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India

Dairy and Products Annual

2010

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Report Highlights:
India's calendar year (CY) 2010 milk production is estimated at 117 million tons and is forecast to increase approximately 4 percent to a record 121.5 million tons in 2011, reflecting a near normal monsoon, improving management practices, increasing efforts of the private and public sector to improve cattle genetics, and good feed/fodder availability. In March 2010, India permitted duty-free imports of 30,000 tons of non fat dry milk (NFDM) and 15,000 tons of butter oil, due to concerns of a repeat of the 2009 weak monsoon. However, a sufficient 2010 monsoon, accompanied by the duty-free imports, has led to carry over stocks for next year.

Commodities:

Dairy, Milk, Fluid

Dairy, Milk, Nonfat Dry

Dairy, Butter

Production:

As the world's largest producer of dairy products (by volume) and home to the world's largest dairy herd, India nonetheless faces a milk supply gap due to increasing demand from a growing middle class population. Industry sources currently estimate that Indian dairy production is growing at a rate of about 4 percent per year, while consumer demand is growing at approximately double that rate, thus contributing to forecasted record growth of domestic production of liquid milk and butter. In response to strong demand for milk products, the Indian dairy industry is raising production in several ways. For example, farmers have responded to increasing dairy prices by increasing herd sizes, as is reflected in the 2007 Indian livestock census (updated as of 2010). Additionally, those farmers working directly with organized-sector buyers (industry estimates that between 40 and 50 percent of dairy producers work with the organized sector) generally have access to modern extension services, thus improving management, feeding, fertility and veterinary care. Many of these extension service providers offer artificial insemination services, further improving milk yields with new dairy cattle genetics. Artificial insemination services are expected to grow in the future, as the government of India continues to develop protocols for imported genetics products as well as encourage the growth of genetics services throughout the country. Finally, commercial dairies continue to build their presence in India.

Based on the general trends outlined above, Post forecasts CY2011 liquid milk production at 121.50 million tons, approximately 4 percent more than the estimated record 117 million tons in 2010. CY 2010 liquid milk production is revised to reflect greater than 4 percent growth over 2009 production due to a strong monsoon and related good fodder availability. Despite a weak monsoon in CY 2009, Indian dairy production was still strong, with liquid milk production coming in at 112 million tons. This was likely due to improved management practices. Note that the Post production, supply and demand (PSD) estimates for liquid milk, NFDM and butter have been generally revised to reflect the calendar year in lieu of the April/March marketing year, necessitating a general shift in production and trade values over the past 10 years. Some production revisions were also made to reflect updated livestock numbers following the recent publication of the Indian Livestock Census through the year 2007 (See Gain Report IN1082).

CY 2011 production of NFDM is forecast to increase to 410,000 metric tons. The growth in production is being driven by increasing demand for dairy products from India's growing middle income population. Post has revised NFDM production estimates for CY 2010 downwards by 25,000 metric tons to 375,000 metric tons. The downward revision is due to India's import of 30,000 metric tons of milk powder at 'nil' duty in 2010, which was tendered on concerns of a supply crunch in 2009. However, a good monsoon in 2010 resulted in good milk production, and with significant imports of NFDM and strong demand for liquid milk, it is estimated that domestic production of NFDM will fall slightly in 2010. NFDM production in 2009 is also revised downwards by 10,000 metric tons at 360,000 metric tons. Although milk production grew in 2009, liquid milk consumption continued to grow at a greater pace, leading to lower NFDM production in 2009. Increased demand for reconstituted milk during the lean season and consistent exports of NFDM are also drivers supporting increased production of milk powder.

Post forecasts 2011 production of combined butter and ghee (clarified butter) to increase by 25,000 metric tons to 4.18 million metric tons, following India's increasing production trend. 2010 butter production is pegged at 4.16 million metric tons due to the expected record milk production. Post has not changed the production estimates of butter for 2009, previously forecasted at 3.91 million metric tons.

The Indian dairy sector is unique in its emphasis on both cattle and buffalo milk. Out of the total bovine population in milk in India, 40 percent are indigenous cows, 46 percent are buffaloes and 14 percent are imported European or North American cattle crossbreeds. Out of the total milk produced in India, 55 percent or slightly more comes from buffaloes, and the remainder from dairy cows. Traditionally, buffalo milk has been preferred for its high milk fat content. However, as the organized sector procures more milk, dairy cattle are increasing in popularity due to their increased yields and shorter dry periods.

Production Policy

Dairy production in India is characterized by a low input-low output system, whereby smallholder producers typically own no more than five cattle or buffalo and use locally available feedstuffs. While yields are below international averages, production costs are amongst the lowest in the world. Although animals are generally stall-fed, low production costs and low yields means that animal feeding typically relies on agricultural residues rather than grain based feeds or special fodder. As dairy product prices continue to rise and stable incomes from milk procurement become more available, there is a small but slowly growing trend amongst farmers to increase herd sizes and specialize in dairying. Additionally, private sector investors are building larger dairies, often in partnership with a major dairy processor.

Indian dairy policy is currently focused on increasing milk output through a number of incentive schemes. While breeding stock development continues to take place through the Ministry of Agriculture's research programs, the government of India has also taken steps to allow the importation of high quality genetics. Currently, India allows imports of bovine semen and embryos (subject to strict quality norms). Additionally, the GOI launched the 'National Project for Cattle and Buffalo Breeding (NPCBB)' in October 2000. This program has targeted improving Indian indigenous breeds on a priority basis over a ten year period with an allocation of USD 255 million (Economic Survey 2009-10). The private sector is also playing a role by providing extension activities oriented at ensuring a stable supply of high-quality milk for procurement. Through the private sector, Indian dairy farmers are receiving artificial insemination services, veterinary care and other livestock management training. As genetic improvements become more available, it is expected that Indian producers will continue to use higher yielding foreign cattle breed/local breed hybrid crosses, often provided through their milk procurement company's own extension services.

In 2010, the government, along with the National Dairy Development Board, has drawn up a National Dairy Plan (NDP) with a proposed outlay of around USD 378 million to nearly double the country's milk production by 2020. This plan will focus on increasing milk productivity of the Indian dairy herd through several means, including the use of imported genetics as well as selective breeding of local cattle. Additionally, the NDP proposes to improve access to quality feeds and improve farmer access to the organized market, by increasing cooperative membership and growing the network of milk collection facilities throughout India. (National Dairy Development Board).

For more information see India Livestock and Products Annual Report 2010; GAIN IN1082.

Regulation of Milk and Milk products in India

The new Food Safety and Standards Authority of India (FSSAI) is charged with regulating food safety in India. The mandate of the Food Safety and Standards act of 2006, the FSSAI is consolidating the various previous laws which set sanitary requirements for food safety, machinery, premises, quality control, certification, packing, marking and labeling standards for all food products, including milk and milk products into one umbrella regulation. The forthcoming regulation, "The Food Safety and Standards Regulation" is expected to be implemented sometime in early 2011. Although minimal changes are expected to India's existing food safety laws, the Food Safety and Standards Regulation proposes a new definition for cheeses which would prohibit the use of animal-derived rennet. Please refer to IN1070 to know more about India's new Food Safety law or access the proposed rule directly at:
http://www.fssai.gov.in/website/portals/0/pdf/FssaiRules_Eng.pdf.

While the FSSAI sets standards for the safety of domestically produced and imported milk and milk products into India, the Ministry of Agriculture's Department of Animal Husbandry, Dairying and Fisheries is responsible for issuing sanitary permits for the import of livestock products into India, including milk and milk products. The department has also created the sanitary import protocol for the import of bovine semen in India and is working actively to strengthen the Indian dairy sector.

On July 19, 2010, the Ministry of Health and Family Welfare issued an Official Gazette notification under the Prevention of Food Adulteration Act, 1954 (PFA), proposing to amend the definition and quality standards for domestic and imported milk and milk products. The Gazette also proposed maximum levels for additives and set microbiological parameters for dairy based products (Please refer GAIN report IN1080 for more information).

Consumption:

According to India's National Dairy Development Board, total dairy production is estimated to be growing at 4 percent annually while consumption of milk is expected to increase by a higher rate than production in the near future. The major factors driving growth in milk consumption are increased demand due to population growth, growing household incomes, increased demand for value added milk products, and the preference for liquid milk as a principal protein source, across all age groups in rural or urban India. In 2009, the per capita availability of milk was 265 grams per day, close to the world's average. The preference for liquid milk, due both to its cultural significance, as well as India's tradition of vegetarianism has left demand for liquid milk relatively inelastic, despite increasing consumer prices over the past few years.

Given India's strong demand for dairy products, consumption of liquid milk in India continues to keep pace with Indian production. This trend is forecast to continue in CY2011. Indian consumption of nonfat dry milk is forecast to surpass Indian production in 2011, reflecting the small but growing deficit in dairy production and the need for increased supplies. Butter consumption exceeded domestic production in 2010 and is forecast to do so again in 2011.

While it is estimated that 40 to 50 percent of Indian dairy farmers work with the organized sector, it is also estimated that approximately 65 percent of milk in India is consumed (in fluid or other forms) on farm or by the unorganized sector (local milk vendors, wholesalers, retailers, and producers themselves). Of the total milk distributed jointly by the organized and unorganized sector, approximately 46 percent of the milk is consumed in fluid form and the rest is processed into various milk products such as butter, yogurt, milk powder, etc. An account of India's milk product mix based on industry estimates is given below (Refer table 1)

Table 1: India's Milk Product Mix - 2009

Fluid Milk	46.0%
Ghee (clarified butter)	27.5%
Butter	6.5%
Yogurt	7.0%
Khoa (partially dehydrated condensed milk)	6.5%
Milk Powder	3.5%
Paneer (cottage cheese)	2.0%
Others, including Cream, Ice Cream	1.0%
Source: Industry estimates	

Trade:

India generally only exports a small percentage of its total production given its growing supply deficit and increasing domestic dairy prices. Occasional Indian exports of NFDM and butter will occur when prices and regional demand create a market with neighboring countries. India consistently exports specialty products such as casein for food processing or pharmaceuticals. In 2011, Post forecasts exports of 15,000 metric tons of NFDM. This is 7,000 metric tons more than in 2010. Sufficient carry-over stocks from 2010 may increase NFDM exports from India in 2011. Overall 2010 NFDM exports have been revised down to 8,000 metric tons as India produced less NFDM due to imports of 30,000 metric tons. However, 2009 exports of NFDM are revised down by 50 percent to 15,000 metric tons due to strong domestic consumption of NFDM and high domestic prices.

Total CY exports of butter are forecast 6,000 metric tons higher for the year 2011, at 10,000 metric tons. However, the export of butter for the year 2010 is revised downwards to 4,000 metric tons. In 2009, India exported 28,000 metric tons of butter.

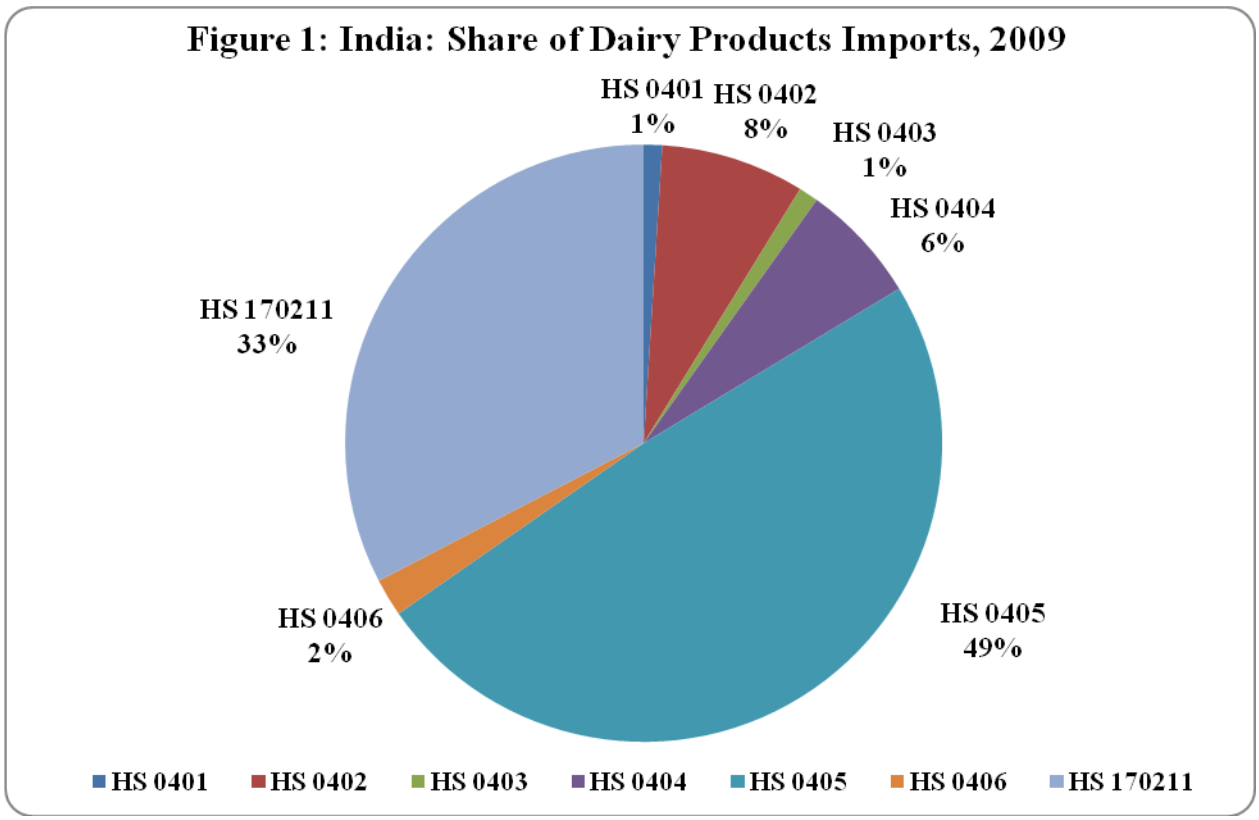
On the import side, Post forecasts 'nil' imports of milk powder in 2011 due to increased domestic stocks. Stocks grew following the March 2010 'duty free' import of 30,000 metric tons of milk powder to meet the requirements of state milk

federations for making liquid milk during the lean/ summer season of 2010. However, strong domestic production has led to the imported NFDM being carried over as stock in 2011. India imported 3,000 metric tons of milk powder at 5 percent duty in 2009 in order to meet a supply gap.

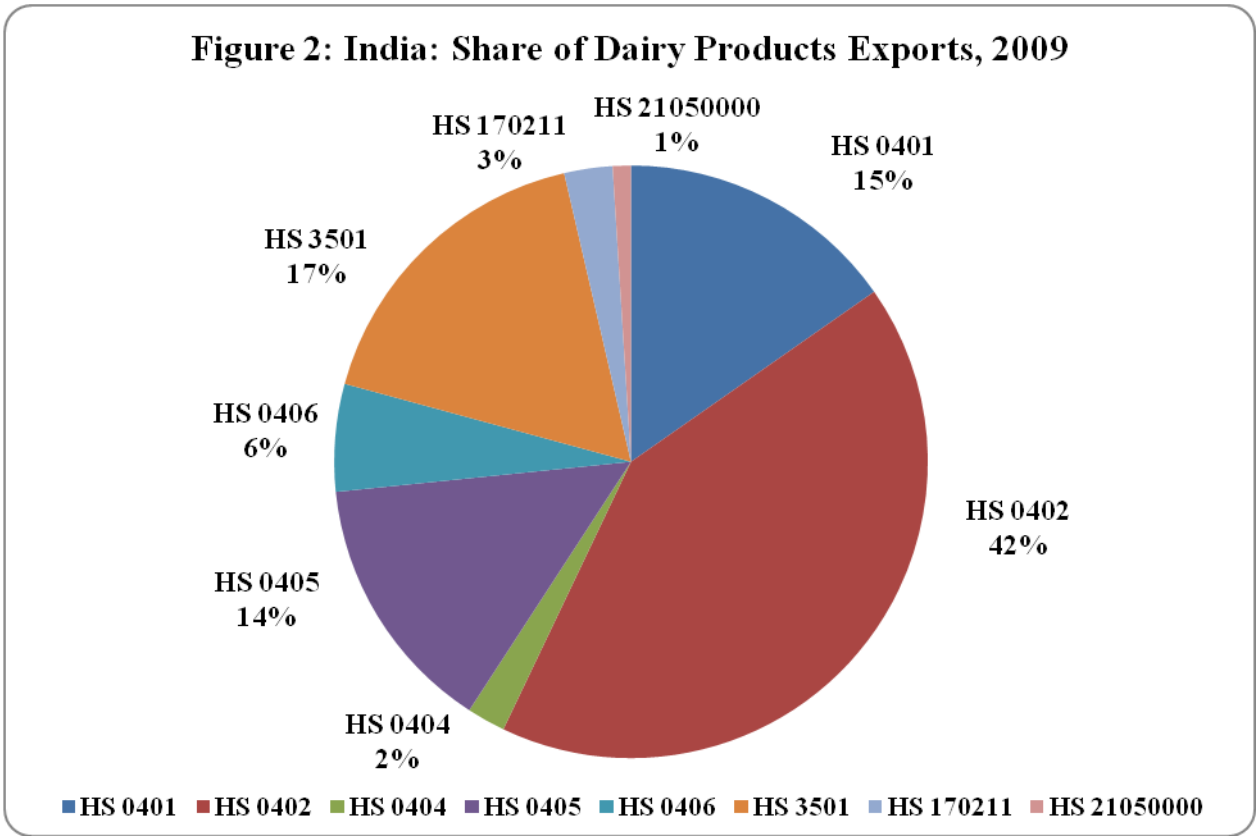
CY 2011 butter imports are forecast at 5,000 metric tons compared with 19,000 metric tons in 2010, assuming that the in-quota import tariff rates will remain at zero or close to zero. Lower near-term imports are forecast due to increased production expected in 2011. CY 2010 imports increased to 15,000 metric tons following the government's liberalization of 'duty free' imports of butter oil (19,000 metric tons of butter equivalent) in March 2010. Duty free imports were allowed due to concerns of a deficient monsoon and resulting significant production drops which never materialized. CY 2009 butter imports have been revised downward marginally by 2,000 metric tons at 28,000 metric tons.

Figure 1 shows India's imports of dairy products in 2009. Butter and other dairy derived fats constituted around 50 percent of total dairy imports in volume terms during CY2009, followed by lactose (33 percent), and milk powder (8 percent). Import of milk and milk products is permitted without any quantitative limitations, although tariff rate quotas apply and import permits are required. In 2010, within-quota duty-free imports of milk powder and butter oil were allowed due to concerns that a possible deficient monsoon would lead to a difficult lean season (April-August) and further drive up prices. Quantities of NFDM imported above the assigned quota of 30,000 tons attract a basic duty of 60 percent while imports of butter oil above the assigned quota of 15,000 tons attract a basic duty of 40 percent. Table 2, at the end of this report, gives an account of the tariff structure of various dairy products.

India exports various categories of milk products including milk powders, baby foods, butter and other fats, casein, milk and cream, cheese, and whey products. Figure 2 shows that milk powders and baby food exports constituted more than 40 percent of the total dairy exports in volume terms during CY 2009, followed by casein, milk and cream, butter and other fats, and other processed dairy products. India exported around 50 percent of its total dairy products shipments to Bangladesh, the United States, U.A.E, and Singapore during CY 2009. Figure 3 also provides a comparative account of country-wise exports of Indian dairy products in 2009 vis-a-vis 2008. India's dairy exports fell by around 60 percent in 2009 over the previous year (by volume). Exports shrank for almost all the major export destinations for India's milk and milk products in 2009 due to high domestic demand.

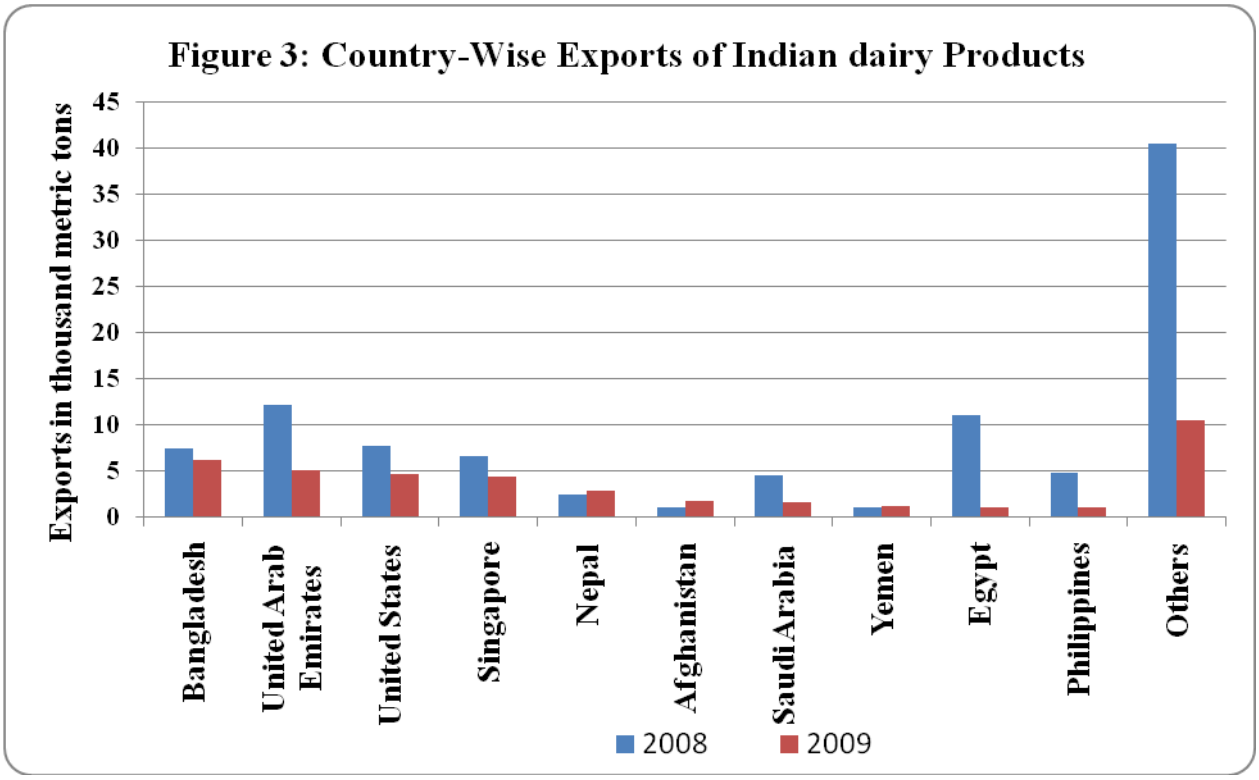


Source: Global Trade Information Services database (GTIS)



Source: Global Trade Information Services database (GTIS)

Note: HS 0401=Milk and cream, not concentrated nor containing added sugar or other sweetening matter
HS 0402= Milk and cream, concentrated or containing added sugar or other sweetening matter
HS 0403= Buttermilk, curdled milk and cream, yogurt, and others
HS 0404=Whey
HS 0405= Butter and other fats and oils derived from milk, dairy spreads
HS 0406= Cheese and curd
HS 3501= Casein, caseinates and casein derivatives
HS 170211=Lactose and lactose syrup containing by weight 99% or more lactose , expressed as anhydrous lactose calculated on dry matter.
HS 21050000= Ice cream and other edible ice, whether or not containing cocoa



Source: Global Trade Information Services database (GTIS)

Note: Others include Gulf nations, European nations, African nations, and South East Asian nations. India exported around 40 percent of its dairy products to other countries in 2008. The exports to other nations were significantly reduced to 26 percent in 2009.

Policy:

Trade Policy:

Historically, India has only imported limited quantities of milk powder and butter because domestic production has been able to meet general requirements. As incomes and population grow, (and consequently consumption), India may require additional supplies and imports of butter and NFDM, absent significant domestic production growth. India consistently exports milk powders, (particularly casein), although these exports constitute a small percentage of India's total production.

India allows imports of milk and cream, infant formula, whole milk, condensed milk, yogurt, buttermilk, whey, dairy spreads, ghee, and cheese, and, in most cases, both import permits and sanitary permits are required. For the import of livestock products (including milk and milk products), an applicant has to apply at least 30 days in advance with form A/B (Department of Animal Husbandry and Dairying). Exports of U.S. dairy products to India are effectively prohibited under India's current dairy sanitary import protocol. Imported dairy products, like domestic dairy products, must adhere to all relevant food safety laws and quality standards. These include the quality standards set by the Bureau of Indian Standards (BIS) as well as the food safety rules covered in the Food Safety and Standards Regulation.

On June 24, 2010, the Ministry of Commerce released an extension to its earlier notification to prohibit the import of dairy products (including milk and milk products) from China for six months and until further orders. The import ban was based on the recommendation of the Food Safety and Standards Authority and was taken as a precautionary measure after melamine adulteration was found in Chinese milk powder imports. (Related notification number 49/2009-2014 was issued by the Directorate General of Foreign Trade, and can be accessed at DGFT)

Table 2: Tariff Structure for various dairy products

HS CODE	ITEM DESCRIPTION	BASIC	CVD	SPL	TOTAL DUTY	IMPORT

				CVD	WITH 3 PERCENT EDUCATION CESS	POLICY
04011000 - 04013000	Milk and cream, not concentrated nor containing added sugar or other sweetening matter	30	0	0	30.9	Free SanP
04021010	Milk and cream, concentrated or containing added sugar or other sweetening matter	60	0	4	68.272	Free SanP
04021020 - 04021090	Milk and cream, concentrated or containing added sugar or other sweetening matter	60	0	4	68.272	Free SanP
04022100	Milk and cream, not containing added sugar or other sweetening matter	60	0	4	68.272	Free SanP
040229	Other: whole milk, milk for babies, other	30	0	4	36.136	Free SanP
04029110	Condensed milk	30	0	4	36.136	Free SanP
04029190	Other	30	0	4	36.136	Free SanP
040299	Other: whole milk, condensed milk	30	0	4	36.136	Free SanP
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	30.9	Free SanP
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 SanP
0405	Butter and other fats and oils derived from milk; dairy spreads	40	0	4	46.848	Free SanP
04061000	Fresh (unripened or uncured) cheese, including whey cheese & curd	30	0	0	30.900	Free SanP
04062000	Grated or powdered cheese of all kinds	30	0	4	36.136	Free SanP
04063000	Processed cheese not grated or powdered	30	0	4	36.136	Free SanP
04064000	Blue-veined cheese and other cheese containing veins produced by Pencillium roqueforti	30	0	4	36.136	Free SanP
04069000	Other cheese	40	0	4	46.848	Free SanP
170211	Lactose and lactose syrup containing by weight 99 percent or more lactose, expressed as anhydrous lactose, calculated on the dry matter	25	10.30	4	45.752	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 derivatives; casein glues	20	10.30	4	38.664	Free

- San P- Sanitary Permit

- Effective March 2010, a tariff rate quota (TRQ) was established for NFDM, under which imports of up to 30,000 metric tons are allowed at a nil basic tariff, and quantities above that level at a basic tariff of 60 percent.

- Effective March 2010, a TRQ was established for butter, butter oil, and anhydrous milk fat, under which imports of up to 15,000 metric tons are allowed at a nil basic tariff, and quantities above that level at a basic tariff of 40 percent.

- The Education Cess of 3 percent on Customs valuation is exempted with effect from July 9, 2004, on HS 0402 10, 0402 2100, 0405 1000 & 0405 90.

- The Education Cess of 3 percent is exempted with effect from July 9, 2004, on dairy-spreads with a milk fat content of at least 75 percent but less than 80 percent by weight, falling under tariff HS 0405 20 00.

Production, Supply and Demand Data Statistics:

Table 3: Commodity, Dairy, Milk, Fluid, PSD

(Cow numbers in 1000 head, other numbers in 1000 metric tons)

Dairy, Milk, Fluid India	2009		2010		2011	
	Market Year Begin: Jan 2009		Market Year Begin: Jan 2010		Market Year Begin: Jan 2011	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Cows In Milk	38,000	42,600	38,500	43,600		44,900
Cows Milk Production	45,865	48,160	47,670	50,300		52,500
Other Milk Production	63,335	63,840	65,830	66,700		69,000
Total Production	109,200	112,000	113,500	117,000		121,500
Other Imports	0	0	0	0		0
Total Imports	0	0	0	0		0
Total Supply	109,200	112,000	113,500	117,000		121,500
Other Exports	0	0	0	0		0
Total Exports	5	0	5	5		5
Fluid Use Dom. Consum.	45,315	48,160	47,100	49,140		53,240
Factory Use Consum.	63,880	63,840	66,395	67,855		68,255
Feed Use Dom. Consum.	0	0	0	0		0
Total Dom. Consumption	109,195	112,000	113,495	116,995		121,495
Total Distribution	109,200	112,000	113,500	117,000		121,500
CY Imp. from U.S.	0	0	0	0		0
CY. Exp. to U.S.	0	0	0	0		0
TS=TD		0		0		0

Table 4: Commodity, Dairy, Milk, Nonfat Dry, PSD (Numbers in 1000 Metric Tons)

Dairy, Milk, Nonfat Dry India	2009		2010		2011	
	Market Year Begin: Jan 2009		Market Year Begin: Jan 2010		Market Year Begin: Jan 2011	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	15	15	10	8		30
Production	370	360	400	375		410
Other Imports	0	3	0	30		0
Total Imports	0	3	0	30		0
Total Supply	385	378	410	413		440
Other Exports	30	15	35	8		15
Total Exports	30	15	35	8		15
Human Dom. Consumption	345	355	365	375		415
Other Use, Losses	0	0	0	0		0
Total Dom. Consumption	345	355	365	375		415

Total Use	375	370	400	383		430
Ending Stocks	10	8	10	30		10
Total Distribution	385	378	410	413		440
CY Imp. from U.S.	0	0	0	0		0
CY. Exp. to U.S.	0	0	0	0		0
TS=TD		0		0		0

Table 5: Commodity, Dairy, Butter, PSD (Numbers in 1000 Metric Tons)

Dairy, Butter India	**2009**		**2010**		**2011**	
	Market Year Begin: Jan 2009		**Market Year Begin: Jan 2010**		**Market Year Begin: Jan 2011**	
	USDA Official	**New Post**	**USDA Official**	**New Post**	**USDA Official**	**New Post**
Beginning Stocks	0	0	0	0		0
Production	3,910	3,910	4,160	4,155		4,185
Other Imports	30	28	20	19		5
Total Imports	30	28	20	19		5
Total Supply	3,940	3,938	4,180	4,174		4,190
Other Exports	5	28	10	4		10
Total Exports	5	28	10	4		10
Domestic Consumption	3,935	3,910	4,170	4,170		4,180
Total Use	3,940	3,938	4,180	4,174		4,190
Ending Stocks	0	0	0	0		0
Total Distribution	3,940	3,938	4,180	4,174		4,190
CY Imp. from U.S.	0	0	0	0		0
CY. Exp. to U.S.	0	0	0	0		0
TS=TD		0		0		0