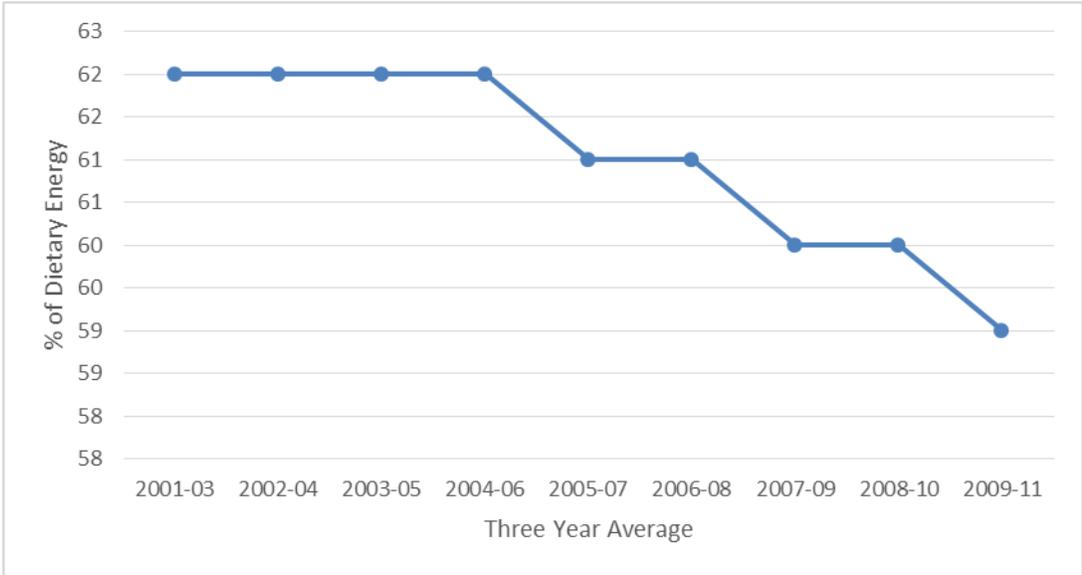
**Consumption:**

CY 2015 fluid milk consumption is forecast to increase 4.8 percent to 59.75 MMT on population growth and rising incomes, which has resulted in Indian buying more nutritious food, especially milk and dairy products (see figures and commentary below). CY 2015 NFDM and butter consumption is forecast to increase to 475,000 and 5 MMT on population growth and demographic shifts that are increasing demand for ready-made dairy products.

As income levels increase, more Indians are purchasing less grain and more higher-value, nutritious products such as milk, fish, meat, poultry, fruits, and vegetables. Because of India’s predominant Hindu population, which is mostly vegetarian, many consumers receive their daily protein requirements from food sources that do not contain animal protein. Although these protein requirements can be derived from pulses and other vegetable products, many Indians also consume milk and dairy products, which are important ingredients in most Indian meals.

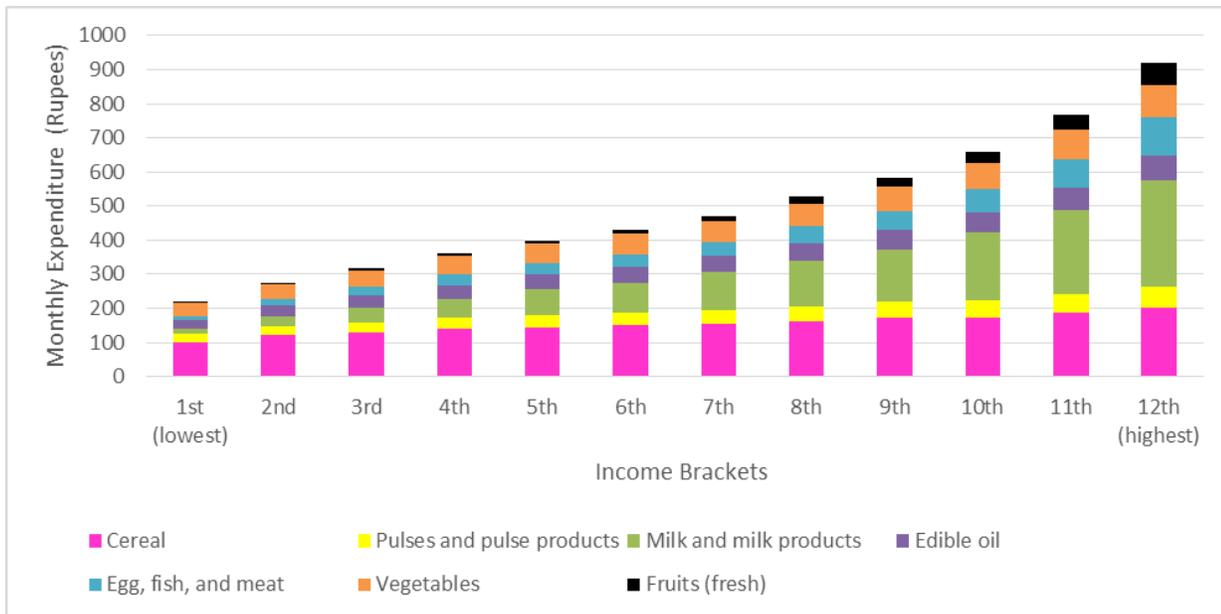
According to contacts, demand for pasteurized milk produced by processors in the formal/organized sector continues to grow, which may be because consumers believe the product is safer than milk produced by the informal/unorganized sector (i.e., milk produced on-farm and sold via steel canisters on the roadside). As incomes and demand for safe, higher quality dairy products rise, this likely will press the formal dairy sector to expand. The outstanding question is whether the formal dairy sector can expand rapidly enough to meet increasing demand, especially since it only represents approximately 20 to 30 percent of total dairy production.

**Figure 2. India: Grain, Roots, and Tubers Consumption Falls**



Source: Food and Agriculture Organization

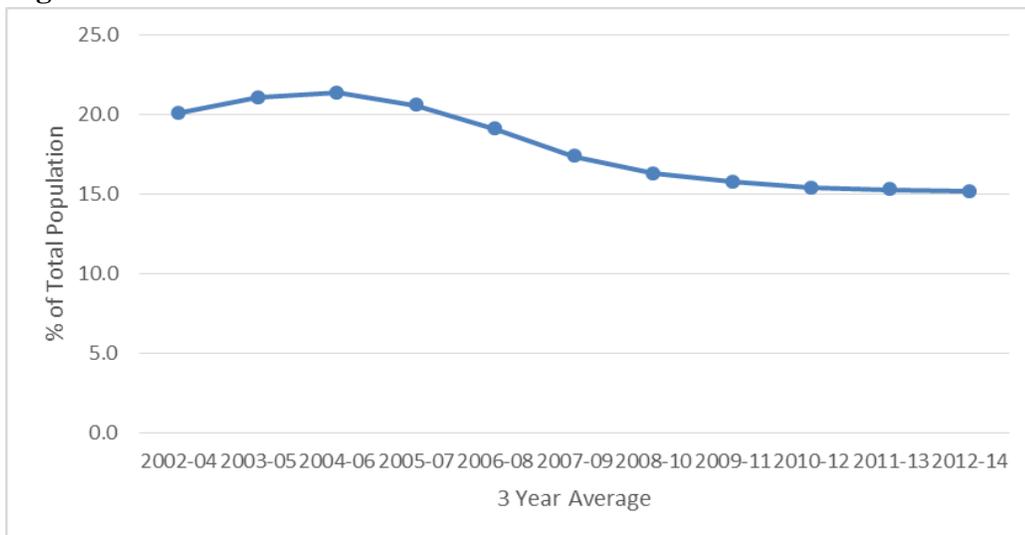
**Figure 3. India: Higher Income Brackets Spend More on Dairy Products**



Source: National Sample Survey Office: Level and Pattern of Consumer Expenditure (2011-12)

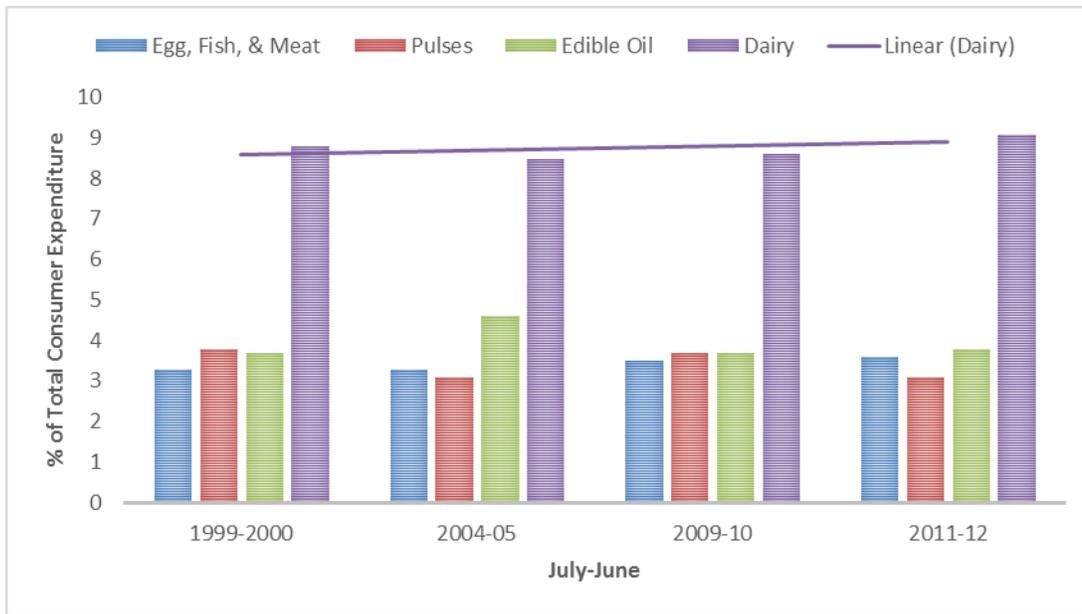
Rural consumption of dairy products is increasing. According to Food and Agriculture Organization data, in the last ten years, the undernourished (i.e., daily caloric intake is insufficient for a healthy, active lifestyle) Indian population has declined, which means more Indians in lower income brackets are meeting their daily caloric requirements. Increases in rural dairy spending may indicate that segments of this population are purchasing more nutritious foods to meet this calorie requirement (see Figure 5). Although urban dairy spending is falling, Indians in higher income brackets are also buying more non-food items, which may explain the declining share (see Figure 6).

**Figure 4. India: Undernourishment Declines**



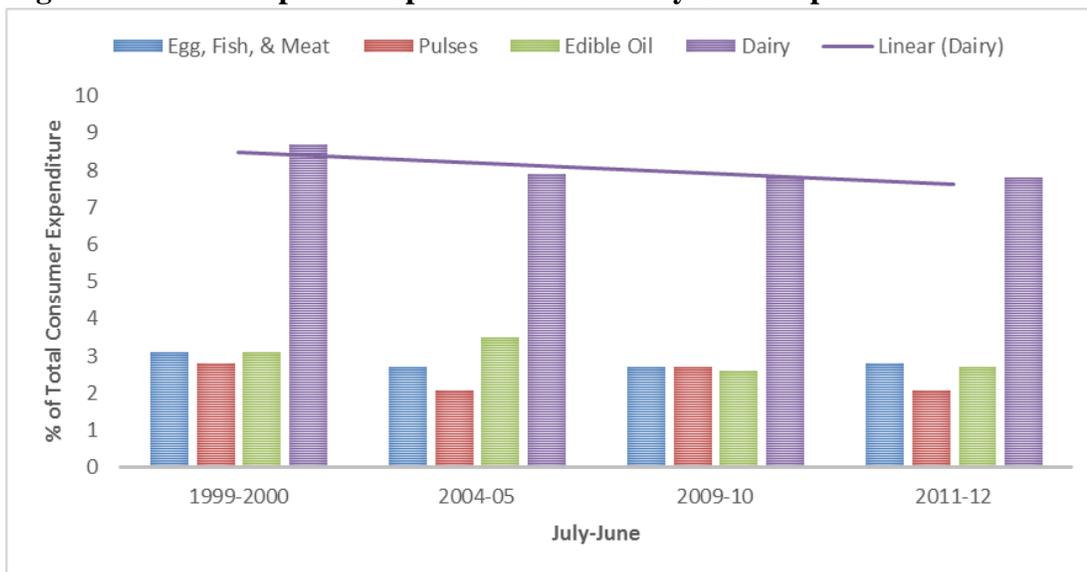
Source: Food and Agriculture Organization

**Figure 5. India: Proportion Spent on Rural Dairy Consumption Rises**



Source: National Sample Survey Office: Level and Pattern of Consumer Expenditure (2011-12)

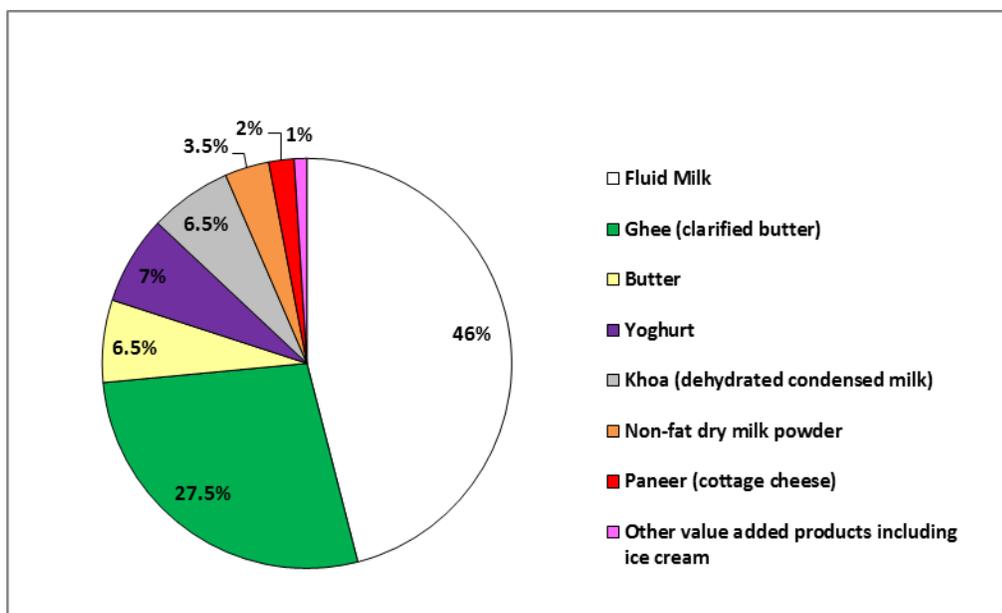
**Figure 6. India: Proportion Spent on Urban Dairy Consumption Falls**



Source: National Sample Survey Office: Level and Pattern of Consumer Expenditure (2011-12)

Changing demographics have also affected dairy consumption patterns. More women are pursuing careers, especially those living in urban areas. With less time to cook meals at home, more families are buying ready-made dairy products like table butter, yogurt, paneer, and other ethnic dairy desserts. Others are trying new processed products that were never traditionally made in the home such as processed cheese, flavored milk, probiotic drinks, ice cream, and baby foods.

**Figure 7. India: All-India Annual Dairy Consumption by Product**



Source: National Dairy Development Board; presentation at the International Dairy Federation Summit, November 6, 2012 in Cape Town, South Africa

### Processing and Food Safety

For pasteurized milk and dairy products produced in the formal/organized sector, government-owned dairy facilities and some private sector actors monitor milk quality and safety before it is further processed. However, food safety continues to be a challenge due to poor farm management and the presence of a large informal/unorganized dairy sector, which represents approximately 70 to 80 percent of total dairy production. A recent Food Safety and Standards Authority of India (FSSAI) study conducted in 33 states found that 68.4 percent of milk samples were adulterated with detergent, fat, urea, and water. Nearly 46 percent of these samples were diluted with water in order to increase volume (farmers are paid based on volume among other characteristics).

In order to address food safety issues in the dairy sector, the central government has enacted a scheme called Strengthening Infrastructure for Quality and Clean Milk Production, which is aimed at improving milk quality at the village level. The scheme involves monitoring data collected from milk collection centers, which is further analyzed by FSSAI officials involved in creating food safety policy.

**Trade:**

**Exports**

NFDM exports are primarily sold to milk-deficient countries such as Bangladesh, Egypt, Algeria, Sri Lanka, and Pakistan. In much smaller volume, India also exports milk powder (casein), butter, and other dairy products to neighboring countries.

CY 2015 NFDM exports are projected at 75,000 metric tons on expectations of continued strong regional demand. CY 2014 NFDM export estimates are revised to 70,000 metric tons on slower export pace. CY 2014 and 2015 butter exports are forecast at 10,000 MT on strong regional demand. CY 2013 butter exports are revised according to customs data.

## **Imports**

Historically, India has irregularly imported dairy products, such as milk powder and butter, to put pressure on high domestic prices. U.S. dairy products exports are effectively prohibited under India's sanitary import protocol.

### **Policy:**

#### **Trade Policy**

Milk and dairy product imports are subject to tariff rate quotas and require an import permit and sanitary certificates. NFDM and butter oil imported above the TRQ attracts a 60 and 30 percent basic duty. Table 1, at the end of this report, provides tariff structure details.

The MOA is responsible for issuing sanitary permits for milk and dairy product imports. Dairy products are regulated under the Food Safety and Standards Regulations, which replaced the [Milk and Milk Products Order, 1992](#) on August 5, 2011. Please see [IN4070](#), [IN 3119](#), and [IN1174](#) for more information on import procedures, food safety requirements, and other policies.

In December 2013, the MOA revised quality guidelines for bovine germplasm imports. Some industry sources believe the new guidelines are less restrictive, but it is unclear if trade will increase due to additional requirements imposed by many Indian states. Previous iterations were published in February, 2011 and March, 2013.

In June 2014, the MOA published two draft health certificates, which are required to import bovine semen and embryos. Both drafts provide new or revised information on import requirements. For example, the genetic disease freedom clause has been removed from both certificates. According to MOA officials, the new draft health certificates have been forwarded to the World Trade Organization for comment.

On June 19, 2014, FSSAI issued an advisory extending the ban on Chinese milk and dairy products until June 22, 2015. The advisory also prohibits chocolates and chocolate products, candies, confectionary, and food preparations made with milk or milk solids. The ban was first implemented in September 2008, and has been in effect for almost six years. Please refer to GAIN reports [IN1057](#), [IN1106](#), [IN2001](#) and [IN3061](#) for further information.

**Table 1. India: Tariff Structure for Various Dairy Products, 2014**

HS CODE	ITEM DESCRIPTION	BASIC	CVD	SPL CVD	TOTAL DUTY w/ 3 % EDUCATION CESS	IMPORT POLICY
04011000 - 04015000	Milk and cream, not concentrated nor containing added sugar or other sweetening matter	30	0	0	30.900	Free San P
04021010	Milk and cream, concentrated or containing added sugar or other sweetening matter	60	0	4	68.272	Free San P
04021020 - 04021090	Milk and cream, concentrated or containing added sugar or other sweetening matter	60	0	4	68.272	Free San P
04022100	Milk and cream, not containing added sugar or other sweetening matter	60	0	4	68.272	Free San P
040229	Other: whole milk, milk for babies, other	30	0	4	36.136	Free San P
04029110	Condensed milk	30	0	4	36.136	Free San P
04029190	Other	30	0	4	36.136	Free San P
040299	Other: whole milk, condensed milk	30	0	4	36.136	Free San P
0403	Buttermilk, curdled milk and cream, yogurt, kephir & other fermented or acidified milk & cream, whether or not concentrated or containing added sugar or other sweetening matter or flavored or containing added fruits, nuts or coco	30	0	0	30.900	Free San P
0404	Whey, whether or not concentrated or containing added sugar or other sweetening matter; products consisting of natural milk constituents, whether or not containing added sugar or other sweetening matter, not elsewhere specified or include	30	0	4	36.136	Free San P
04051000	Butter	30	0	4	36.136	Free San P
04052000	Dairy spreads	40	0	4	46.848	Free San P
04059010- 04059020	Butter Oil and Ghee	30	0	4	36.136	Free San P
04059090	Other	40	0	4	46.848	Free San P
04061000	Fresh (unripened or uncured) cheese, including whey cheese & curd	30	0	0		Free San P
04062000	Grated or powdered cheese of all kinds	30	0	4	36.136	Free San P
04063000	Processed cheese not grated or powdered	30	0	4	36.136	Free San P
04064000	Blue-veined cheese and other cheese containing veins produced by <i>Pencilliumroqueforti</i>	30	0	4	36.136	Free San P
04069000	Other cheese	40	0	4	36.136	Free San P
170211	Lactose and lactose syrup containing by weight 99 percent or more lactose, expressed as anhydrous lactose, calculated on the dry matter	25	12	4	46.848	Free
21050000	Ice cream and other edible ice, whether or not containing cocoa	30	0	4	36.136	Free
3501	Casein, Caseinates and other casein	20	12	4	40.849	Free

	derivatives; casein glues					
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## Marketing:

### On-farm products

For many years, the GOI has encouraged the use of foreign bovine germplasm to increase dairy productivity. Some Indian states are discussing how to further incorporate indigenous genetics due to concerns about animal disease, maintaining biodiversity, or exploring other challenges such as improving feed conversion ratios due to a lack of feed and fodder. These policy discussions may eventually affect future germplasm demand for some Indian states (agricultural policy is a state subject).

### Retail products

Value-added dairy products continue to gain popularity. Although many Indian palates prefer paneer, some global industry experts predict that dairy cheese consumption will increase by approximately 15 to 20 percent on an annual basis, potentially spurred by the influence of western foods such as pizza and burgers. Packaged yoghurt is a small niche market since most households prepare plain yoghurt (i.e. *dahi*) at home. However, reportedly, more urban families are buying more packaged yoghurt due to convenience, including drinking yoghurt such as *lassi*. Ultra-high-temperature (UHT) milk also is a small niche market since culturally many Indians prefer fresh milk. Yet, more consumers are experimenting with UHT milk due to its longer shelf life. According to Rabobank, from 2012-13 to 2019-20, the overall market share for value-added products will increase from 21 to 31 percent.

## Production, Supply and Demand Data Statistics:

**Table 2. India: Commodity, Dairy, Butter, PSD**

Dairy, Butter India	2013		2014		2015	
	Market Year Begin: Apr 2013		Market Year Begin: Apr 2014		Market Year Begin: Apr 2015	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	5	5	5	6		8
Production	4,745	4,745	4,887	4,887		5,035
Other Imports	0	0	0	0		0
Total Imports	0	0	0	0		0
Total Supply	4,750	4,750	4,892	4,893		5,043
Other Exports	10	9	11	10		10
Total Exports	10	9	11	10		10
Domestic Consumption	4,735	4,735	4,874	4,875		5,025
Total Use	4,745	4,744	4,885	4,885		5,035
Ending Stocks	5	6	7	8		8
Total Distribution	4,750	4,750	4,892	4,893		5,043
CY Imp. from U.S.	0	0	0	0		0
CY. Exp. to U.S.	0	0	0	0		0

**Table 3. India: Commodity, Dairy, Milk, Fluid, PSD**

Dairy, Milk, Fluid India	2013		2014		2015	
	Market Year Begin: Apr 2013		Market Year Begin: Apr 2014		Market Year Begin: Apr 2015	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Cows In Milk	48,250	48,250	50,100	50,500		52,500
Cows Milk Production	57,500	57,500	60,125	60,500		64,000
Other Milk Production	77,000	77,000	81,000	80,000		83,000
Total Production	134,500	134,500	141,125	140,500		147,000
Other Imports	0	0	0	0		0
Total Imports	0	0	0	0		0
Total Supply	134,500	134,500	141,125	140,500		147,000
Other Exports	0	0	0	0		0
Total Exports	0	0	0	0		0
Fluid Use Dom. Consum.	54,400	54,400	57,460	57,000		59,750
Factory Use Consum.	80,100	80,100	83,665	83,500		87,250
Feed Use Dom. Consum.	0	0	0	0		0
Total Dom. Consumption	134,500	134,500	141,125	140,500		147,000
Total Distribution	134,500	134,500	141,125	140,500		147,000
CY Imp. from U.S.	0	0	0	0		0
CY. Exp. to U.S.	0	0	0	0		0

**Table 4. India: Commodity, Dairy, Milk, Nonfat Dry, PSD**

Dairy, Milk, Nonfat Dry India	2013		2014		2015	
	Market Year Begin: Jan 2013		Market Year Begin: Jan 2014		Market Year Begin: Jan 2015	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	51	51	11	11		16
Production	490	490	520	520		550
Other Imports	0	0	0	0		0
Total Imports	0	0	0	0		0
Total Supply	541	541	531	531		566
Other Exports	130	130	120	70		75
Total Exports	130	130	120	70		75
Human Dom. Consum.	400	400	401	445		475
Other Use, Losses	0	0	0	0		0
Total Dom. Consumption	400	400	401	445		475
Total Use	530	530	521	515		550

Ending Stocks	11	11	10	16		16
Total Distribution	541	541	531	531		566
CY Imp. from U.S.	0	0	0	0		0
CY. Exp. to U.S.	0	0	0	0		0