

The dairy world today



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A study by Aurelio Suárez Montoya entitled “Colombia, one more piece in the conquest of the ‘new dairy’ world” was presented in the framework of the IUF’s Latin American Dairy Sector Seminar. Suárez Montoya is a member of the organization “Salvación Agropecuaria,” with which IUF Latin America has been coordinating resources and joint actions for years. Given the length of the study, we have divided it into two installments that we hope will provide insight for a better understanding of the difficulties and alternatives faced by a sector that is as dynamic as it is complex.

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Annual milk production is the largest agricultural production in terms of value.

In 2008, the total value of global dairy production amounted to US\$ 300 billion.

Around 12 to 14 percent of the world's population lives on dairy farms, with an average of two cows per farm and a daily volume of milk production of 11 liters.

In developed countries, 200 rural jobs are created for every one million liters produced annually, contrasting with only 5 jobs in the developing world.

According to **FAO**, 676 million tons of milk (in liquid milk equivalent terms) were produced worldwide in 2007. In 2008 global milk production had grown to 687 million tons, and by 2009 it was up to 699 million tons, of which 273 million were produced by the following major exporters:

European Union	(151 million)
United States	(85.5 million)
New Zealand	(16.2 million)
Ukraine	(12.2 million)
Argentina	(10.6 million)
Australia	(9.4 million)

Developing countries produce 337 million tons of milk, with South America producing 58 million and Colombia ranking fourth among the region's milk producers¹.

¹ See FAO, www.fao.org/docrep/011/ai482e/ai482e09.htm#TopOfPage

There are two types of basic production in the world: small-scale family production, which involves a variety of breeds and models of production, and is primarily located in the countries of the South; and industrialized production, which is capital intensive and homogeneous in terms of breeds and technology and predominates in developed capitalist economies.

However, this duality is present within almost every country, and in some more than others.

A good way to illustrate this phenomena is with the case of Asia, which has 52 percent of the world's dairy herd but produces just 34 percent of the world's milk.²

In terms of milk volume, the following countries, while not exporters, stand out for their production:

India	(115 million tons)
Pakistan	(35.2 million tons)
China	(32.5 million tons)
Russia	(28.5 million tons)
Brazil	(26.2 million tons)
Turkey	(10.6 million tons)
Mexico	(10.2 million tons)
Egypt	(8.7 million tons), and
Canada	(8.1 million tons) ³

By 2009, some 25 million tons of the world's milk output were used to produce skimmed powdered milk; 32 million tons were used in whole powdered milk production; 64 million tons in butter; 89.8 million tons in cheese; and 488 million tons in other products, including, primarily, liquid milk and byproducts such as yoghurt and others.⁴

2 www.istocar.bg.ac.rs

3 Extracted from IFCN, World Dairy Map – 2009, data for 2007

4 www.fao.org/docrep/011/ai482e/ai482e09.htm#TopOfPage

Milk production is also affected by a number of externalities that impact it significantly, much more than other products, such as climate, especially in the case of pastures in South America, and the cost of balanced feed, in areas where cattle-raising is mainly stable-based.

An **FAO** study on trends in the global dairy market associates productivity with the different feeding system, distinguishing three leading systems: grasslands based, cereal based, and crop-residue based.

The following table relates the different productivities for the three modes to their respective costs.

Yield and production costs for selected countries, per cow per year (kilos), according to the basic feeding system (2004), and in US\$/100 kg (2003)

Country	Feedbase	Yield kg/cow/year	Cost of milk US\$ per 100 kg
Israel	Cereal	10,715	33
United States	Cereal	8,256	28
European Union	Cereal	5,926	28
Australia	Grasslands	5,146	19
Argentina	Grasslands	3,800	10
New Zealand	Grasslands	3,700	20
India	Crop-residue	1,000	21

Source: FAO- PPLPI, Working Paper 30, pp. 5 and 6



The global dairy market

In the case of milk, as with most agricultural and cattle products (with the exception of coffee, banana, cacao, palm oil, and a few other, mainly tropical products), **international trade is dominated by countries that, after satisfying their domestic demand, export any surplus.**

India, which is the top producing country, does not export, as it uses all of the milk it produces to feed its population. By contrast, **New Zealand's** importance as an exporter lies in the fact that its production exceeds by far the demand of its 4 million inhabitants.

In the last three years global trade has stood at around **40 million tons of liquid milk**, which represents **less than 6 percent of the world's output.**

Moreover, almost 25 percent of the total volume of the most marketable products in the dairy chain (powdered milk, butter, and cheese⁵ and milk whey, an industrial byproduct) are commercialized.⁶

In 2008, cheese exports totaled 1,400,000 tons; whole powdered milk exports stood at 1,800,000 tons; skimmed powdered milk exports at 1,150,000 tons; and butter exports at 780,000 tons.

In 2007, after domestic consumption, **the surpluses of the 9 largest exporters accounted for 80 percent of the world's dairy market.**

⁵ Calculated by the author based on data from www.fao.org/docrep/011/ai482e/ai482e09.htm#TopOfPage

⁶ According to the biochemistry dictionary, milk whey is the "fluid remaining after milk has been curdled and strained. It contains lactose and minerals" (Diccionario de Bioquímica, www.salud.doctissimo.es/diccionario-medico/lactosuero.html).

Leading surplus milk producing countries (2007)

Country	Millions of tons of milk (in liquid milk equivalent)
New Zealand	15.5
European Union (15)	6.9
European Union ** (10 new)	3.4
Australia	3.3
United States	1.7
Ukraine	1.6
Argentina	1.5
Uruguay	0.5
Brazil	0.3

Source: IFCN, World Dairy Map, 2007; (*) Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom; (**) Cyprus, Check Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

Powdered milks account for 50 percent of the global market, and together with cheese and butter, these products account for 80 percent of the total dairy market.

Dairy market shares for the leading exporters have changed over the past 20 years, **with Europe losing the top exporter position to New Zealand.**



Evolution of global milk exports (1990–2007)

Country	1990	2004	2007
European Union	40%	35%	25.75%
New Zealand	23%	33%	38.75%
Australia	7%	10%	8.25%
United States	6%	2%	2.5%
Argentina	---	3%	3.75%
Others	24%	17%	21%

Source: Figures for 1990 and 2004 are taken from "Dairy Production in Europe - Current Situation and Future Perspectives," Folkhard Isermeyer, www.dairyfarmer.net/uploads/media/L1.pdf, and 2007 figures were calculated by the author with data from Table 1.



More dairy

Dairy product demand is driven primarily by population growth.

The historical trend for the annual rate of increase in global milk production is 2 percent,⁷ while the population growth rate for the world is 1.2 percent, although in most **European** countries the population grows at less than 1 percent, with some even experiencing negative growth. In **Latin America** the population grows at an annual rate of 1 to 2.5 percent, and **Africa** has an annual rate of 2.5 percent.⁸

Average per capita consumption in developing countries is less than 100 kg/year, while in Western EU countries, which have the highest standards of living, per capita consumption stands at over 300 kg/year.⁹

From these facts it can be inferred that growing and potential demand is in the South, in countries such as **China, Algeria, Mexico, Brazil, Peru, Venezuela**, and several **Central American** and **Caribbean** countries. Growing demand is also strong in almost every **African** country, except **Egypt**, and in **Indonesia, Malaysia, Burma, Thailand, South Korea** and the **Philippines** in Asia, which show a deficit in the production/consumption ratio. In the North, **Russia** and **Japan** are major milk importers.¹⁰

7 www.fao.org/docrep/011/ai482e/ai482e09.htm#TopOfPage

8 The Comparative HAMMOND WORLD ATLAS, edición 2007, p. 25.

9 IFCN, op.cit.

10 Ibíd.

Evolution in global per capita consumption (1990-2007) in kg/year

Country	1990	2000	2007
European Union	363	469	382
United States	274	287	295
Developed countries	180	235	248
India	63	79	no data
Developing countries	40	56	68
China	6	11	22
WORLD	80	104	113

Source: FAO (2009), www.istocar.bg.ac.rs

Transnational corporations

In the industrial milk processing segment major transnational groups are competing for greater shares of the market.

The top 21 milk processing companies in the world, with their respective shares and leading operating centers, cover just 21 percent of overall supply and compete fiercely against each other to gain even the smallest additional share.

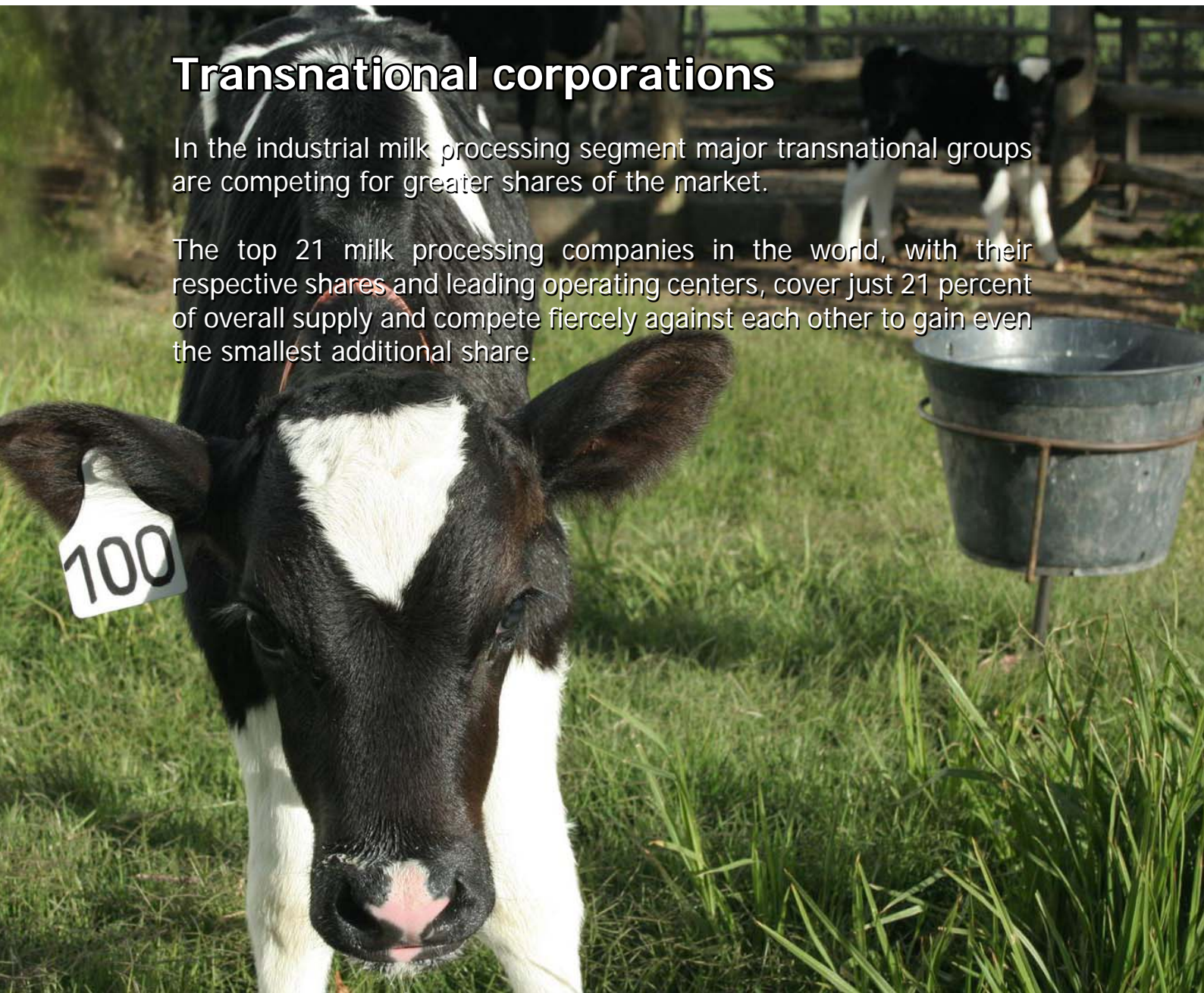


Table 5. Leading dairy manufacturers in the world (2007)

Name	Country of origin	Center of operations	Milk intake (million tons of liquid milk)	Global market share (%)
Fonterra	New Zealand	International	18.6 **	2.7
Dairy Farmers	United States	United States	16.2	2.3
Nestlé *	Switzerland	International	12	1.7
Dean Foods	United States	United States	11.8	1.7
Friesland *	Netherlands	Netherlands	11.3	1.6
Lactalis	France	International	8.9	1.3
Arla Foods	Denmark	Denmark/Sweden	8.3	1.2
California Dairys	United States	United States	7.7	1.1
Danone *	France	International	7.3	1
Kraft *	United States	International	6.7	1
Land O'Lakes	United States	United States	5.5	0.8
Saputo	Canada	Canada/USA	4.3	0.6
Nordmilch	Germany	Germany	4.2	0.6
Schreiber	United States	United States	3.7	0.5
Bongrain	France	France	3.6	0.5
Parmalat *	Italy	International	3.5	0.5
Murray Galburn	Australia	Australia	3.2	0.5
Northwest Dairy	United States	United States	3.1	0.4
Mengriu Group	China	China	2.9	0.4
Glanbia	Ireland	Ireland/USA	2.8	0.4
Amul	India	India	2.7	0.4
TOTAL	----	----	148	21

Source: IFCN, World Milk Map – 2007; (*) Companies that have operated or are operating in Colombia, directly or through subsidiaries; (**) Almost entirely exported, thus giving it 40% of global exports.

These companies' turnover does not necessarily correspond to the volume of milk they process. In 2003, for example, **Nestlé's** income from dairy products was US\$ 15.5 billion, **Danone**, **Dean Foods**, **Dairy Farmers** and **Arla Foods** had an income of US\$ 6 to 7 billion, and **Kraft** and **Lactalis** had an income of US\$ 5 to 6 billion.¹¹

In its analysis of the state of the dairy industry, **FAO** highlights this fierce business competition and notes that **"companies that are unwilling or unable to grow and do not hold a strong position in a niche market run the risk of being overwhelmed by their competitors."**

It also underlines that **"markets with relatively low growth potential"** are more affected by **"strong pressure from retailers."** This, **FAO** says, **generates acute contradictions between processing industries and large supermarkets.**

It also observes that the alternative for these companies lies in **"increasing their market share or switching to higher value-added products,"** citing **Nestlé** as an example of a company that follows the former type of strategy of **"first buying or setting up joint-ventures with local firms."**¹²

In addition, it identifies mergers, acquisitions and strategic alliances as a sign of the times, resulting in big companies **"becoming even bigger, and the rate of expansion across national borders by mergers, joint ventures and co-operations"** increasing.

Although **FAO** also recognizes that Southeast Asia and **Latin America** are "the regions that exhibited the strongest growth in milk consumption," it also points to existing limitations in many of these markets due to the low income of their populations.¹³

As for production by country, not all cases that produce more liquid milk develop an industrial processing capacity of such magnitude.

11 FAO- PPLPI, working paper 30, p. 28.

12 FAO- PPLPI, working paper 30, p.27

13 Ibid.

If we consider the total milk produced by 10 countries that are representative of the global market and observe what percentage of that volume is supplied to industrial processes, and then quantify the proportion of those processes that produce the most marketable dairy products, **we can conclude that in the countries of the South industrial companies are not yet as involved in the dairy chains as they are in the North.**

The proportions of liquid milk that go from the herd to the factory are very high there. Also relevant is the intake that from that industrial transformation goes into the manufacture of the most marketable dairy byproducts.

Volume of milk produced by some countries (million tons), percentage supplied to industry and percentage for most marketable products (powdered milks, butter and cheese) (2007)

Country	Total liquid milk production (millions tons)	Percentage supplied to industry (%)	Percentage for most marketable products (%)
India	114.4	68.7	8.74
United States	79.3	99.4	49.4
Pakistan	35.2	19.3	9.4
China	32.5	71.3	35
Germany	29.4	96.5	68.3
Brazil	26.2	67.5	30.9
France	24.2	94.6	73.9
New Zealand	17.3	97.6	86.7
Netherlands	11.5	99.1	63.4
Mexico	10.2	66.6	no data

Source: Calculated by the author based on IFCN data, "World Dairy Map 2007."

The above table illustrates one of the structural differences of the markets of the South with respect to those of the North.

India, Pakistan and even **Brazil** have percentages of liquid milk going into industry that are much lower—68.7 percent, 19.3 percent, and 67.5 percent, respectively—than those of countries such as the **United States, France, Germany,** and the **Netherlands**, which are all above 94 percent.

New Zealand's case stands out in this sense: not only is 97.6 percent of its liquid milk output supplied industry, 86.7 also goes into manufacturing the most marketable dairy byproducts. This is the most clear reflection of an industry, led by the powerful Fonterra, that is geared towards exports and which is the most important in the world.

FAO has stressed that the features described above, which characterize this type of product—perishable, high-cost storage and transportation, and climate impact, with a seasonal prices in many areas—put “dairy farmers in a weak and vulnerable position in the market” with respect to processors.

This is compensated in **Europe** with long-term contracts to ensure prices and amounts and obtain subsidies, **but it is suffered much more harshly in those countries where there are no public policies to support dairy farmers, as is the case in most countries of the South.**



For this reason, **FAO** reports that the dairy market is “probably one of the most distorted agricultural sectors.” Subsidies are widespread, “encouraging surplus production,” and are used to “place the excess production on the world markets” and erect “tariff and non-tariff barriers” to protect the strongest domestic markets.



Conclusion

Relevant facts of the global dairy market

A summary of the information discussed above provides a number of elements that govern today's global dairy market and which reveal the existing contradictions.

- 1 **The dairy market is the world's largest agricultural market in terms of value.**
- 2 **A little over 10 percent of the world's population lives on dairy farms**, most of which are small-scale production units with few animals and low productivity.
- 3 Dairy farms in the global South operate with a range of production models and are labor intensive, while production units in the North are capital intensive and tend to have the same production model.
- 4 **The European Union is the leading producer, and six of its member countries produce 70 percent of dairy GDP.**
- 5 With the exception of New Zealand, where exports are ten times greater than domestic consumption, in all other major exporters international trade is supplied with the surplus or excess of domestic demand.
- 6 Among countries, competition over global market shares occurs mainly between **New Zealand** and **Europe**. Since 1990, **Europe** has lost more than 15 points in market share to its competitor. Moreover, **Australia** and **Argentina** have increased their market share, while the **United States** and other countries have lost some of theirs.
- 7 The output traded on the global market accounts for 6 percent of the total volume of liquid milk produced in the world, but it represents 25 percent of what are known as most marketable goods, such as powdered milks, butter and cheese.

- 8 Production has grown at a faster rate than the world's population, and this is even more pronounced in regions like **Europe** where the rate of growth of the population is very low or even negative.
- 9 **The countries of the South have the greatest potential and fastest growing** demand and a significant number of these countries have a deficit in their production/consumption ratio.
- 10 In most countries of the South only a percentage of all milk produced is supplied to the processing industry, **in contrast to the North, where almost 100 percent of output goes to processors.**
- 11 With the exception of the New Zealand-based **Fonterra**, which is focused on manufacturing and exporting the most marketable dairy byproducts, world exports are evenly distributed among the other transnational corporations, which are currently competing fiercely against each other..
- 12 The impact of climate on pastures and cereal and oilseed yield—the main bases of the various cattle fodder—affect dairy production worldwide.
- 13 **Dairy farmers are the most vulnerable link in the dairy chain and the crisis is hitting them hardest.**
- 14 Due to state subsidies in rich nations, the dairy sector is “**probably one of the most distorted agricultural sectors.**”

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