

Study of foreign market for products derived from Sheep and Goat raising

Presentation

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Produced from the Sector Production Chain of Sheep and Goats of the Ministry of Agriculture House proposal, Stockbreeding and Supply – MAPA – represents synergy between Sectorial Chambers MAP and PDP Agroindustrial System of MDIC actions.

As a result, this study was published 2.750 copies. Moreover, the full document is available for free download at the following web sites:

www.mdic.gov.br

www.arcoovinos.com.br

www.agricultura.gov.br

www.conab.gov.br

www.cnpc.embrapa.br

Besides, the research will be available at other sites and Internet portals.

1 – Introduction

Currently, the lamb is the product of greater significance for the Agribusiness System (SAG) of sheep and goat farming in terms of market value, unlike the past when the wool was the most important product. The world's sheep herd has decreased about 8% over the past 20 years, but the production of sheep meat increased by 27%.

The sheep herd of traditional creation regions is enough to supply the Brazilian home market. From 1997 to 2008 lamb import has risen from a value of \$ 6 million to over US\$ 23 million (COMTRADE; MAPA, 2009).

The international consumer market is marked by some trends that must be observed by anyone who wants to achieve it. Lamb is seen as a premium product and its consumption is linked to the population with greater purchasing power in importing countries. Therefore, its consumption is also aspired by the portion of the population that has gotten recent increase in income, especially in developing countries.

The diagnoses on the existing SAG sheep and goat farming mostly focus on the subject aspect of the economic impact of agricultural production on the industry. Regarding competitiveness indicators, trade and consumption, domestic and global information are rare and contradictory. (SILVA, 2002; SORIO, 2009).

Thus, it is important for SAG sheep and goat farming agents in Brazil to understand the dynamics context of international trade in sheep and goat meat and its byproducts. So it will be possible to look for consistent ways of action with the purpose to ensure the expansion and growth of the activity economic results.

The aim of this study was to examine the international flow of sheep and goat meat and its byproducts and identify export opportunities for the Brazilian agribusiness system.

2 – Methodological Notes

This research is characterized as exploratory because it looks for understanding about the nature of the problem, and descriptive, as it aims to obtain instant and accurate information, but at the same time hypothetical. Its immediate purpose is to gain knowledge on the topic and develop hypotheses to be tested and refined later on. That is, it is aimed to providing greater familiarity with the problem. (Aaker, Kumar and Day, 2004).

The scope of this research was conducted between June and November 2009.

We used data from the United Nations Food and Agriculture Organization (FAO), the system database for UN Trade (COMTRADE), the European Commission, the IBGE, the Ministry of Agriculture, Stockbreeding and Supply (MAPA), Ministry of Industry and Trade (MDIC), the World Bank, the Ministries of Agriculture and Foreign Trade of the various countries; entities to support sheep and goat farming and supply chain entities to promote the foreign trade of different countries; and others, in addition to primary data collected specifically to fill information gaps.

It is important to highlight that this research was not limited to compile data from national and international databases. Each recovered data was analyzed and compared between the various available sources, identifying errors and contradictions. Priority was given to data generated by statistical centers of each country. Thus, it was possible to achieve results that reflect sheep and goat farming reality globally, with their challenges and opportunities.

3 – Herd, Production and Consumption of sheep and goat meat

Ovine and sheep are spread across all continents. However, there is a remarkable concentration of goats in Asia and northern Africa, whereas sheep are located mainly in Asia, Oceania and Europe.

China, EU and Australia concentrate over 30% of the herd and almost half of global meat production. In the goat herd only two countries, China and India, have more than 30% of the herd and almost of the meat production.

3.1 – Ovine

After having declined steadily from 1990 to 2000, the ovine world herd is growing again. Indeed, it seems that the place is changing, with diminishing importance of traditional countries and increasing in other regions, mainly in Asia and Northeast Africa.

China has been presenting a significant growth in their herd in terms of animal quantity and ownership percentage, thanks to a set of official incentives implemented during the 1990s. Along with Sudan, Iran and India, China is of the few countries possessing large herds that are increasing their sheep population.

Table 3.1 – World sheep livestock (million heads)

	1990		2000		2008	
		%		%		%
China	113,5	9,4	131,1	12,5	143,0	13,2
European Union	143,3	11,9	122,7	11,7	90,3	8,3
Australia	170,3	14,1	118,6	11,3	76,9	7,1
India	48,7	4	59,4	5,7	64,3	5,9
Iran	44,6	3,7	53,9	5,1	53,8	4,9
Sudan	20,7	1,7	46,1	4,4	50,9	4,7
New Zealand	57,9	4,8	42,3	4	38,5	3,5
Nigeria	12,5	1,0	26,0	2,5	33,1	3,0
Other countries	493,6	41,0	368,6	35,0	533,1	49,0
Total	1.207,1	100	1.051,7	100	1.083,9	100

Source: Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool, 2009

Sheep meat production has been growing at a rapid pace. While from 1990 to 2000 production increased 8.6%, from 2000 to 2008 production grew 14.4%. Again China is the big highlight, with its production having quadrupled in the period. Countries that produce more are not necessarily the owners of larger herds, due to the large difference in technological level between the sheep industry in different countries.

Table 3.II – Sheep meat production (million t)

Countries	1990		2000		2008	
		%		%		%
China	0,5	7,8	1,4	19,1	2,0	23,0
European Union	1,3	19,0	1,2	15,9	0,9	10,3
Australia	0,6	8,9	0,7	9,0	0,7	8,0
New Zealand	0,5	7,6	0,5	7,1	0,6	6,9
Iran	0,2	2,8	0,3	3,9	0,4	4,6
Other countries	3,9	53,9	3,5	45,0	4,1	47,1
Total	7,0	100	7,6	100	8,7	100

Source: Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool, 2009

The amount of skin produced follows the pace of killing increase; at all it is a byproduct of the meat. The largest meat producers tend to be the largest skin producers, with global production reaching almost 1.8 million tons per year.

Worldwide lamb consumption grew similarly to the behavior of the herd, with China having almost quadrupled its consumption since 1990, as shown in Table 3.III.

Table 3.III – Sheep meat apparent consumption (thousand t)

	1990		2000		2008	
		%		%		%
China	556,2	7,9	1.473,8	19,6	2.047,7	23,6
European Union	1.539,8	21,9	1.431,6	19,0	1.207,2	13,9
Iran	238,0	3,4	326,2	4,3	389,7	4,5
Australia	469,7	6,7	379,9	5,0	374,8	4,3
Turkey	304,0	4,3	321,0	4,3	272,0	3,1
India	181,2	2,6	191,9	2,5	215,4	2,5
Other countries	3.744,4	53,2	3.404,5	45,3	4.187,7	49,1
Total	7.033,3	100	7.528,9	100	8.694,5	100

Source: Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool, 2009

3.2 – Goats

Goat herd has increased about 40% in 20 years, although the herd has declined in some countries that direct the goats to produce fur. China and India stands out regarding the quantity of animals, even though India has lost a little participation rate in recent years.

Table 3.IV - World goat livestock (million heads)

Livestock	1990		2000		2008	
		%		%		%
China	98,3	16,7	148,4	19,9	137,0	16,6
India	113,2	19,2	123,5	16,6	125,5	15,1
Pakistan	35,4	6,0	47,4	6,4	55,2	6,7
Bangladesh	21,0	3,6	34,1	4,6	52,5	6,3
Nigeria	23,3	4,0	42,5	5,7	52,5	6,3
Other countries	298,9	50,5	349,1	46,8	406,8	49,0
Total	590,1	100	745,0	100	829,5	100

Source: Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

As the herd of goats represents 76% of sheep herd, beef production only reaches 56%, which shows the direction of the herd for milk production while the lowest level of technology used for beef goat production. Anyway, the goat meat world production has increased over 80% in 20 years. China should be highlighted in this aspect, because the country has 17% of the herd and 37% of meat production.

Table 3.V – Goat meat production (million t)

	1990		2000		2008	
		%		%		%
China	0,52	19,6	1,21	32,7	1,80	37,1
India	0,43	16,2	0,40	10,8	0,54	11,1
Nigeria	0,12	4,5	0,22	6,0	0,27	5,6
Pakistan	0,30	11,1	0,31	8,4	0,26	5,4
Bangladesh	0,07	2,6	0,13	3,5	0,20	4,1
Other countries	1,23	46,0	1,43	38,6	1,78	36,7
Total	2,66	100	3,70	100	4,85	100

Source: Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

Just as in the sheep industry, the amount of goat skin produced follows the increase in meat production. World production exceeds one million tons of fur annually, following approximately the meat ranking.

China is the major consumer of goat meat, India being in second place, but far behind in this aspect, as can be seen in Table 3. VI.

Table 3.VI - Goat meat apparent consumption (thousand t)

	1990		2000		2008	
		%		%		%
China	522,9	19,7	1.216,6	32,8	1.793,1	37,0
India	430,0	16,1	401,0	10,8	543,0	11,2
Nigeria	120,6	4,5	221,2	6,0	270,7	5,6
Pakistan	296,0	11,1	308,0	8,3	253,4	5,2
Other countries	1.290,4	48,5	1.559,1	42,0	1.989,8	41,0
Total	2.659,9	100	3.705,9	100	4.850,0	100

Source: Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

4 – International Trade

International trade in sheep and goat farming reaches almost \$11 billion CIF per year and it is highly concentrated in products mainly from sheep meat and wool. However, wool has been decreasing its participation in trade volume, while lamb does not stop growing in importance. Live sheep means significant part on market share. In the case of goats, trade of live animals is the most important item, followed by the meat.

Table 4.I – Sheep and goat products world trade (million US\$ CIF)

	1990		2000		2008	
		%		%		%
Sheep meat	2.072,7	20,8	2.292,8	31,3	4.361,4	39,7
Wool	4.987,7	50,1	2.860,6	39,0	3.723,5	33,9
Live sheep	1.120,9	11,3	737,3	10,1	1.053,7	9,6
Sheep skin	1.043,0	10,5	852,1	11,6	917,4	8,4
Milk and Cheese – sheep	163,0	1,6	161,9	2,2	228,8	2,1
Live goats	91,6	0,9	124,2	1,7	272,1	2,5
Goat meat	49,8	0,5	64,5	0,9	141,2	1,3
Goat hair	231,2	2,3	169,5	2,3	151,2	1,4
Offal	42,2	0,4	30,4	0,4	80,4	0,7
Goat skin	160,7	1,6	33,5	0,5	53,9	0,5
Milk and Cheese - goat	0,1	0,0	0,2	0,0	1,2	0,0
Total	9.962,9	100	7.327,0	100	10.984,8	100

Source: Cirval; Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

Small international marketing of goat milk and cheese surprises, and it has as probable cause the fact that larger herds are located in countries with low technological level of production, whose animals are meant for subsistence. The European Union, which is a big producer of goats and sheep milk, has two features that help us understand the low participation of commercial goat cheese. The amount of sheep milk in EU-27 block is around three times the herd of goats and cows, goat's milk self consumption and has direct sales by bigger farmers than sheep's milk. This means that relatively little goat milk into the processing industry that can meet quality standards for export, unlike the sheep's milk.

Goats represent small portion of world trade, with participation of almost 20 times smaller than the sheep, as shown in Table 4.II. Therefore, this study will give more emphasis to sheep and goat meat than.

Table 4.II – Trade by product groups (million US\$ CIF)

	1990		2000		2008	
		%		%		%
Meat and offal	2.164,7	21,7	2.387,7	32,6	4.583,0	41,7
Wool and hair	5.218,9	52,4	3.030,1	41,3	3.874,7	35,3
Live animals	1.212,5	12,2	861,5	11,8	1.325,8	12,1
Skins	1.203,7	12,1	885,6	12,1	971,3	8,9
Milk and cheese	163,1	1,6	162,1	2,2	230,0	2,1
Total	9.962,9	100	7.327,0	100	10.984,8	100

Source: Cirval; Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

Sheep meat export is centered in seven countries, with over three quarters of the volume exported. In fact, New Zealand and Australia are the parameters for the export of sheep meat, at all mean 70% of shipments. The U.S. and China appear at the same time among the major exporters and major importers of lamb.

Table 4.III – Sheep and goat world trade (million US\$ CIF)

	1990		2000		2008	
	Valor	%	Valor	%	Valor	%
Sheep	9.429,5	94,6	6.935,0	94,6	10.365,2	94,3
Goat	533,4	5,4	392,0	5,4	619,6	5,7
Total	9.962,9	100	7.327,0	100	10.984,8	100

Source: Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

Table 4.IV – Sheep meat top exporters (thousand t)

	1990		2000		2004		2008	
		%		%		%		%
New Zealand	372,1	45,9	379,1	40,5	348,1	39,4	441,6	43,2
Australia	158,0	19,5	300,1	32,1	258,7	29,3	315,8	30,9
India	8,3	1,0	11,5	1,2	8,8	1,0	19,0	1,9
Uruguay	24,4	3,0	16,5	1,8	7,9	0,9	18,8	1,8
Namibia	1,4	0,2	4,2	0,4	0,1	0,0	12,3	1,2
USA	2,8	0,3	2,4	0,3	7,3	0,8	6,6	0,6
China	1,3	0,2	0,5	0,1	20,0	2,3	6,3	0,6
Other countries	251,8	31,1	221,7	23,7	231,6	26,2	202,3	19,7
Total	810,4	100	936,0	100	882,5	100	1.022,7	100

Source: Comtrade; Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

Imports of sheep meat are distributed fairly, but seven countries gain more than 50% of volume traded internationally. The EU is the leading importer, with approximately a quarter of total imports.

Table 4.V – Sheep meat top importers (thousand t)

	1990		2000		2004		2008	
		%		%		%		%
European Union*	208,9	25,3	231,3	25,3	230,6	26,1	259,3	25,3
USA	19,6	2,4	54,8	6,0	73,9	9,0	83,0	8,1
Saudi Arabia	22,6	2,7	55,3	6,1	51,6	5,8	59,6	5,8
China	9,5	1,2	34,1	3,7	55,5	6,3	54,0	5,3
South Africa	0,9	0,1	53,2	5,8	17,1	1,9	37,3	3,6
United Arab Emirates	25,0	3,0	16,4	1,8	20,8	2,4	35,4	3,4
Mexico	9,9	1,2	44,4	4,9	56,4	6,4	32,1	3,1
Japan	63,9	7,7	27,0	3,0	28,4	3,2	23,7	2,4
Other countries	464,4	59,3	396,7	45,2	350,3	39,6	439,5	43,0
Total	824,7	100	913,2	100	884,6	100	1.023,9	100

Source: Comtrade; Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

* Just buys from countries out of European Union.

Goat meat is not marketed in the international market, as can be seen in Table 4.I. Australia, despite their small herd of goats, is the largest exporter, with more than 40% of total volume. Other major exporters are China, Ethiopia and European Union. Showing its vocation as exporter, New Zealand appears in 6th place, despite its small herd.

Main goat meat importers are the United Arab Emirates and the USA. The United States participate with 1/3 of imports, almost everything purchased in Australia, while the UAE complete another third, and buy mostly in other countries of the Arabian Peninsula.

A trade that cannot be ignored is the one of live animals. This flow is mainly between Australia and Middle Eastern countries and between Saudi Arabia and its neighbors. There was another important international flow in this type of trade between the Eastern Europe countries and the European Union. But with the expansion of the economic block, which occurred between 2005 and 2007, this trade started to be considered as intra-community.

The main reason for the existence of live animals trade is the need of ritual slaughter at certain times of the year among Muslims. However, the sale of live animals is also important for beef supply in regions where there is no cold storage system to allow the transportation and sale of chilled or frozen meat.

Table 4.VI – Live sheep top exporters (million heads)

	1990		2000		2004		2008	
		%		%		%		%
Australia	4,33	22,8	5,42	32,2	3,40	23,1	4,21	37,7
Syria	0,81	4,3	0,94	5,6	2,13	14,5	3,50	31,3
Sudan	0,63	3,3	0,58	3,4	1,48	10,1	0,70	6,3
Saudi Arabia	0,17	0,9	0,06	0,4	0,22	1,5	0,47	4,2
Other countries	13,09	68,7	9,83	58,4	7,78	50,8	2,29	20,5
Total	19,03	100	16,83	100	15,01	100	11,17	100

Source: Comtrade; Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

Importation of live sheep is totally centered in the Arabian Peninsula, Saudi Arabia being the largest importer.

Table 4.VII – Live sheep top importers (million heads)

	1990		2000		2004		2008	
		%		%		%		%
Saudi Arabia	4,77	26,0	4,17	25,9	4,48	31,1	4,91	46,5
Kuwait	1,21	6,6	1,77	11,0	1,48	10,3	1,50	14,2
Qatar	0,68	3,7	0,52	3,2	0,33	2,3	0,89	8,4
Oman	0,32	1,7	0,50	3,1	0,33	2,3	0,44	4,2
Other countries	11,33	61,9	9,16	56,8	7,77	53,5	2,81	26,7
Total	18,31	100	16,12	100	14,39	100	10,55	100

Source: Comtrade; Eurostat; Faostat; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

The major exporters of live goats are Somalia, Oman and Iran, making up half of total exports, which amounted 4.0 million head in 2008. Major importers of live goats are Saudi Arabia and Yemen, with over 1 million head each.

5 – Profile of Exporting Countries

New Zealand and Australia account for most of the international sheep meat trade, with significant participation in all major importing markets. Understanding how the agribusiness system work in these countries is fundamental for effective comprehension of the lamb flow all over the world.

Other exporting countries of sheep meat have much lower importance. However, they are important to understand the parameters of competitiveness on a regional scale, as in the case of Uruguay with MERCOSUL, India with the Persian Gulf, Namibia with South Africa, China, Hong Kong and the U.S. with NAFTA.

5.1 – New Zealand

Despite its small territorial extent, New Zealand is an important exporter of various products of animal origin. The incessant search for stockbreeding competitiveness leads the country to overcome the obstacles related to climate, topography and location and is an important competitor regarding lamb and beef; milk and wool. Regarding wool, New Zealand is the 2nd largest exporter and accounts for about 14% of world production.

5.1.1 – Primary Sector

Approximately 15000 properties raise sheep in the country, usually in conjunction with cattle. In general, the creation takes place outdoors, without shelter facilities, with widespread use of rotational grazing. Little or no concentrated supplement is supplied to the animals.

Lambs termination can be done by the creator or creator specialized in fattening. There are some great lamb terminators – the largest with 500 000 animals per year, and this final fattening before slaughter is basically done using permanent pasture of good quality.

Herd has been declining steadily over the past 20 years. One of the recent reasons for the herd reduction is the raise of dairy and forestry amount, considered more profitable by farmers. Nevertheless, the percentage of females in the herd has slightly increased in recent years and it proves that lamb production should not have come down so significantly.

Table 5.I – New Zealand sheep livestock (million heads)

Year	Total	Ewes	% female in livestock
2000	42,3	28,9	68,3
2002	39,6	26,8	67,7
2004	39,3	26,7	67,9
2006	40,1	26,9	67,1
2008	34,2	23,6	69,0

Source: New Zealand Meat and Wool; Statistics New Zealand, 2009

Figure 5.I – Concentration of sheep flock in New Zealand



Source: Statistics New Zealand, 2009

Herb is well balanced between North Island and South Island, but regions with the largest herds are mainly in South island. The distribution is as follows:

Table 5.II – New Zealand livestock by region (million heads)

Region	Livestock	Share (%)
Canterbury	7,2	21,0
Manawatu	6,7	19,5
Otago	6,0	17,5
Southland	5,7	16,7
Other regions	8,6	25,3
Total	34,2	100,0

Source: Statistics New Zealand, 2009

The goat herd in New Zealand is small and declining faster than sheep, being 10% less today than it was 20 years ago, when the herd reached 1.3 million head. The main purpose of goat raising in New Zealand was the production of fine fur to clothing industry. There are about 110 000 goats in the country, mainly located in the North Island, in the region of Waikako, which accounts for almost 40% of the national herd. There is also a significant amount of wild goats, which are also slaughtered and sent for export.

Reproductive efficiency of the country is high, with each ewe weaning on average more than one lamb per year. The persistent drought in recent years, despite having been an extra motivation for the herd reduction has not been an impediment to the maintenance of high rates of birth.

Table 5.III – Reproductive efficiency in New Zealand

	2007	2008
Total sheep (million heads)	38,5	34,2
Reproduction ewes (million heads)	28,2	27,1
Lamb tail (million heads)	33,0	32,0
Prolificacy (%)	117	118

Source: New Zealand Meat and Wool; Statistics New Zealand, 2009

5.1.2 – Industry

The industrial sector is strong and competitive, with several producer cooperatives and business owners of slaughter and processing of lamb meat companies. Twenty-two companies are meat processors, of which six exclusively for export. In addition, there are over 57 licensed slaughterhouses having export license and large quantity of small slaughter houses able to supply only the local market. Currently, the industrial capacity exceeds the number of animals available for slaughter.

The main companies, which account for more than 80% of exports are: Silver Fern Farms; AFFCO Holdings, Alliance Group, Primary Producers Coop and ANZCO Foods. Each of these companies operate plants in several locations around the country. The fact that the country is composed of two main islands means that industries are always close to some of the 11 ports of meat export.

Table 5.IV – Inspected slaughter in New Zealand

	2007		2008	
	Heads (million)	Thousand t	Heads (million)	Thousand t
Lambs	26,95	452,7	27,11	446,4
Muttons	5,07	120,5	6,60	151,7
Goats	0,13	1,6	0,10	1,4
Total	32,15	574,8	33,81	599,5

Source: New Zealand Meat and Wool, 2009

The sale of animals is done by producers directly to the industries in the spot market. Although some industries stimulate the formation of supply contracts, creators do not approve this kind of relationship. Specialized producers in fattening can compromise via contract part of their production, but retain most of the animals for sale in the spot market.

Carcass classification system is effectively adopted by the industry to make the remuneration of producers, including the slaughter of animals for disposal. Goats for slaughter also obey the carcass classification, although not a major important supply chain in the country. The payment to farmers is usually done within 14 days after slaughter.

Remuneration is given based on animal's age and weight, with a subsidy for fat coverage of carcass. The most valued animals are the lambs, with coverage of housing between 6 and 12 mm of fat. Some industries pay a bonus for loyalty, which is the constant repetition of the purchasing relationship with a specific creator. The same subsidy is used as a buying mechanism whenever the market is missing animals. In this case, even non-usual vendors can receive the usual bonus for loyalty as a way to temporarily increase the price and ensure supply.

The approximate enjoy of the country was 83.2% in 2007 and 98.6% in 2008, reflecting the large allocation of adult animals for slaughter.

The vast majority of production is exported, because New Zealand has a small population and, although per capita consumption is high, the exportable surplus makes the country the world's largest seller of lamb.

Interestingly, New Zealand has minimal share in the market for live sheep. However, a new agreement with Saudi Arabia to export live sheep from July 2009 on is being **stitched (costurado)**. Exports were banned by New Zealanders in 2004 after the death of 5000 heads on the ship that was transporting. Zealanders producers want assurance that the animals are well treated on their journey and at their destination, reflecting the pressure from society in the country, influenced by animal protection authorities.

5.1.3 – Organizational and Institutional Aspects

There is a free trade agreement with China and the countries of the Association of Southeast Asian nations (ASEAN, the acronym in English), which directly benefits sheep and goat farming products. Negotiations started in the same direction with Japan and Korea.

Investment loans are provided with low interest rates and longer payment period, reaching up to 20 years in some cases. Local banks are seen as effective partners by producers, unlike the majority of countries, including Brazil.

The *Meat & Wool New Zealand* (MWNZ, the acronym in English) is an organization founded by producers and supported by a contribution for each cattle, sheep or goat slaughtered. From

slaughter, is deducted a contribution of about 1% to the body. MWNZ has several functions within the supply chain, working as an inducer of research, commerce, marketing and information dissemination.

MWNZ provides guidelines for the research, which has been centered in the management area of parasites, together with the drought, development of forage resistant to drought. Nutraceuticals have also received special attention in the past, with the search for animals with higher levels of omega 3 fat which can genetically transmit this trait to their descendent.

There is a strong environmental concern regarding the issue of emission of greenhouse gases, their impact on properties and potential problems in the relationship with consumers, domestic and foreign. MWNZ looks for giving visibility to the supply chain initiatives in this area as the search for lower emissions to improve the carbon balance of activity and work to protect water sources in the properties.

MWNZ, in partnership with *New Zealand Beef & Lamb Marketing Bureau* – Department of Neozelander Promotion of beef and lamb – (NZBLMB, its acronym in English) organizes the advertising of sheep and goats products in main export markets and also in internal market, which accounts for the consumption of 10% of production.

Some marketing actions on the domestic market include: demonstration of modern preparation forms of the lamb on the television; information and product promotion through the internet; sponsorship of Olympic champion to promote the efficient generation by the health promotion of lamb in primary schools; competition among developers, with awards like Golden Lamb Awards – rewarding different races, and choice of famous chefs to be Annual Ambassadors of New Zealand Lamb.

Meat processors, MWNZ and *New Zealand Trade and Enterprise* – New Zealanders Enterprise and Trade – working together to find new markets for meat and wool in the country. Special attention has been given to China for its new position as a whole within the world economy and the chain sheep and goat farming in particular.

There is a cooperation project between MWNZ and *Meat Industry Association* – Industry Association of Meat – called the *New Zealand Meat Industry Research* – New Zealander Research for the Meat Industry – (MIRINZ, the acronym in English), which began in 1955. MIRINZ' goal is to increase profitability of the industrial meat by making researches in processing efficiency, meat quality, increase shelf life of food, skin processing and adding value to products.

Some programs are directly aimed to producers, such as one that aims to increase the amount of beef goat in the properties in partnership between MWNZ and *Goat Advisory Group* – Advisory Group of the Goat, taking information about diet and management of goats to properties.

Finally, MWNZ also coordinates a national program of genetic merit, which aims to identify the reproductive most capable of contributing to the sheep industry with descendants possessing attributes that are desired by the supply chain, as precocity, fertility and resistance to diseases and pests.

The national concern with the animal's health, especially foot-and-mouth disease, is remarkable, and there are warnings everywhere about the need to notify the Ministry of Agriculture of any incident.

In recent years, New Zealand is adopting some restrictions on the allocation of grazing areas for the planting of commercial forests. There is a concern with the exaggerated spread of trees to the detriment of stockbreeding, it could jeopardize the country's trade balance, which is dependent on the export of products of animal origin.

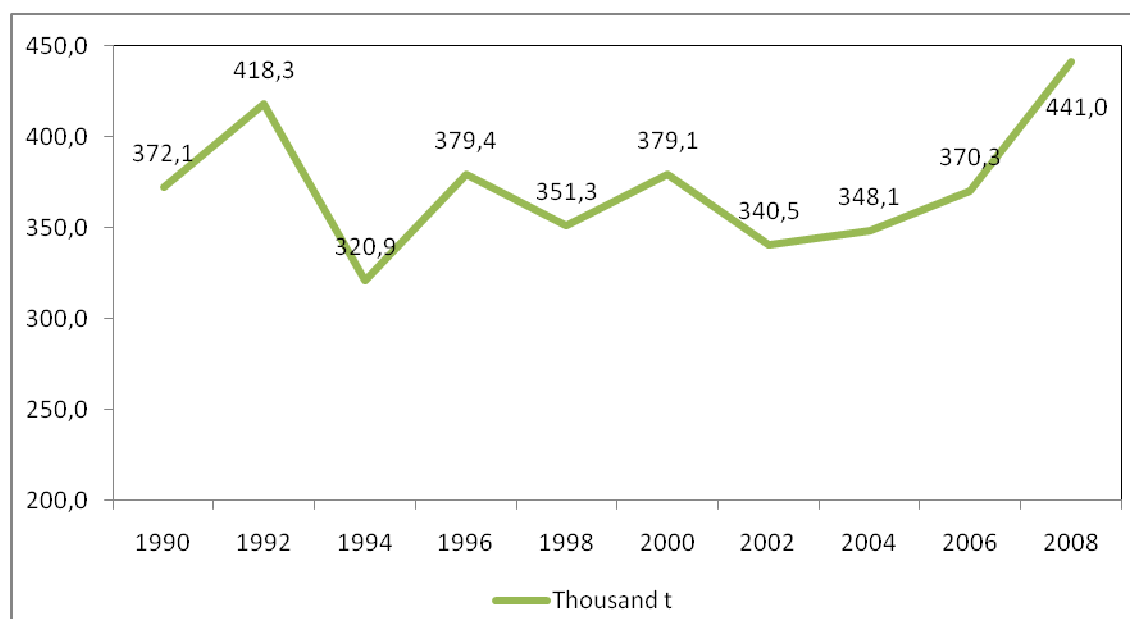
5.1.4 – Exports

The export quota for New Zealand lamb in the EU is 227 854 tons, which makes the country the major supplier of that block of countries. In partnership with major European retailers, exporters maintain a permanent system of communication with consumers, reinforcing the positive image of lamb in the country.

From the 1980s on, Europeans have implemented a policy of subsidies that encouraged production sharply. This way, the space available for New Zealander lamb in the UK fell and New Zealand exporters have responded in two ways. First, diversified their target markets in Europe focusing on France and Germany. The second step was to improve the marketing of domestic products in the European market, offering cuts tailored to the demands of modern consumers.

Over time, exports from New Zealand have continued upward trend, partly reflecting the increase in supply caused by the reduction of the herd.

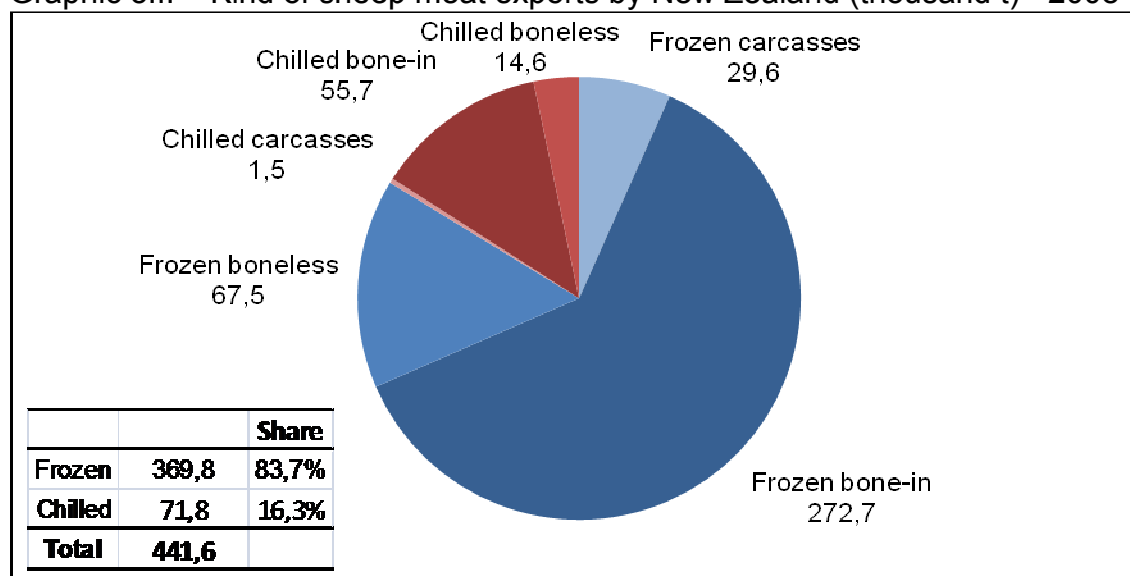
Graphic 5.I – Sheep meat exports by New Zealand (million t)



Source: Comtrade; New Zealand Meat and Wool, 2009

In terms of volume, frozen meat accounts for 72% of total exports. From frozen meat, the majority is exported to the bone.

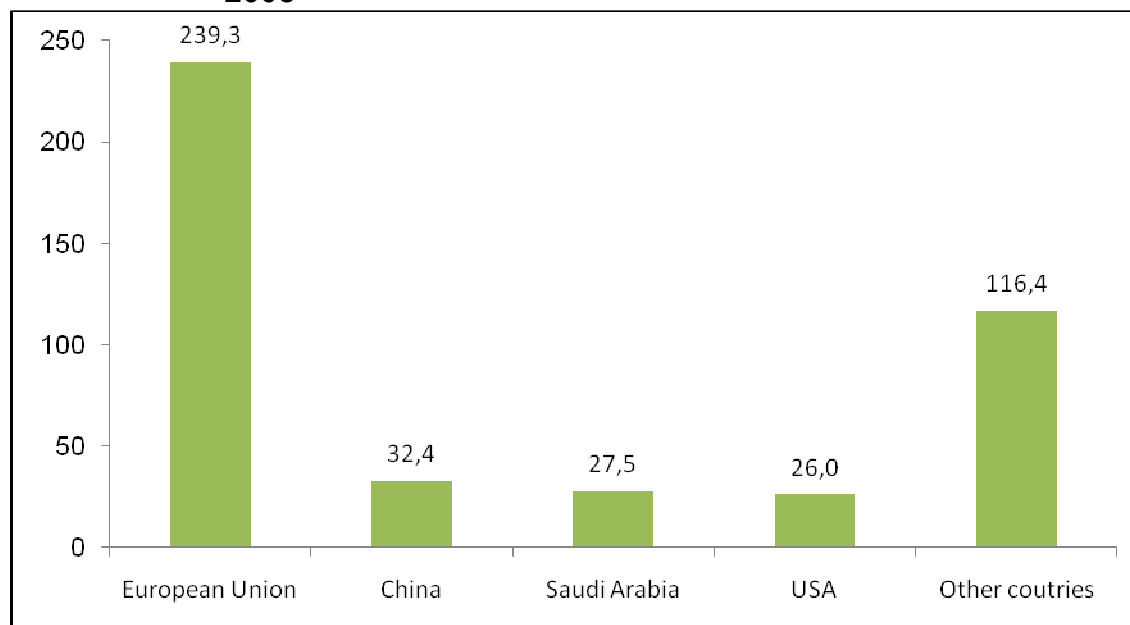
Graphic 5.II – Kind of sheep meat exports by New Zealand (thousand t) - 2008



Source: Comtrade; New Zealand Meat and Wool, 2009

The European Union is the main destination of lamb meat exports from New Zealand, absorbing 38% of the volume. China, Saudi Arabia and the U.S. are other major buyers, but each takes from 5 to 7% of New Zealand beef.

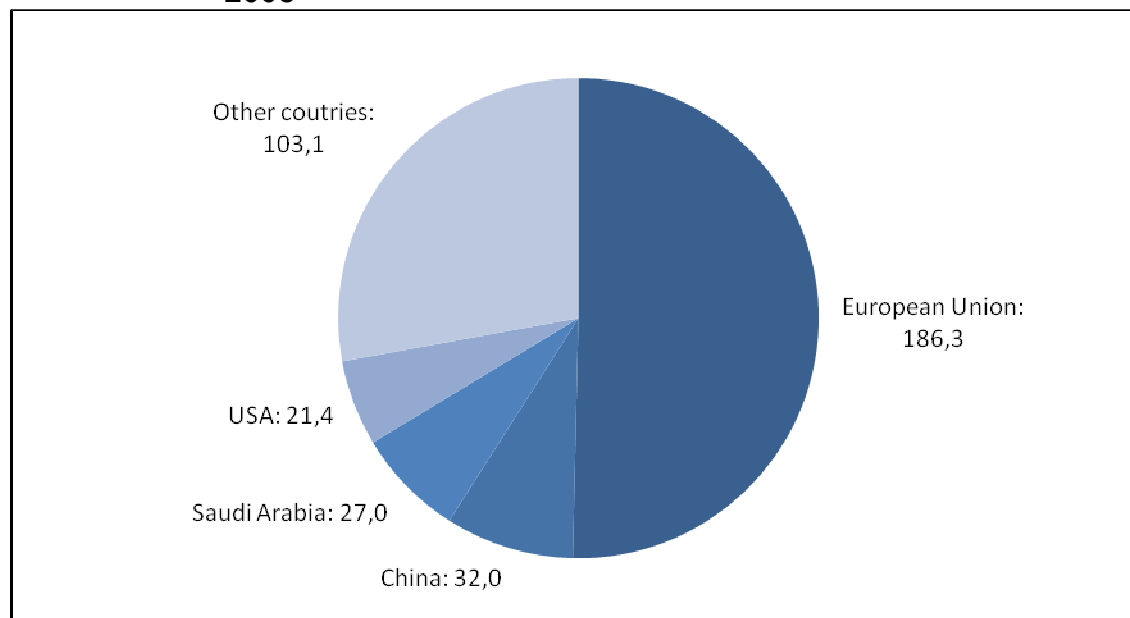
Graphic 5.III – New Zealand sheep meat exports by destination (thousand t)
- 2008



Source: Comtrade; New Zealand Meat and Wool, 2009

In frozen meat, the EU is the main customer, with 31% of purchases. The average price achieved in exports, of US\$ 3,817 per ton, is a little more than half of that obtained by chilled meat.

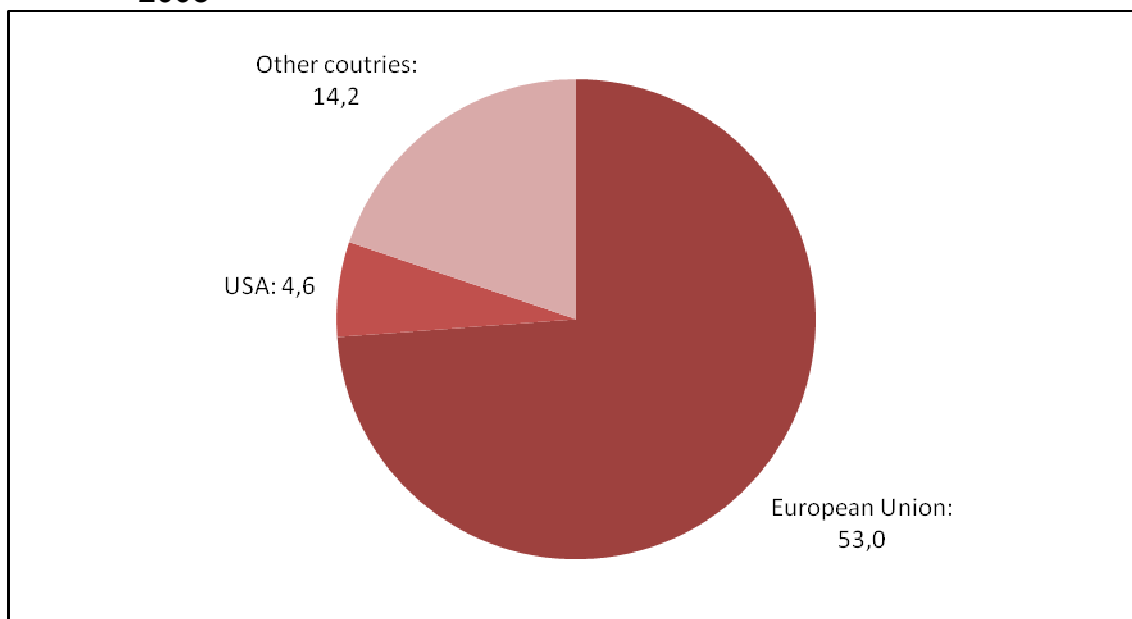
Graphic 5.IV – New Zealand frozen sheep meat exports destination (thousand t)
- 2008



Source: Comtrade; New Zealand Meat and Wool, 2009

In chilled meat, of highest value, the EU domain increases, with the acquisition of nearly ¾ of the volume exported by New Zealand. In this type of product, China and Saudi Arabia are no longer listed as major importers, as these countries look for cheaper meat in the international market.

Graphic 5.V – New Zealand chilled sheep meat exports destination (thousand t)
- 2008



Source: Comtrade; New Zealand Meat and Wool, 2009

Almost two thirds of the New Zealand dispatches to the United Kingdom market are made of pork cuts, which can be placed directly on sale on the shelves of supermarkets or sliced by specialized local industries. In addition to pork cuts, the UK also gets back from New Zealand (13% of exports en 2007) and frontal cuts (18% of the total in 2007). Another feature of New Zealand exports is the steady increase of chilled cuts participation, which facilitates the use of the product by retailers and reduces the contribution of frozen cuts and carcasses.

5.2 – Australia

Australia has different characteristics related to New Zealand, but it is also an important beef, mutton and wool exporter, besides being the largest exporter of goat meat, although its herd of species is not big. It is a key feature of Australia the existence of vast areas of arid and semi-arid. The wool is of critical importance for the country, which is responsible for 30% of the world production and has their status recognized by the fiber industry in all countries.

5.2.1 – Primary Sector

Australian properties, mostly produce lamb meat as a byproduct of wool, of which Australia is the 2nd world producer. There are only 8000 producers (specialized or not), that produce lamb meat, from a total of about 40 000 sheep owners. Meanwhile, goat raisers are just over 8000 in total,

many of them specialized in producing fine fur. Most of the Australian sheep herd consists of Merino sheep breed, wool producing animals and their crossbreeds.

Table 5.V – Australian livestock by breed

Breed	Share
Merino and crosses	84%
Other breeds	16%

Source: Meat and Livestock Australia, 2009

An important transition should be considered occurring on the sheep production in the country, with a focus on increasing lamb production. This is reflected in a higher percentage of females in the herd, reducing the amount of castrated males, which are used for wool production.

Thus, there is growing interest in producing dual-purpose animals, primarily using Dohne Merino and South African Meat Merino breeds, which enable good lambs, without much loss in the wool quality. This way, producers may take advantage of the promising lamb market without abandoning the traditional wool market.

The Australian sheep herd has been decreasing in size over the past 20 years. In recent years, a persistent drought that has gone through 40 months was an extra incentive for producers to reduce their herds. At the same time, the increase in the price paid by the meat of older animals has stimulated the slaughter of part of the herd. However, the percentage of females in the herd has remained stable, indicating that the tendency to produce dual-purpose animals is confirmed.

Table 5.VI – Sheep livestock in Australia (million heads)

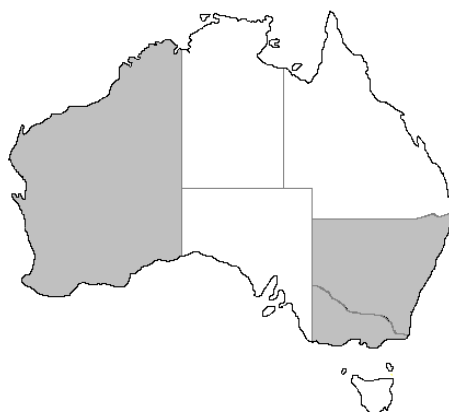
Year	Total sheep	Ewes	% female in livestock
2000	118,6	65,8	55,5
2002	106,2	58,3	54,9
2004	101,3	54,3	53,6
2006	91,0	46,4	51,0
2007	85,7	46,6	54,4
2008	76,9	41,5	54,0

Source: Meat and Livestock Australia, 2009

Some estimates suggest that Australian goat herd more than doubled in the last 10 years, reaching 520 000 heads, not taking into consideration the wild goats, which are estimated at over one million animals. About 90% of the goat meat production come from animals derived from the native breed called semi-wild Rangeland Goat, mixed with other races. The introduction of the Boer breed is considered as a starting point for Australia to have consolidated its position as world's largest exporter of goat meat.

The sheep herd in Australia is centered in three states, which together hold almost 80% of animals.

Figure 5.II – Concentration of sheep flock in Australia



Source: Meat and Livestock Australia, 2009

Table 5.VII – Australia livestock distribution (million heads)

State	Livestock	Share (%)
New South Wales	26,4	34,3
Western Australia	17,7	23,0
Victoria	16,8	21,8
Other States	16,0	20,9
Total	76,9	100,0

Source: Meat and Livestock Australia, 2009

The price paid to producers reflects the difference that the consumer market perceives in relation to meat quality of young and adult animals. Lamb price is more than twice the price of the adult animal. However, in recent years, the price paid by adult animals had a percentage increase only slightly higher, possibly due to increased exports of live sheep to the Middle East.

Table 5.VIII – Contrast in the price pay to herd holder
(Australian dollars by kg)

	2006	2007	2008	2009
Mutton	1,36	1,59	1,75	1,80
Lamb	3,26	3,35	4,02	4,00
Mutton value in relation to mutton	42%	47%	43%	45%

Source: Meat and Livestock Australia, 2009

5.2.2 – Industry

As an important supplier country of the world market, Australia has sought to enable its frigorifics to meet consumer demands in different countries. Slaughter industry is centered in the states of Victoria and New South Wales to Southern Queensland.

Australia has 44 authorized frigorifics to export to the European Union. 29 slaughter sheep of these (07 also slaughter goats). 69 frigorifics are certified to sheep Halal slaughter. The organic market is also interesting to Australian frigorifics and there are 19 qualified plants qualified to sheep and goats slaughter sheep and goats looking forward to meet organic products consumers.

The main frigorific is the Brazilian group JBS, owner of the local Swift companies and Tasman Group, with seven cattle, pigs and sheep abattoirs (slaughter capacity of 16 000 sheep per day), which also operates a feedlot in New South Wales with capacity to 35 000 sheep. Another important group is Fletcher, with two plants of total capacity to slaughter 90.000 sheep per week and farms for sheep production totaling about 85 000 hectares.

Showing the reproductive efficiency increasing of the country, lamb production is growing and gaining participation in total mutton production. 52% in 2000 rose 62% in 2008, although the herd is diminishing. It is expected that lamb export will increase nearly 30% over the next five years.

Table 5.IX – Inspected slaughter in Australia (million heads)

	Lamb		Mutton		Total	
	Heads (million)	Thousand t	Heads (million)	Thousand t	Heads (million)	Thousand t
2000	18,5	368,2	16,4	345,7	34,9	713,9
2002	17,1	337,6	14,9	296,7	32,0	634,3
2004	16,7	340,2	11,1	233	27,8	573,2
2006	19,5	399,8	13,1	269,4	32,6	669,2
2008	20,3	420,4	12,0	252,7	32,3	673,1

Source: Meat and Livestock Australia, 2009

Inspected goat slaughter is reported as being 990 thousand heads in 2008, higher number than the official herd. This is due to the fact of lots of wild goats being killed within the control program of exogenous mammalian, which are considered pests in Australia. Almost all the goat meat is exported, being domestic leading consumers some butchers who sell meat for the Muslims of the country, selling smaller carcasses than those for the foreign market.

In 2007 there were exported more than 3.78 million live sheep. Adding to the slaughter done in the period, it is possible to get to enjoy 43.2% for Australian herd. In 2008, the export of live sheep, rose to 4.21 million heads. Fremantle port, in Western Australia exports 82% of live sheep. Regarding live goats, they are mainly exported by air, reaching 96% of the total in 2008.

The alliances of sheep meat producers are less developed than in other productive sites, such as poultry and pigs. Several reasons are pointed to it, but the strongest is the lack of expertise in

mutton production by the creators. About half the animals' production for slaughter is sold in auction system.

An initiative of modern relationship that is working is *WA Q Lamb*, which includes frigorific, retailers and foreign market. This alliance offers guaranteed price and a premium on quality, so the industry must guarantee constant supply and retail guarantee to promote a premium brand in its stores. It has been operating for almost 10 years having the state of Western Australia as a base and it serves as an example to other attempts to organize the supply chain (*cadeia produtiva*). On the other hand, Australia, in the state of Victoria, another successful alliance is *Castricum Lamb*, in the same terms and applying its mark even in sheepskins.

The work being developed in the value chain for export of live animals is identified as one of the strongest inducers of productive alliances between farmers and industry, as it is showing farmers with more numerous herds that it is worth ensuring the supply of certain company in exchange for awards for the quality of the animal.

5.2.3 – Organizational and Institutional Aspects

Sheep producers founded in 1978 The *Sheepmeat Council of Australia* (SCA, the acronym in English) with the explicit purpose of representing and promoting the interests of lamb meat producers. Its activity is focused on the development of public policies and influence government decisions.

Influenced by SCS, the founding of the Goat Industry Council of Australia – Council of Supply Chain of the Goat (Gica, the acronym in English) was stimulated by the Australian government with the same goals.

SAC and Gica are part of *Meat & Livestock Australia* (MLA, the acronym in English), which is an initiative of producers, including cattle, working in partnership with government and industry, with the objective of maintaining the productive red meat chain in a profitable and sustainable level. It has over 43 000 members and provides research, development and marketing for the entire production chain. Some permanent goals of MLA are increase consumption of red meat, ensure market access in different countries and increase the competitiveness of the chain.

Some of the activities undertaken by MLA are: promotion of Australian beef inside and outside the country, the organization of courses in good manufacturing practices of producers to retailers,

participation in negotiations on taxes for health and ensure access to markets of each country, development of industrial innovations; stimulus to the formation of supply alliances.

One of the most valued MLA functions is the provision of statistics and market information. So, weekly newsletters on sheep meat, wool and since 2003 on goat meat are published. It is the primary trusted source of Australian statistics, being well respected by all participants in the chain.

The *Lambplan* is one of MLA programs, in partnership with other entities. It is a tool that producers can use to optimize their management techniques of grazing animals. Its primary purpose is to guide the use of breeds and breeders, according to a ranking that compares each sheep raiser animals between themselves and the average obtained by other participants. The idea is that the risk associated is reduced with the choice of sheep breeding and thereby increase the genetic gain of the herds. Sheep that get children with characteristics for production are always chosen, such as weight gain rate, resistance to parasites, wool production, etc. For raisers there is a similar program, called *Kiplan*.

Persists for several years the discuss on banning exports of live animals because of possible damage to the industry and also by pressure from groups linked to animal protection. However, Australian studies show that the gains industry may have to ban gains that are lower than the production chain as a whole has the export of live animals. In fact, the Australian government supports the sale of live animals – sheep, goats and cattle – abroad.

The export of live animals is supervised by the government. The main standards to be followed are described in Australian Standards for the Export of Live Animals, by the Ministry of Agriculture. Standards of preparation on the farm, boarding, and ground transportation, air and water are set out. It is also necessary a license to export provided by the Australian Quarantine and Inspection. The same body performs an inspection on the vessel before departure, to give the certificate of animal welfare, together with the Department of Maritime Safety. In addition, all states have their own laws dealing with the prevention of cruelty to animals. Vessels always travel with an Australian veterinarian and a senior-chief responsible for treating animals, accredited by the government.

Exporters of live animals are organized into an entity called *LiveCorp*, which is maintained by contributions from companies on the exported animals. The main objectives are to protect the interests of live animals' exporters, access to markets and education and training of personnel involved in the chain – within and outside Australia.

Most recently, an organization was founded with the specific purpose of providing the market, consumers and the public with information about the treatment of live animals exported. Called

Australian Livestock Export Animal Welfare Group – Australian Group of Welfare in Export of Live Animals (ALEAWG, the acronym in English), this agency has the support of government and consists of several other representative bodies, including MLA, SCA, The Agriculture Federation and others.

Farmers are organized around the *Australian Livestock Exports Council* – Export Council of Live Animals (ALEC, the acronym in English), which is composed by representatives of farmers state associations. ALEC sits in *LiveCorp* and works in conjunction with MLA Program Export of live Animals.

ALEC, *LiveCorp*, MLA and ALEAWG, together with the Australian Government are making investments since 2007 to strengthen the livestock markets and also to clarify Australian public opinion.

Some actions for the qualification of manpower training are guided to dock workers who are responsible for shipping in Australian ports, the personnel assigned to vaccinate and care for animals and personnel for the road, among others.

Moreover, it has been made a marketing of the social importance activity, especially in the state of Western Australia (where live exports are centered), demonstrating industry concerns with animals' welfare that are sold and transported to other countries.

Investments are being made to improve operations at ports of arrival and training of local staff in importing countries of live animals: Oman, Israel, Kuwait, Saudi Arabia, Qatar, Bahrain, Egypt, Jordan, UAE, Indonesia and Malaysia. These projects include: training courses on animal welfare and management techniques and transportation; building ramps for the animals to leave the ship direct to the trucks; and the modernization of abattoirs in Kuwait;

Some Australian public policies encourage more exporters of live animals than industries. Likewise, importing countries provide subsidies for the import of live animals and apply higher rates on imports of processed meat.

There are costs that Australian processors have and live animals exporters don't, namely: compliance with health and environmental legislation, more stringent in Australia than in countries of destination, manpower cost, direct and indirect, also highest in Australia; costs with the use of water and energy, which in Australia there are ratings that go beyond the simple consumption charging, as it is done in most countries.

One thing to be considered is that the steady decrease in the herd is causing pressure in the production chain that is limited to exports of live animals. This discussion is getting shape and some important facts should happen in 2010 which may reduce Australian exports of live sheep.

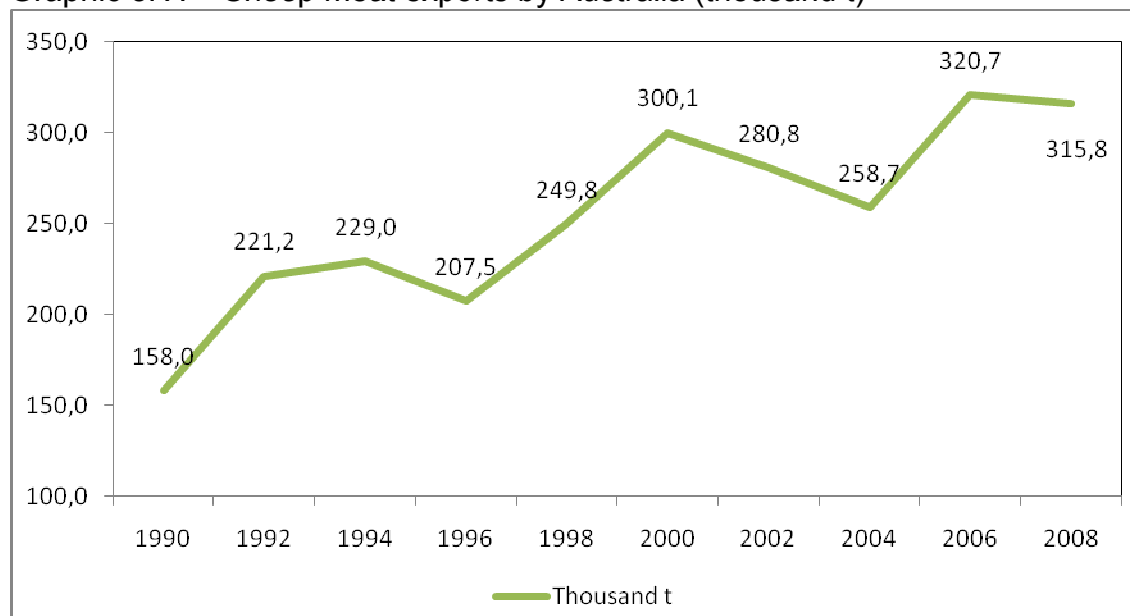
In January 2006 a program was established called the *National Livestock Identification Scheme* – National Herd Identification Scheme, aiming to guarantee the integrity of the sheep and goats chain through the ability to identify and trace animals quickly. Thus, to minimize damage in case of need for food security or health emergencies related to the onset of animals disease. The purpose is to provide consumers – domestic and foreign – confidence in Australia's reputation as a red meat producer safely and with quality.

Part of the identification program are the colored earrings (with the color identifying the year of birth) in the ears of animals and the issuance of similar sales documents to Guide of Animals Transit (GTA) used in Brazil. From July 2009 on, when the animals are sold to other properties, it will be necessary to put an extra pink earring.

5.2.4 – Exports

Lamb represented more than \$1 billion of exports in 2008. Australian beef exports have increased proportionally more than those of New Zealand, also reflecting the increase in supply caused by the herd reduction. There is a concern in the production chain regarding the sustainability of this meat supply, because the killing has increased steadily.

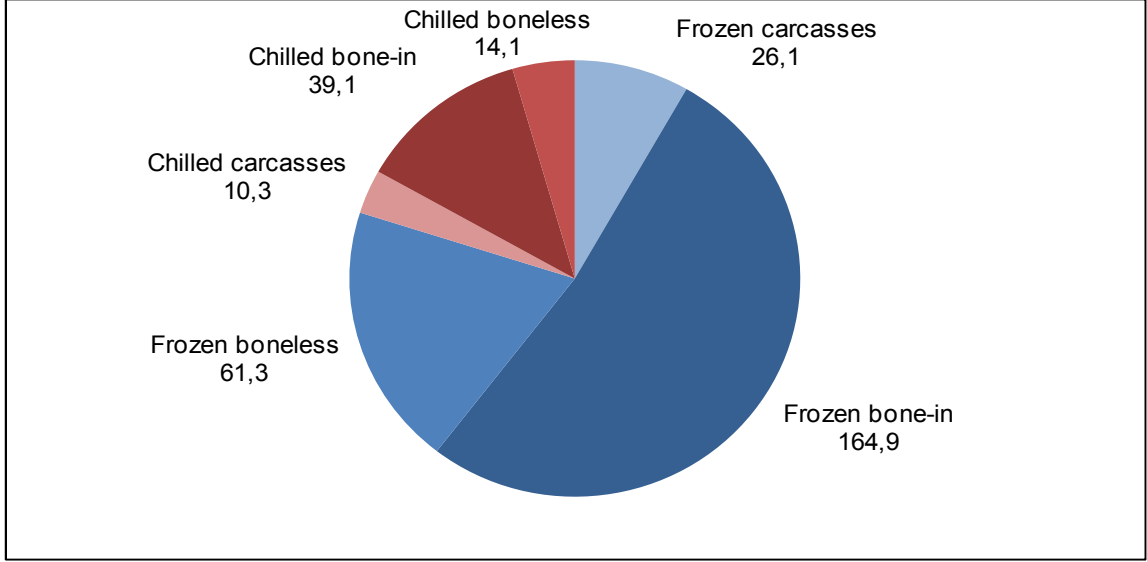
Graphic 5.VI – Sheep meat exports by Australia (thousand t)



Source: Comtrade; Meat and Livestock Australia, 2009

More than half of the meat is exported as frozen sections with bone. Chilled meat has larger share than in New Zealand's case.

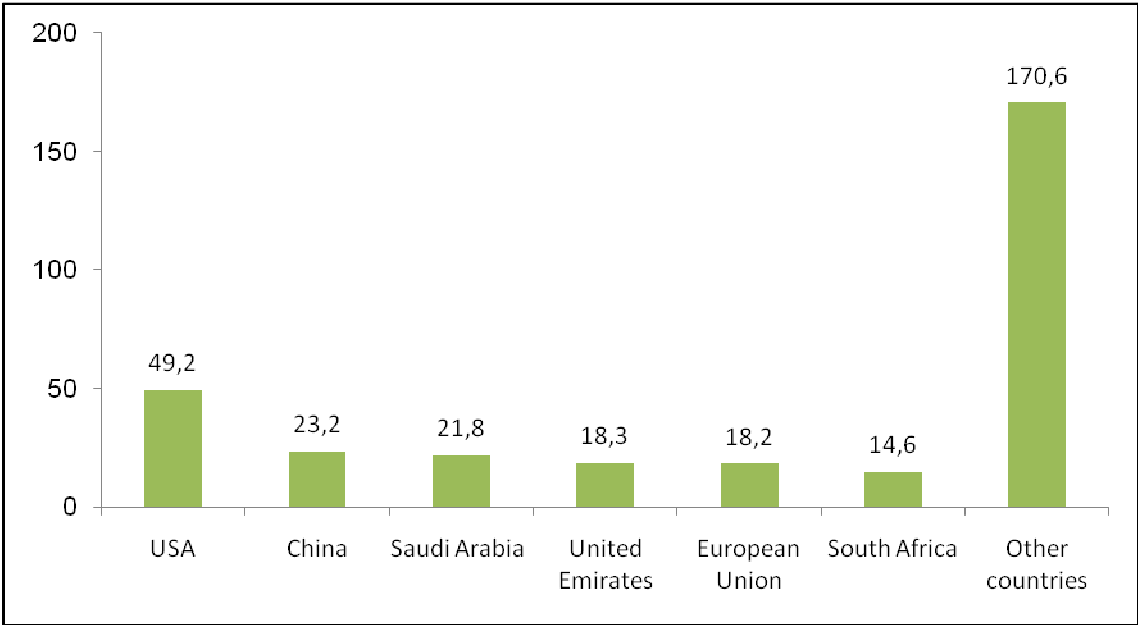
Graphic 5.VII – Kind of sheep meat exports by Australia (thousand t) - 2008



Source: Comtrade; Meat and Livestock Australia, 2009

Australian product has more diversified destinations than New Zealand. The largest market for lamb, the U.S., represents only 16% of total exports.

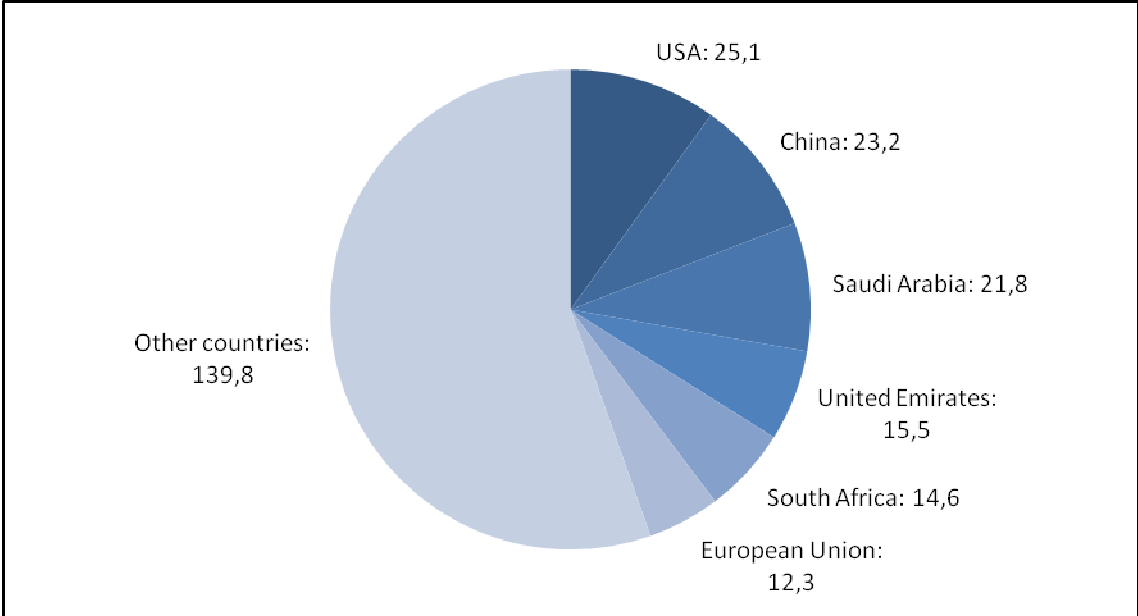
Graphic 5.VIII – Australia sheep meat exports by destination (thousand t) - 2008



Source: Comtrade; Meat and Livestock Australia, 2009

Frozen meat goes to several countries, including those of lower middle income. Its price, of US\$2.756 a ton, is less than half of that obtained by the chilled meat.

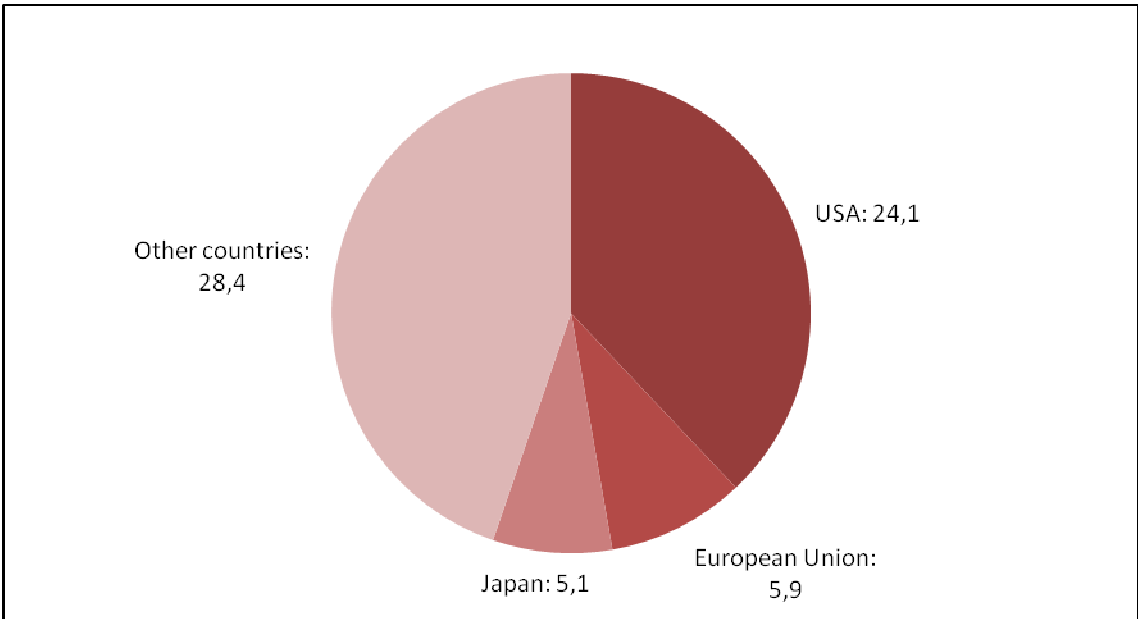
Graphic 5.IX – Australia frozen sheep meat exports by destination (thousand t)
(thousand t) - 2008



Source: Comtrade; Meat and Livestock Australia, 2009

On the other hand, Chilled meat has as main target the richest countries, with the U.S., EU and Japan accounting for over half of exports, with an average price of U.S.\$ 6.562 per ton.

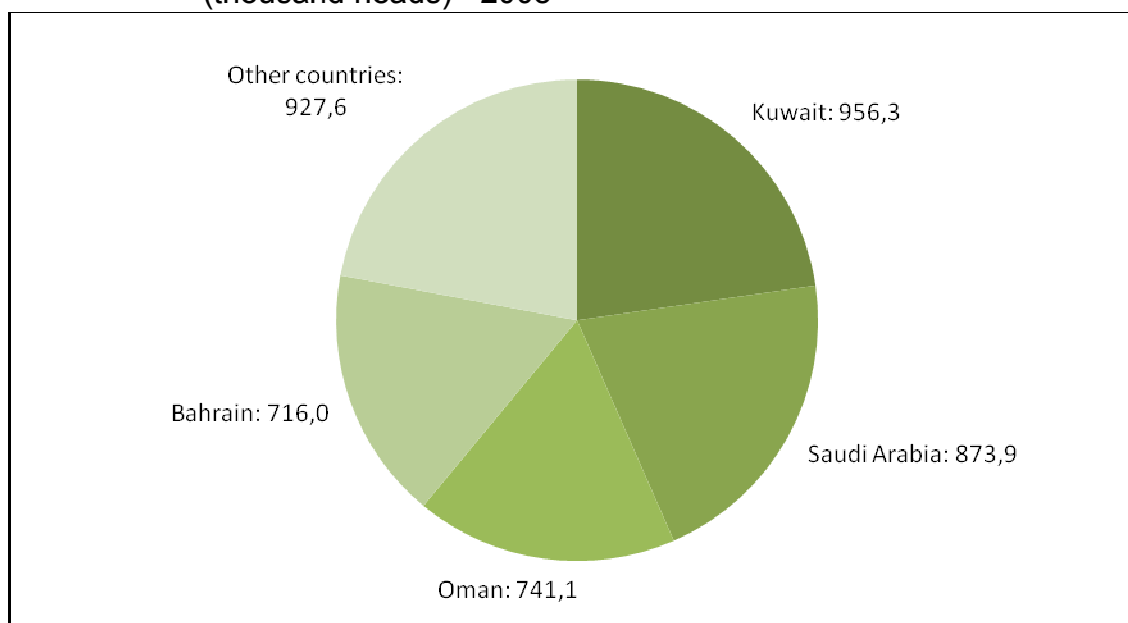
Graphic 5.X – Australia chilled sheep meat exports by destination (thousand t)
- 2008



Source: Comtrade; Meat and Livestock Australia, 2009

Australia exported more than 4.2 million live sheep, mainly destined for the Persian Gulf. Kuwait, Saudi Arabia, Oman and Bahrain represent over three quarters of live sheep exports from Australia. The export of live goats was nearly 80 000 animals in 2008, of which 67 700 were destined for Malaysia. The average price of sheep was \$64 per head, while the goats reached U.S.\$ 97 per animal.

Graphic 5.XI – Australia live animals exports by destination
(thousand heads) - 2008



Source: Comtrade; Meat and Livestock Australia, 2009

5.3 – India

India has the 4th largest sheep herd and the 2nd largest goat herd in the world. Unlike most other countries, goat herd is higher than the sheep. At the same time, India is the 2nd most populous country with over one billion people.

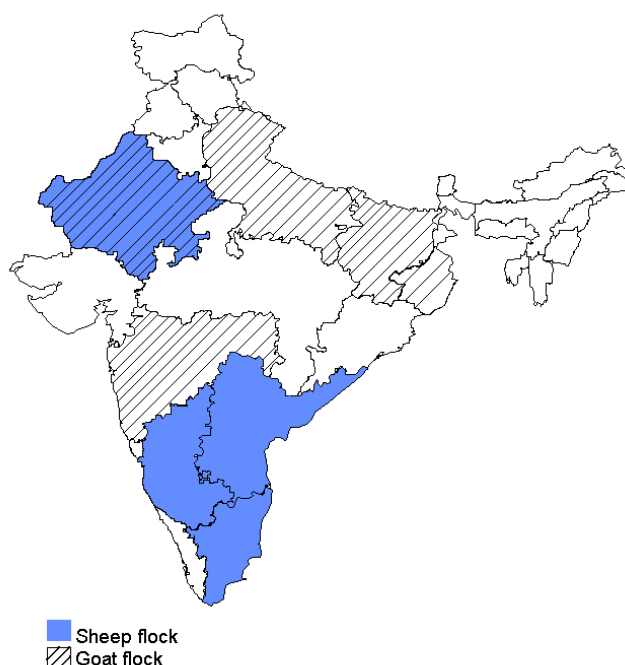
Sheep contribute 14% of meat production in India, while the goats about 8%. However, the overall meat consumption in India is very low, approximately 5kg per capita annually. Most of people of Hindu religion are vegetarian and this characteristic, coupled with the low average income of the country, explains this low intake.

5.3.1 – Primary Sector

The primary sector is very important to the Indian economy and provides livelihoods to over 600 million people. However, Indian agriculture and livestock are not efficient, mainly due to the small size of their properties. There are approximately 119 million farms, with an average size of just 1.2 hectares. Properties over 10 hectares are considered large and in most states have laws that limit

the size of property to a maximum of 24 hectares. Therefore, properties over 10 hectares account for only 1% of the country.

Figure 5.III – Concentration of sheep and goat flock in India



Source: India, 2008

Sheep are specifically bred for meat in India, while goats are the main goal of milk production. There are about 5 million people who make their living from sheep and goats with an average herd of 38 animals per household.

Table 5.X – India sheep livestock distribution (million heads)

State	Livestock	Share (%)
Rajasthan	16,1	25,0
Andhra Pradesh	10,8	16,8
Karnataka	8,9	13,6
Tamil Nadu	5,9	9,2
Other 23 States	22,6	35,4
Total	64,3	100

Source: India, 2008

Table 5.XI – India goat livestock distribution (million heads)

State	Livestock	Share (%)
Bihar	20,6	16,4
Rajasthan	17,3	13,8
West Bengal	15,9	12,7
Uttar Pradesh	12,0	9,6

Maharashtra	11,6	9,2
Other 22 States	48,1	38,3
Total	125,5	100

Source: India, 2008

Most farmers sell their animals to intermediaries, similar to the marching, common in Brazil Northeast. It is not customary selling the animals based on weight, but the head, and it does not encourage farmers to invest in the production of heavier animals. The existence of cooperatives is very rare and no alliance with the producer and retail industries is recorded.

5.3.2 – Industry

The commercial chain is very fragmented, with several intermediaries until the food reaches urban population. The vast majority of enterprises are micro or small.

Besides Halal slaughter to the Muslim population consumption in India, animals must be slaughtered by a Jhatka ritual to be consumed by the Hindu and the Sikh population.

Sheep and goats slaughter reached 67.5 million head per year, with goat dominance, which is the largest herd. Vast majority of killing occurs without sanitary inspection in rural properties.

In the country, 3600 are slaughterhouses, nine modern frigorifics and 171 meat processing plants allowed to operate for all types of animals. Modern frigorifics are located near large cities, while small abattoirs are distributed throughout the country. Despite strong recent investment, transport chain and cold and frozen storage in India is very limited. Therefore, animals must be slaughtered on the outskirts of major cities to enable their supply.

In late 2008, New Delhi city hall opened a large modern frigorific for sheep, goats and buffaloes, which will be operated by private enterprise. Butchers slaughter their animals with food inspection and pay for the frigorific service. The intention is that the illegal logging is reduced and also public health problems related to the consumption of meat without inspection. This plant replaced the previous one, quite old and with several operating supervision problems.

However, in early 2009, the Meat Traders Association of New Delhi, complained that the new frigorific had too many health restrictions, and did not provide capacity to serve about 300 marketers who need to use the service each day. There are hundreds of small traders of animals coming from all over the country to New Delhi every day to slaughter their animals and sell in urban markets.

This situation exemplifies the kind of problem that the meat industry in India has to face to fit their standards to the modern urban Indian consumer demands and eventually the international market.

To take full advantage of the immense Indian cattle potential, the central government, through the Ministry of the food processing industry, is encouraging the construction of modern frigorifics, in partnership with foreign companies. The goal is to raise the meat sanitary quality and improve the byproducts utilization. Companies can receive up to 50% of investment and state incentives.

5.3.3 - Organizational and Institutional Aspects

Perhaps India is the only country in the planet contained in the constitution charity and care to animals. Despite the recent rise of India to the list of countries that export red meat, there is an internal pressure against this industry on the part of orthodox Hindu religion leaders.

Agricultural policy of the country is focused on ensuring self-sufficiency in wheat and rice, as the majority of the population is Hindu, who rarely eats meat. Anyway, lamb is considered the most acceptable to the small number of people of this religion who occasionally eats meat. India also has a large Muslim population which consumes traditional sheep and goat meat.

The site consumer preference is for fresh meat, at the expense of chilled and frozen meat. This ultimately encourages illegal logging.

In January 2009, a new official body began operating, connected to the Indian Health Ministry, called the *Food Safety and Standards Authority* – Authority for Standardization and Food Security (FSSA the acronym in English). The objective is to consolidate and harmonize the various state laws in India on a single regulatory agency.

Key policies that benefit sheep and goats are related to poverty reduction and encourage subsidies to people who are below poverty line to start small creations.

The *National Bank for Agriculture* – National Agricultural Bank (NABARD, its acronym in English) is the official bank for promoting agribusiness. The program to encourage sheep and goat farming accounts not only financial resources, but it is also dedicated to education and training. However, there is a complaint that the designs are privileged with sheep for goats.

The *Central Sheep and Wool Research Institute* – Central Institute for research on Sheep and Wool – (CSWRI, the acronym in English) is the federal agency responsible for research and

technology transfer to the States. For goats, who has the same powers is the *Central Institute for Research on Goats* (CIRG, the acronym in English).

As the individual herds are very small, producer associations are statewide, with little articulation power, and usually linked to local government.

Although India is a founding member of the World Trade Organization (WTO), agricultural sector is highly protected, with import tariffs that are on average three times as practiced in nonagricultural sectors. Animals' imports are governed by an outdated legislation, established in 1898, over 110 years old, so the time when India was still a British colony. At the same time, India applies non-tariff barriers on all agricultural products, with much stricter standards for products from other countries than for foods produced domestically.

5.3.4 – Exports

It is routed for export only the domestic market surplus without the existence of a supply chain focused on supplying the international market. However, India has become a major beef exporter and now appears as a major sheep meat exporter, although the volumes vary greatly from one year to another. However, increasing the income of the population must create difficulties for India to continue exporting beef in the future, unless steps are taken to increase the competitiveness of the primary sector.

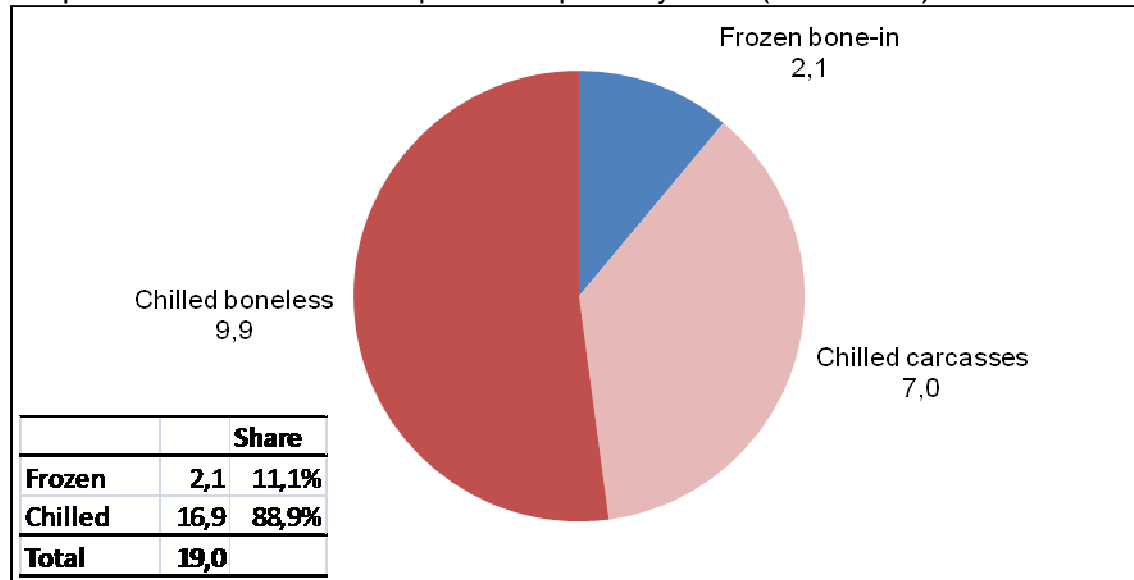
Graphic 5.XII – Sheep meat exports by India (thousand t)



Source: Comtrade 2009

India is among the few countries in which the chilled meat is more exported than frozen, accounting for 88% of foreign sales. Frozen meat has reached an average price of US\$3.320 a ton, while chilled meat was US\$3.621 per ton.

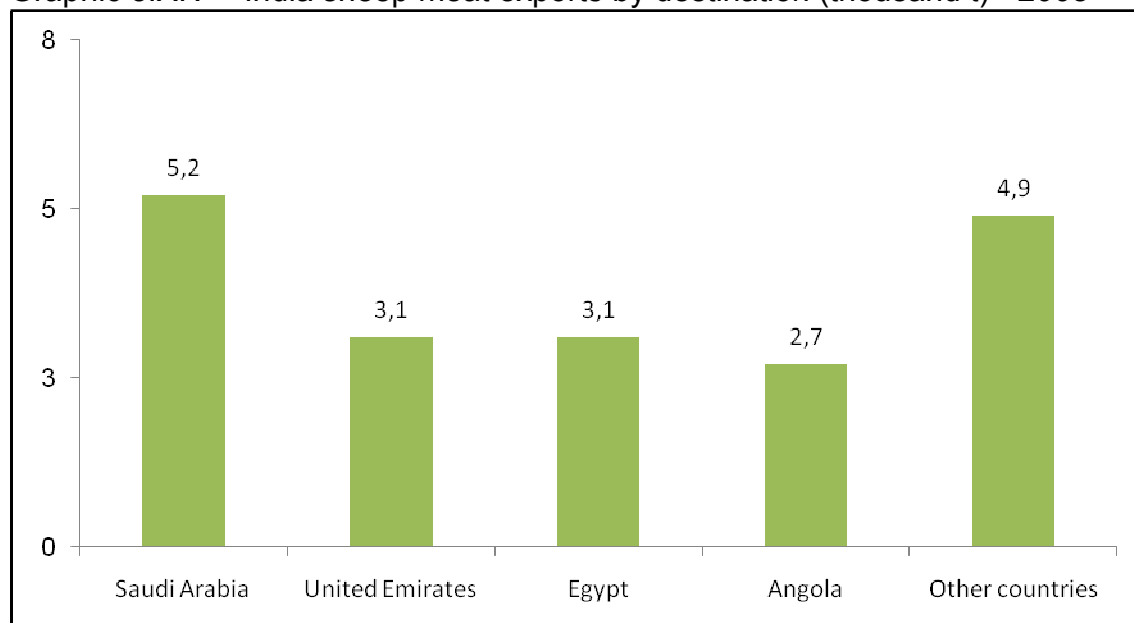
Graphic 5.XIII – Kind of sheep meat exports by India (thousand t) - 2008



Source: Comtrade, 2009

Main buyers are the neighboring countries, Gulf and African countries, which tend to have less stringent sanitary standards. Frozen meat goes almost all to Saudi Arabia and UAE.

Graphic 5.XIV – India sheep meat exports by destination (thousand t) - 2008



Source: Comtrade 2009

5.4 – Uruguay

Uruguay is a small country in size, the smaller sheep meat exporters, and low population. Primary production is important for the country, accounting for about 50% of exports. Meat industry – cattle and sheep – accounts for 20% of Uruguay's total exports.

Approximately two thirds of inspected slaughtering targets the international market, showing its vocation for agricultural products exports.

5.4.1 – Primary Sector

Uruguay has approximately 14.5 million hectares of pasture (82% of the total land area). Of these, only 2.5 million hectares are cultivated pastures and the rest are native pastures.

In Uruguay these are about 57 000 farms, which gives an average of 287 hectares per farm. There are 18 000 properties with more than 100 hectares that raise sheep, however, the 10 000 largest hold 93% of the country's sheep herd. Most sheep herd is centered in the less productive aptitude North of the country with shallow soils, called the basalt zone. Uruguayan sheep herd has remained steady at around 10 million head, with annual variations that reflect the climatic conditions.

Table 5.XII – Sheep livestock in Uruguay (million heads)

2000	2002	2004	2006	2008
13,20	10,80	9,77	11,09	9,33

Source: Instituto Nacional de Carnes; SUL, 2009

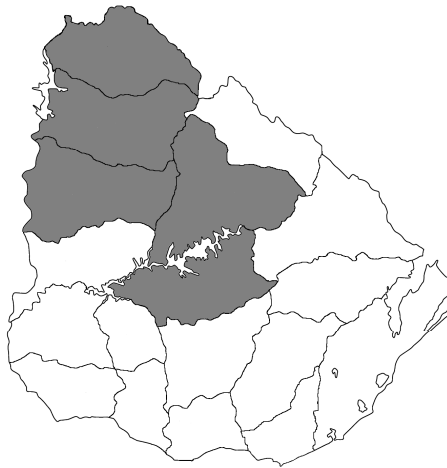
The country has the largest Corriedale herd in the world, with over 6 million sheep being pure or crossbred. The other significant races are the Australian Merino and Ideal.

Table 5.XIII – Uruguay sheep livestock by breed

Breed	Share
Corriedale	65%
Australian merino	14%
Polwarth	8%
Others	13%

Source: Instituto Nacional de Carnes; SUL, 2009

Figure 5.IV – Concentration of sheep flock in Uruguay



Source: Instituto Nacional de Carnes; SUL, 2009

Uruguay's herd is undergoing a transformation, with increased ability to produce meat at the expense of wool. Female percentage remains, even with a decrease in animals number. Compared to Australia and New Zealand, primary production in Uruguay is more inefficient, with only 70% of weaning lambs index.

Table 5.XIV – Uruguay sheep livestock by class (thousand heads)

By class	2008	2007
Rams	189	209
Ewes	4.855	5.266
Cull ewes	302	348
Wethers	908	909
Yearling ewes	474	534
Hoggets	2.248	2.640
Lambs	421	416
Total	9.397	10.322
% female in livestock	59,9	59,6

Source: Instituto Nacional de Carnes; SUL, 2009

5.4.2 – Industry

Demonstrating a focus on consumer market and meat quality, Uruguayan agro system compensates with different prices, according to the age of the slaughtered animal. When animals are sold on the property, through an intermediary, payment is given based on weight. If they are directly sold to the frigorific, price is settled based on carcass weight.

Table 5.XV – Price to herd holder by class (US\$ by kg) - 2007

By class	Live kg	Carcase kg
Rams	0,56	1,25

Ewes	0,63	1,42
Hoggets	0,78	1,74
Wethers	0,79	1,71
Lamb	0,87	1,90
Average	0,77	1,71

Source: Instituto Nacional de Carnes; SUL, 2009

Traditionally, consumption of meat sheep is high in Uruguayan farms, mainly of adult animals. As a consequence, the proportion of animals going to slaughter in slaughterhouses of the country is relatively low. It is estimated that at least 50% of sheep meat production do not enter the trade channels. However, lambs, the most valued meat are almost entirely designated to industry.

Table 5.XVI – Inspected slaughter in Uruguay (thousand heads) - 2008

By class		%
Rams	7,4	0,4
Ewes	171,3	9,6
Hoggets	220,1	12,4
Wethers	503,7	28,3
Lamb	878,7	49,3
Total	1.781,2	100

Source: Instituto Nacional de Carnes; SUL, 2009

Table 5.XVII – Average slaughter weight - 2008

Class	Live (kg)	Carcase (kg)	Carcass (%)
Rams	56,8	25,7	45,2
Ewes	36,5	16,2	44,2
Hoggets	43,0	19,4	45,2
Wethers	41,3	17,8	43,1
Lamb	33,2	15,0	45,1
Average	37,1	16,5	44,4

Source: Instituto Nacional de Carnes; SUL, 2009

Industrial sector is divided into exporting slaughterhouses, composed of industries with large scale and technology; large abattoirs, which supply Montevideo, the largest interior cities eventually export part of their production; and small abattoirs, which supply the small towns and have limited cold storage and few health requirements.

Industrial concentration is large, with three companies holding more than half of slaughter. When it comes to lamb, concentration is even higher with just two frigoríficos: San Jacinto and Matadero Carrasco accounting for 56% of the country slaughter. Cledinor Frigoríficos and Inaler belong to the Brazilian Group Marfrig, which maintains a slaughter capacity of 150 000 sheep a year in Uruguay.

Uruguayan Frigorifics are cleared to export to the U.S. and the European Union. In South America, only Chile also has authorization to export fresh beef to the U.S.

Table 5.XVIII – Slaughter by company (thousand heads) - 2008

		%
San Jacinto	373,6	21,0
Matadero Carrasco	330,3	18,5
Frigocerro	297,2	16,7
Las Piedras	200,4	11,2
Other 18 slaughterhouses	581,7	32,6
Total	1.783,2	

Source: Instituto Nacional de Carnes; SUL, 2009

San Jacinto and Marfig frigorifics have established supply contracts with producers for lambs delivery related to *Cordero Pesado* program, described in Chapter 5.4.3. These contracts establish awards for quality and also for delivery in the lower production months – from April to September.

5.4.3 - Organizational and Institutional Aspects

Most of mutton consumption occurs in inner cities of the country and rural properties. Domestic sheep consumption has been encouraged, including tax cuts, so that the country's urban population currently consumes about three times more than in 2004.

Secretariado Uruguayo de La Lana – Uruguayan Wool Secretariat – (SUL) is an entity managed and funded by local sheep farmers. Its main objective is to develop sheep production and increase the activity economic outcome. SUL focuses on the generation and technology transfer for the agribusiness chain. It is also important the generation of statistical data held by the entity, which is considered by the market as highly reliable. Finally, SOUTH is in charge of promoting and opening markets for wool and sheep meat in Uruguay.

In the mid 1990s, aiming to stimulate lamb production to the export market, the program *Cordero Pesado* was instituted – Heavy Lamb, which among other measures, has called lamb any animal that does not have permanent teeth, regardless age. The creation of this program quickly introduced the activity of sheep meat production in the country exporter scheme, helped by the conjuncture of favorable international prices. At the same time, it was an inducer for the various research organizations to mount research programs in sheep meat, something that was almost absent so far in Uruguay.

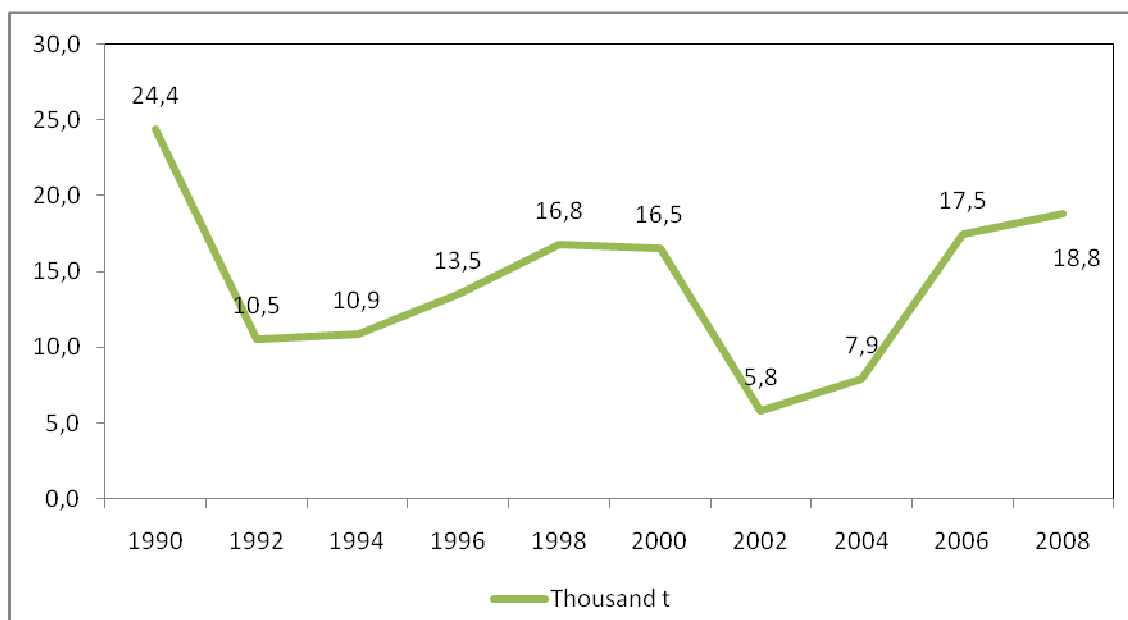
In early 2009, *Plano Estratégico de la Ovinocultura* was launched, contemplating the next five years. The three main pillars of the Plan are: increasing the wool and sheep meat export market, expanding the wool and sheep meat supply suited to modern demands, and improve the dynamics and articulation of the productive chain of Uruguay. Thus, it is expected that Uruguay reaches 11 million heads and cattle and sheep meat exports double in value, focused on increasing the lamb supply.

The research focus and production chain is very focused on increasing the export of Uruguayan lamb to the U.S., and especially to the European Union. From 2010 on, it will be required to track the sheep. Initially, animals intended for slaughter and then the whole herd.

5.4.4 – Exports

It is common to find Uruguay in a list of major exporters, where the 3rd or 4th position over the years. However, reflecting the dramatic decrease in herd exports are currently lower than in the early 1990s, although more than 10 years ago. In the early 2000s, the country suffered from a foot and mouth crisis that brought down meat exports, including sheep.

Graphic 5.XV – Sheep meat exports by Uruguay (thousand t)

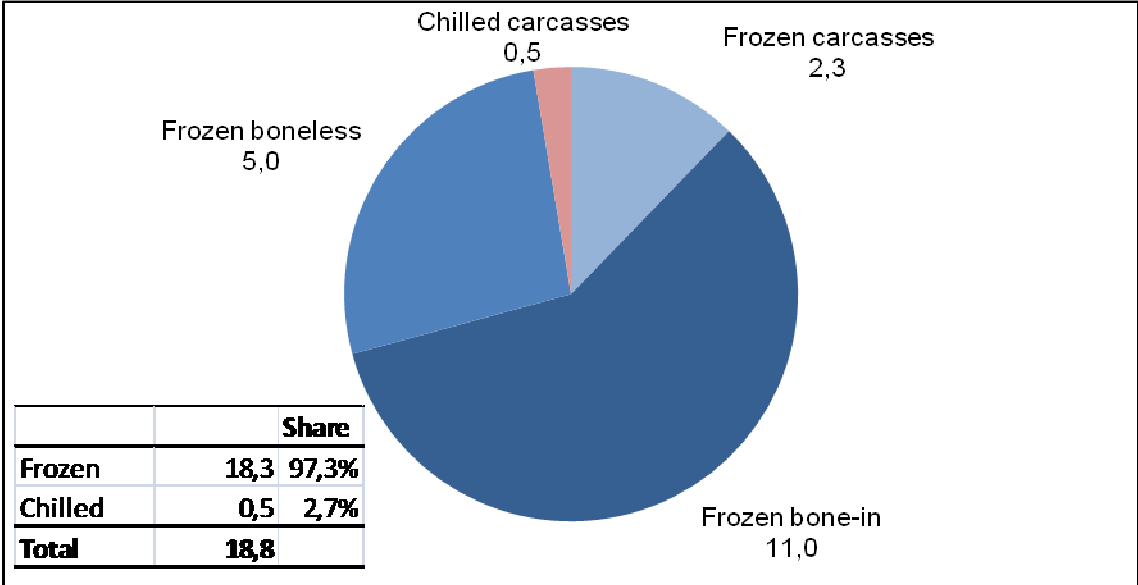


Source: Comtrade; INAC, 2009

Frozen meat accounts for almost all country's export, and cuts with bone are most foreign sales. The average price of frozen meat reached US\$3.852, higher than chilled meat, US\$2.428,

because the export of frozen products consists of cuts, which has higher added value than carcasses.

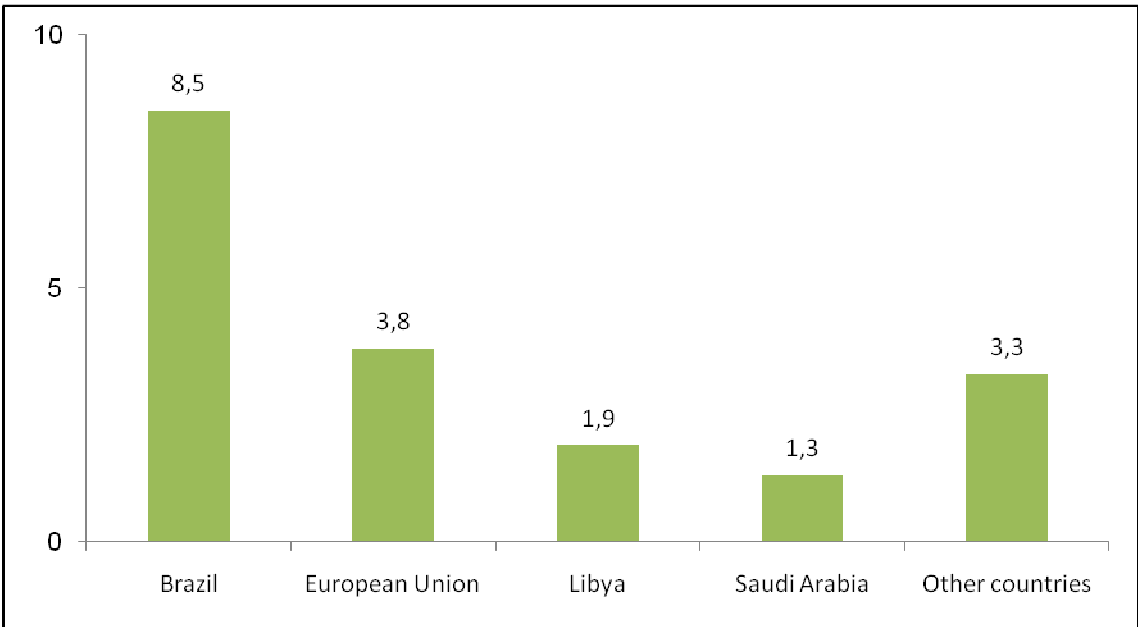
Graphic 5.XVI – Kind of sheep meat exports by Uruguay (thousand t) - 2008



Source: Comtrade; INAC, 2009

The main importer is Brazil, with 45% of Uruguay's total sales in 2008, and it was the only purchaser of the refrigerated product. Another important purchaser is the European Union, where Uruguay has export quota without payment of customs duties.

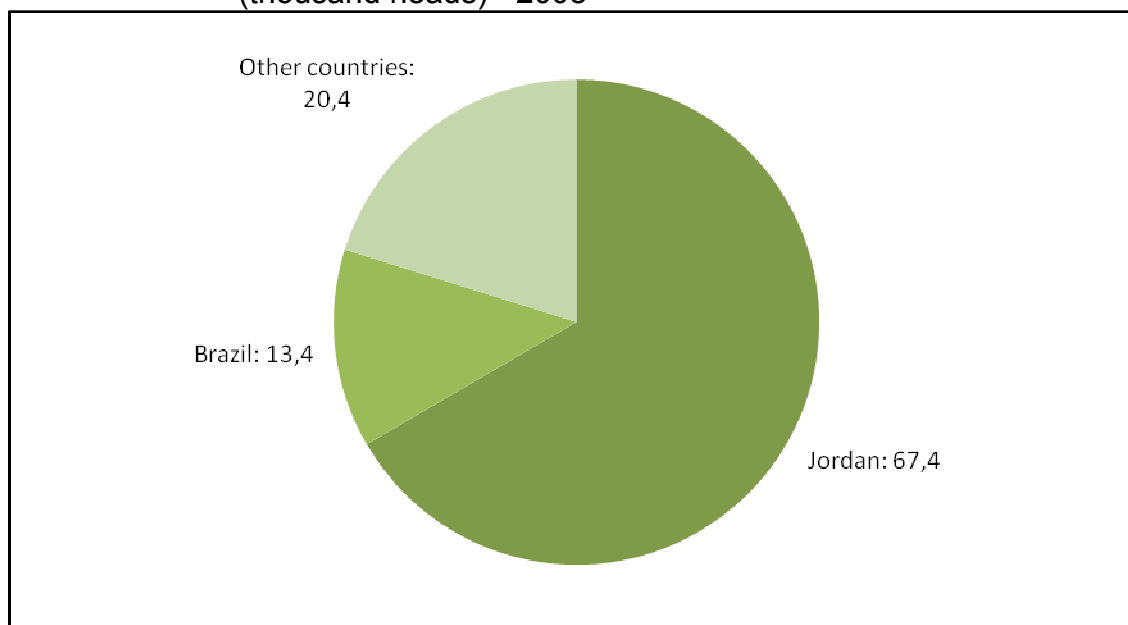
Graphic 5.XVII – Uruguay sheep meat exports by destination (thousand t) - 2008



Source: Comtrade; INAC, 2009

The export chain of live sheep is very erratic in the neighboring country, with significant variations from one year to another. Jordan has acquired two thirds of 101 000 Uruguayan sheep exported live in 2008. The average price achieved was US\$47 per head.

Graphic 5.XVIII – Uruguay live animals exports by destination
(thousand heads) - 2008



Source: Comtrade; INAC, 2009

5.5 – Namibia

Namibia, located in Southwest Africa, has a relatively large territory, but with a small population of about 2 million inhabitants. It is the biggest sheep meat exporter from Africa, despite its herd is relatively small.

Its history is linked to South Africa, which ran the country for 70 years until 1988. The meat trade is dominated by this relationship with the neighboring country, which imports nearly all production in Namibia.

5.5.1 – Primary Sector

Approximately half the population is in rural areas, practicing subsistence farming, with few resources and low technology. All ruminant production is carried out in 49 million hectares of native pastures, operated with low efficiency, broadly.

However, the sheep herd consists primarily of meat producing animals, the Dorper. Likewise, in goat herd is predominantly a **meat sheep bred**, Boer.

Table XIX – Namibia livestock breeds (million heads)

Sheep		Goat	
Dorper	1,75	Boer	0,88
Karakul	0,19	Other breeds	1,18
Other breeds	0,72	----	0
Total	2,66	Total	2,06

Source: Meat Board of Namibia, 2009

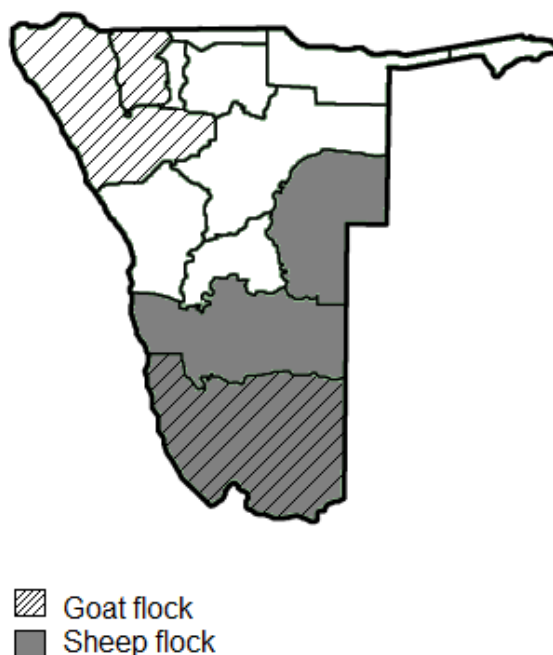
The sheep herd is centered in the South, while the goat herd is more distributed, with the predominance of the Northern region, bordering Angola.

Table XX – Namibia livestock distribution (million heads)

	Sheep		Goat
Karas	0,99	Omusati	0,62
Hardap	0,96	Karas	0,23
Omaheke	0,28	Kunene	0,20
Other regions	0,43	Other regions	1,01
Total	2,66	Total	2,06

Source: Meat Board of Namibia, 2009

Figure 5.V – Concentration of sheep and goat flock in Namibia



Source: Meat Board of Namibia, 2009

5.5.2 – Industry

Four industries are called exporting slaughterhouses in the country. They have the capacity to slaughter approximately 1.3 million sheep and goats per year. This slaughter capacity is higher than the current potential supply by livestock farmers. Three plants are in the process of export certification to the European Union.

Table XXI – Commercial destination by sheep and goats (thousand heads)

	2000	2002	2004	2006	2008
Export slaughterhouses	214,8	318,7	435,7	725,6	762,7
Local abattoirs	192,8	45,4	38,4	74,1	50,2
Export to South Africa (live animals)	755,4	1.149,1	756,5	535,1	64,7 sheep 224,8 goat

Source: Meat Board of Namibia, 2009

5.5.3 - Organizational and Institutional Aspects

The fact that Namibia is a big supplier of live cattle to South Africa caused concern in the production chain inside the country. Thus, in the early 2000s, a program called Small Stock Marketing Scheme – Common Market of Small Animals (SSMS, the acronym in English) was implemented. Through mechanisms such as the obligation to slaughter six animals in the country for each one exported alive, the SSMS could attract investment to the frigorific area and turned Namibia into the major lamb exporter, leaving the list of major exporters of live sheep.

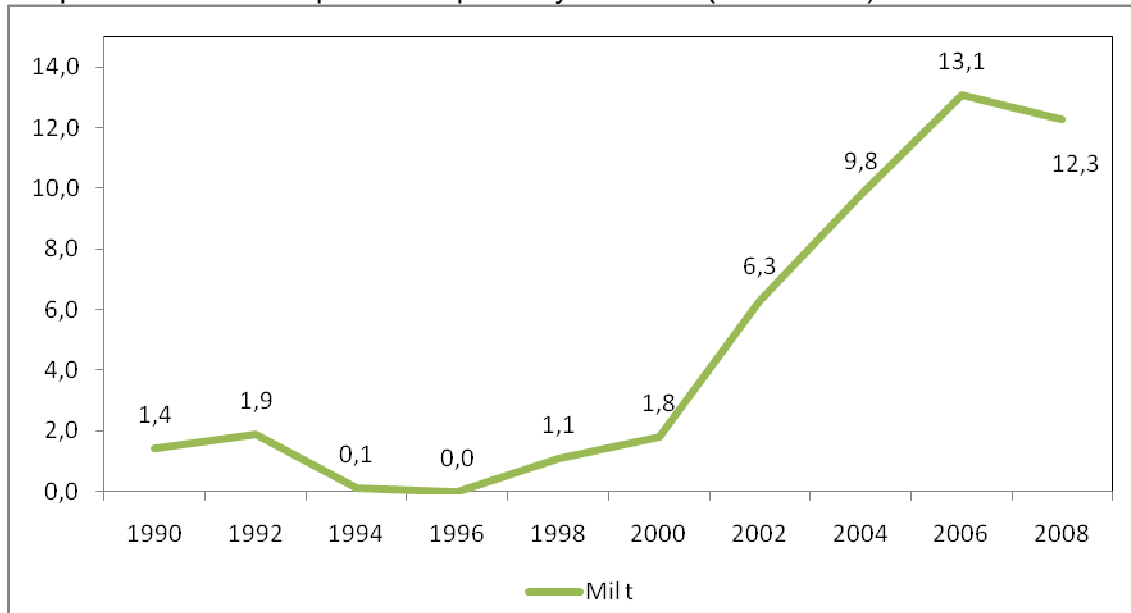
Namibia Agricultural Union (NAU, the acronym in English) is the producers' representative of the country, including sheep and goat raisers. It has tried to implement in recent years a market information system that is reliable and complete, but by the characteristics of low density of occupation of the country, this task has encountered real difficulties in being performed. The *Livestock Producers Organization* – Organization of Cattle (LPO, the acronym in English) is one of the institutional members of the NAU, and it leads to the organization the sheep, goats and cattle producers' demands.

After the SSMS implementation, the average price paid to producers nearly doubled, increasing the income of the primary sector and boosting the value creation in the country. However, there is resistance to SSMS and the NAU in 2009, together with the LPO, it is pressing the government to reverse the obligation to 6:1 slaughter, making it a fee on the export of live animals.

5.5.4 – Exports

The country was never a prominent exporter until a few years. The SSMS can be considered largely responsible for putting Namibia as one of the major sheep meat exporters in the world. Already the export of goats is still made in the form of live animals.

Graphic 5.XIX – Sheep meat exports by Namibia (thousand t)



Source: Comtrade; Meat Board of Namibia, 2009

The meat is almost all exported as chilled carcasses, with over 97% market share. The average price obtained from the frozen carcass was US\$3.315 per ton, while chilled carcass was US\$3.450. The production was almost entirely to neighboring South Africa. In 2008, one of the frigorifics could be exported in 87.4 tons of lamb to Norway, a quite celebrated fact.

Live sheep are all exported to South Africa. There were 42 000 animals in 2008, with an average price of \$71 per head. Live goats export just reached over 226 000 head, of which 99% were sent for slaughter in South Africa, at an average price of \$50 per head.

6 - Profile of Exporting and Importing Countries

The U.S. and China area part of the major exporters of lamb list. The U.S. in second place and China in fourth place. But they are also part of the major exporters list in 6th and 7th place respectively. The U.S. are lamb suppliers of North America and the Caribbean, while China often sells their surplus for Hong Kong and some Middle Eastern countries.

Thus, they will be treated in a separate chapter, to make more complete the approach to information about their markets.

6.1 – The United States of America

The U.S. has the third largest population of the planet and the highest average income. This makes the country a major lamb consumer, even with low per capita consumption. At the same time, it is the largest lamb producer in the Americas and the 3rd largest in goat meat.

With the constant diminution of the herd in recent decades, imported meat has increased significantly participation. In recent years, imported lamb, mainly coming from Australia and to a lesser volume of New Zealand, accounts for over 50% of national consumption.

6.1.2 – Primary Sector

In the U.S., an important part of the sheep industry is related to wool production, which accounts on average for 25% of income in the sector. Since the two products are linked, sheep farmers tend to delay the slaughter of the lambs waiting for the recovery of wool. If the bet is high prices for wool, they try to reset their herd. Under these conditions, few animals are sold for slaughter, which leads to a decrease in lamb meat production. In the opposite direction, if sheep farmers anticipate a decrease in the wool price selling more animals for slaughter, which increases the meat supply on the market.

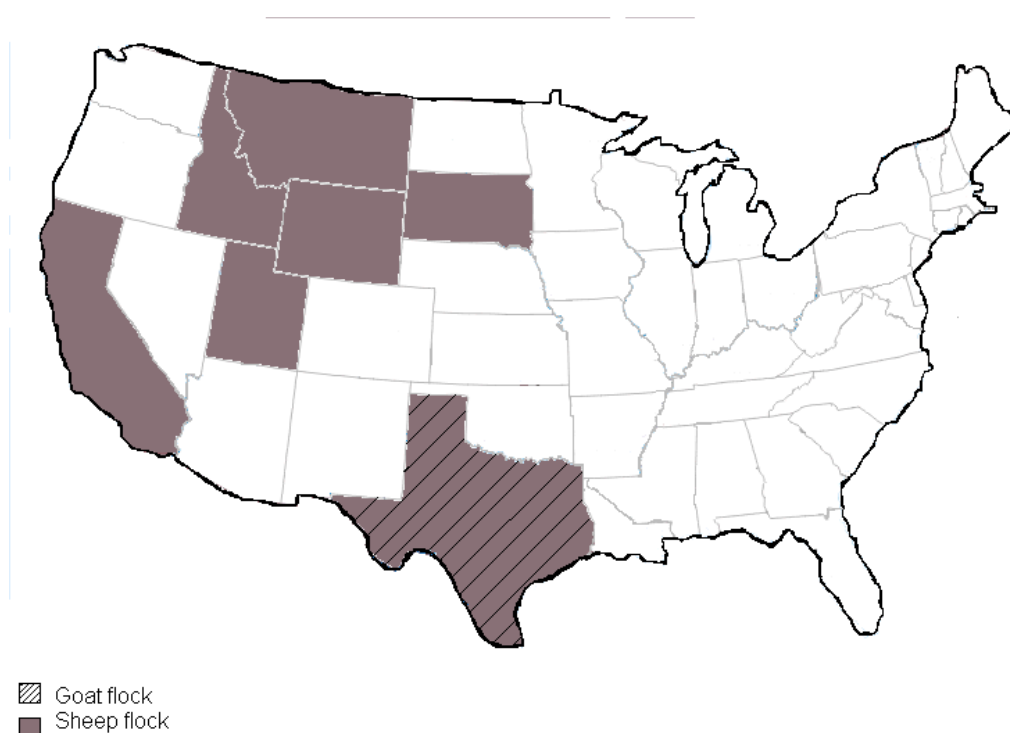
Table 6.I – Sheep livestock by class (thousand heads) - 2008

Ewes	Yearling ewes	Rams	Total
3.617,0	686,5	184,0	4.487,5

Source: USDA, 2009

Nearly 60 000 properties raise sheep in the U.S., most with small herds. In the semiarid West are the highest concentrations of farmers and sheep are often the sole or main source of income from the property. The herd average size in this region is 205 animals per producer. In the *Corn Belt*, the sheep industry is part of the tradition to diversify the crops grown on each property and the average herd is 49 head.

Figure 6.I – Concentration of sheep and goat flock in USA



Source: USDA, 2009

Table 6.II - USA sheep livestock distribution (thousand heads)

State	Livestock	Share (%)
Texas	770,0	17,2
California	340,0	7,6
Wyoming	340,0	7,6
South Dakota	285,0	6,4
Montana	265,0	5,9
Utah	250,0	5,6
Idaho	200,0	4,5
Others	2.035,5	31,4
Total	4.487,5	

Source: USDA, 2009

The effective goat reaches 3.1 million heads, being Texas the only significant herd owner, with more than 1.1 million goats.

Primary Sector can be divided into three types of farmers: producers of clean animals, which mainly sell crossing bred sheep in commercial properties, commercial livestock producers who sell directly to frigorifics; confinements. Some producers operate in more than one activity simultaneously. Most lambs go direct from the pasture to the slaughter, without going into feedlots.

There are over 100 large feedlots for sheep and a lot more of smaller feedlots. The operate in the form of livestock purchase or rental area. These feedlots are centered in Midwest states. Typically,

farmers' constraints buy lambs weighing between 34 and 54kg and keep fattening animals for 30 to 150 days.

6.1.2 – Industry

Most widely used form of sale is the spot market, directly from producers (or enclosed) and industry. Some large feedlots supply contracts are made to specific lots. The process chain integration is incipient. Normally, it occurs through producer cooperatives or else some frigorifics that operate feedlots.

Most animals are sold based on weight, and in some cases there is a prize to the farmer as the carcass weight after slaughter. Sheep carcasses average weight in 2008 was 31.3 kg, while lambs reached 30.4 kg.

There are four types of slaughterhouses in the U.S. regarding health inspection at slaughter:

- 1) Federal Inspection: responsibility of the Federal Department of Agriculture (USDA)
- 2) Talmadge-Aiken: these industries are under the responsibility of USDA, but with assignment to inspection by the state where they are located;
- 3) No federal inspection: only to intrastate commerce. Using state inspection.
- 4) Exempt from Inspection: cannot sell the meat. Must follow minimum health standards, especially in construction.

There are two big frigorific groups – *Superior Colorado*, a *Transhumance Holding* subsidiary, and *Ranchers Lamb of Texas*.

Most units are small frigorific, and 95% of them have a slaughter capacity of less than 10 000 head per year. However, the four largest plants accounts for two thirds of slaughtering.

Table 6.III – Sheep slaughterhouses by size in 2005

Slaughter (head/year)	Amount (industries)	Total slaughter (thousand heads)	Share (%)
1 – 999	411	53,5	2,2
1.000 – 9.999	65	204,7	8,6
10.000 – 24.999	11	172,9	7,2

25.000 – 99.999	3	121,1	5,1
100.000 – 249.999	2	273,9	11,4
More than 250.000	4	1.567,3	65,5
Total	496	2.393,4	100

Source: USDA, 2009

Slaughter in the farms is small, accounting for 3% of yearly total. It means that production is heavily based on the urban market or neighboring countries. As it is customary, goats' killing is lower than sheep. For the U.S., the number of goats slaughtered does not reach one third of sheep quantity.

Table 6.IV – Sheep and goat slaughters (thousand heads)

	2007	2008
Sheep commercial slaughter	2.693,8	2.555,5
Sheep slaughter in farms	85,0	94,6
Total sheep slaughter	2.778,8	2.650,1
Total goat slaughter	827,3	865,8

Source: USDA, 2009

Vast majority of sheep slaughter consists of young males - lambs and hoggets. This is explained by a significant amount of adult animals that are usually exported live for slaughter in Mexico and Canada.

Table 6.V – Inspected slaughter by class (thousand heads)

	2007	2008
Ewes	115,6	122,3
Lambs and hoggets	2.271,1	2.413,1
Total	2.386,7	2.535,4

Source: USDA, 2009

Sheep slaughter is very centered with two states, Colorado and Iowa, accounting for over half the total. The average weight of slaughtered animals is higher in states which confine lambs prior to slaughter.

Table 6.VI – Sheep slaughter by state (thousand heads)

	2007		2008	
	Slaughter (thousand cab)	Average (live weight)	Slaughter (thousand cab)	Average (live weight)
Colorado	1.047,2	69,0	955,2	70,8
Iowa	394,7	67,6	354,2	67,2
Michigan	195,9	59,0	192,3	58,6
New Jersey	125,5	36,8	139,3	37,7

Other States	930,5	---	914,5	---
Total/Average	2.693,8	62,7	2.555,5	62,7

Source: USDA, 2009

Sheep average live weight is more than double of slaughtered goats in the U.S. The question of important part of being confined sheep before slaughter explains part of this issue, while genetic merit should be responsible for another.

More than one third of slaughtered goats are held in the state of New Jersey on the East Coast, close to sites of increased goat meat consumption.

Table 6.VII – Goat slaughter by state (thousand heads)

	2008	Average (live weight)
New Jersey	240,9	---
Delaware	52,8	---
Pennsylvania	41,9	---
Other States	335,1	---
Total	670,7	28,1

Source: USDA, 2009

Most of the meat already goes out of the frigorific with cuts demanded by retailers and packaged under vacuum. The preference is for cooled meat, and the frozen sections only for lesser valued cuts.

6.1.3 - Organizational and Institutional Aspects

A survey realized in 2007 showed that 73% of North Americans did not eat lamb meat and in the last 12 months and more than half did not eat meat simply because they do not think of lamb at the time of purchase.

Other studies show that retail supply is not constant, which leads consumers to fail finding the product they seek in the market. Likewise, products offered do not have consumption facilities of other meats, as smaller portions, cutting tempered and pre-cooked meals.

Consumption is centered in the West and East Coast and also between Jewish and Islamic ethnic groups. Otherwise, consumption occurs mainly at Easter, Christmas and other religious holidays. Consumer preference is centered in lambs, with older animals being used for sausage.

American Sheep Industry Association (ASI, the acronym in English) is a federation of associations of 44 states. It represents 69 000 producers, who finance the organization through a contribution on the herd of \$0.35 per head and \$8 per member annually. It aims to promote the profitability and prosperity of the U.S. sheep industry productive chain.

The primary ASI goals are to develop a productive vision of the future chain; public policy claim for protection, economic activity promotion and support, create local and international markets for wool through advertising, promotion and marketing, promoting and coordinating science and technology of production and promotion, promote cooperation among all industry segments including banking and government agencies. One of the interesting works that ASI performs is maintaining a fund for predators control by the National Wildlife Agency. Wild predators are the main cause of mortality in sheep herds in the U.S. while his protection has been implicated as a cause of decline in the country activity.

An important ASI member is the National Lamb Feeders Association – National Association of Confined Lambs (NFLA, the acronym in English), which represents over 400 containment that collectively means the vast lambs majority sent to slaughter under federal inspection.

The Agriculture Department (USDA, its acronym in English) in conjunction with ASI remade a few years ago, the carcasses classification system, reducing the importance of fat and increasing age and carcass conformation.

Although there is an entity called *Trilamb*, which gathers sheep producers in the U.S, Australia and New Zealand, there is a widespread feeling within North American SAG that lamb meat import from these countries contributes to reducing the U.S. herd.

In the late 1990s, in response to the request of sheep and goat raisers the implantation of a tariff rate quotas device was attempted. Australia reacted by turning to the World Trade Organization (WTO), which recognized the legitimacy of the Australian position and led the U.S. administration to abandon the system.

The Federal Government has provided various financial support forms for Sheep and Goat farming over the past 50 years, always linked to the support for wool production. There is a program of minimum prices for wool, whose main mechanism consists of sheep and goat raisers pay the difference between the minimum price and market price. In the new agricultural legislation of 2008 the program was retained for the period until 2012.

To help Sheep and beef Goat raisers, the U.S. government started implementing in 2000 a program called *Lamb Meat Adjustment Assistance Program* – Beef and Lamb Adjustment and Assistance Program and (LMAAP, the acronym in English). The program provided direct payments based on the number of sheep kept on the property. In 2004, LMAAP was replaced by the *Ewe Lamb Replacement and Retention Program* – Program Retention and Renewal of beef sheep (ELRRP, the acronym in English). The aim of this new mechanism was to compensate the revenue loss suffered by sheep and goat raisers who had to reduce the herd in previous years. The program provided a subsidy of \$18 per ewe maintained on property acquired or to strengthen the herd production. The law that created the ELRRP is still valid, but since 2005 the American Congress did not authorize the release of more funds for this purpose. Between 1995 and 2006, payments made under the LMAAP and ELRRP totaled \$84.9 million.

Under current legislation there are two other assistive devices that are worth mentioning: *The Livestock Indemnity Program* – Herd Indemnification Program (LIP- the acronym in English), guarantees compensation to the sheep and goat raiser suffering loss of income due to excessive mortality rate induced by climate, disease or fire; and the contracting of a specific insurance minimum price by which the USDA offers a guaranteed price of the slaughtered animal to sheep and goat raisers.

Recently, another public policy was introduced, called the *Lamb Promotion, Research and Information Order* – Promotion, Research and Lamb Information – which aims to organize the commercial promotion of sheep meat. Part of the marketing expenses of such programs is funded by its own members in the production chain and the other part is financed by the federal government.

The 2002 farm law established rules for labeling products to promote domestic production over imported products. Thus, American retailers have an obligation to label the beef and sheep meat cuts to identify domestic and imported meat, mentioning the country of origin.

There are numerous federal, state and local technical regulations in the U.S., both applicable to domestic production and imports. Such regulations include labeling, packaging, sanitation practices and good manufacturing, food additives, pesticides and dyes in foods, certification of pharmaceuticals, biological products, canned foods with low acidity as well as industry standards and inspection officers.

The United States has stringent health standards for products of animal origin, with different rules and regulations for fresh and processed meat. Including legislation against bioterrorism interferes in the process of importing and marketing in the U.S. market. The *Food and Drug Administration* –

Food and Drug Agency (FDA, the acronym in English) is the responsible body for the authorization of the internal trade of food.

The opening process of the U.S. market for animal originate products must be preceded by an examination and subsequent certification, held by the *Animal and Plant Health and Inspection Service* (APHIS, the acronym in English), linked to the USDA. The analysis process consists of six distinct stages, ranging from inspection of industrial plants in the country of meat origin until public hearings and approval by the U.S. national congress. The essential point is this: without the authorization of APHIS no possibility to export sheep and goats for the U.S.

If Brazil requested APHIS authorization now to export these products, no authorization would be granted because the U.S. does not recognize the regionalization rule practiced by the International Epizootics Organization (OIE). It prevents the fresh meat import of coming from any region in Brazil, even when the source region has the health status of FMS – free.

Another regulatory body is the *Food Safety and Inspection Service* (FSIS, the acronym in English), also linked to the USDA. Responsibility lies on FSIS to verify that the country intends to export meat inspection has health and veterinary equivalent system used in the U.S. It also suits FSIS to ensure that meat and meat products entering the domestic market are labeled as per the various laws that exist in the United States.

To fulfill its mission, FSIS also maintains a strict control device at American ports. The methodology is to evaluate by sampling the entire inspection system of the exporting country, not just the institutions individually. It means that any problem with the sample of lamb condemns the whole supplier country sanitary inspection system and not only the responsible company for the defective product.

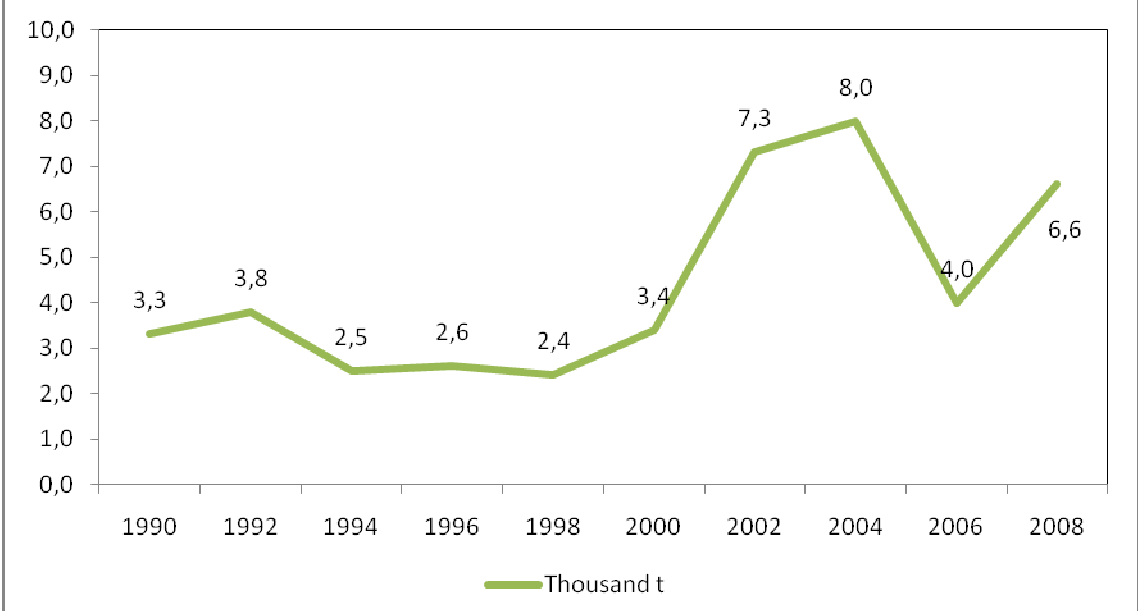
Meat labeling is governed by various U.S. laws. It is FSIS' responsibility for oversight regarding labeling of agricultural goods which are produced and/or marketed in the U.S.. FSIS determines that every label must identify the product containing manufacturer name and address or distributor and volume.

State governments have jurisdiction to establish its own rules regarding labeling, can be, in some cases, criteria relating to environmental standards stricter than the standards set by federal law.

6.1.4 – Exports

U.S. exports are showing a variable behavior over the years. Anyway, currently exports are twice more than they were 20 years ago and mainly serve the North America, Central and Caribbean markets.

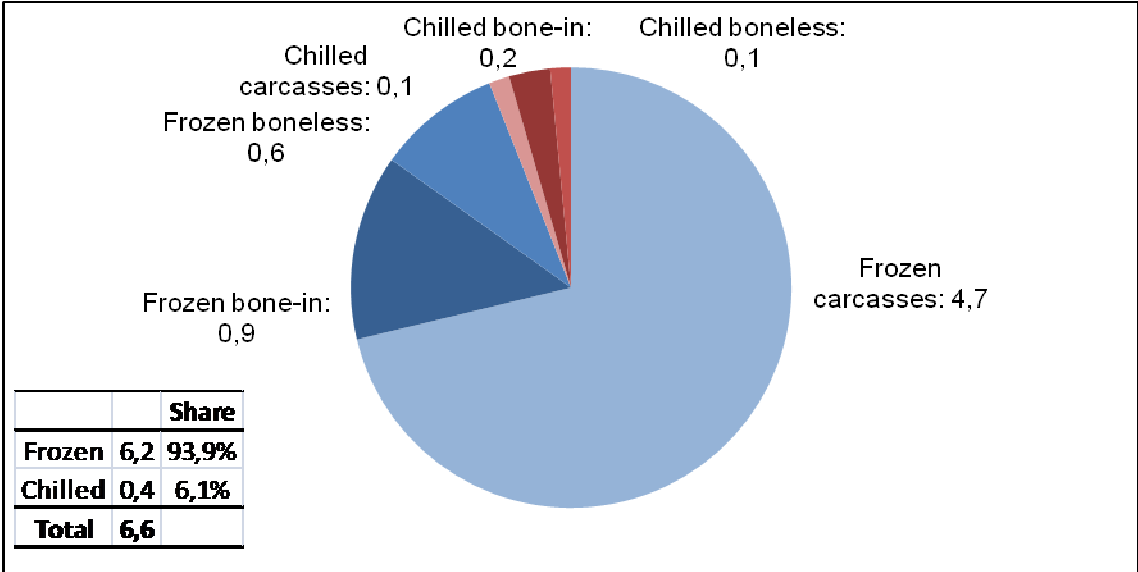
Graphic 6.IV – Sheep meat exports by USA (thousand t)



Source: Comtrade; USDA, 2009

Frozen meat in the form of carcass and cuts with bone and boneless, representing virtually all U.S. exports. The price reached frozen meat was U.S.\$3.299 per ton and chilled meat, U.S.\$6.207 per ton in 2008.

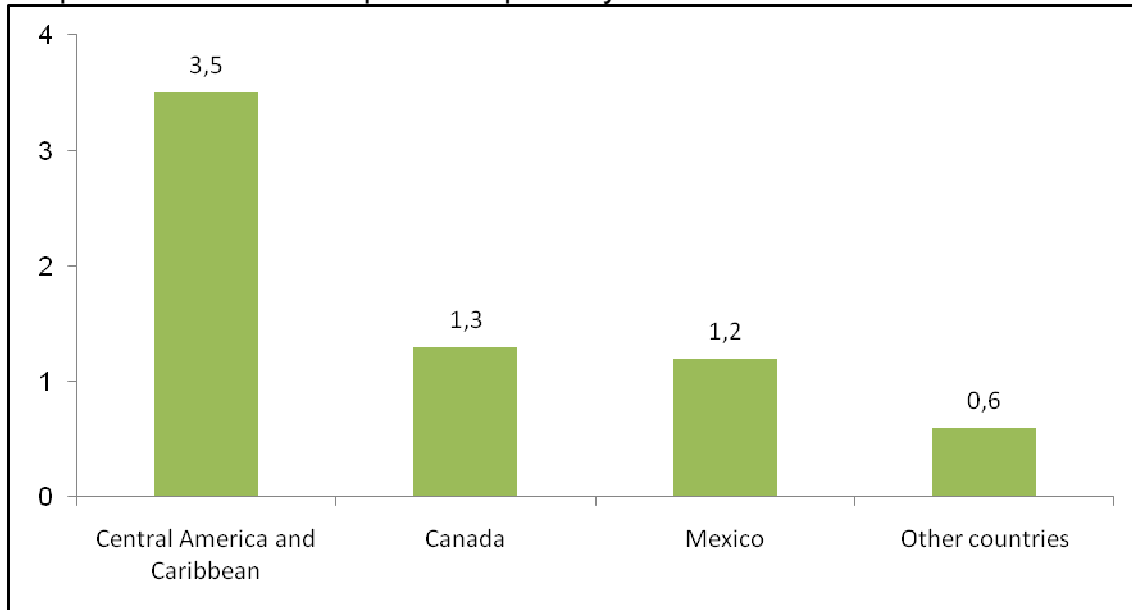
Graphic 6.V – Kind of sheep meat exports by USA (thousand t) - 2008



Source: Comtrade; USDA, 2009

Sheep meat destination exported by the U.S. is basically the neighboring countries of North America, Central and Caribbean.

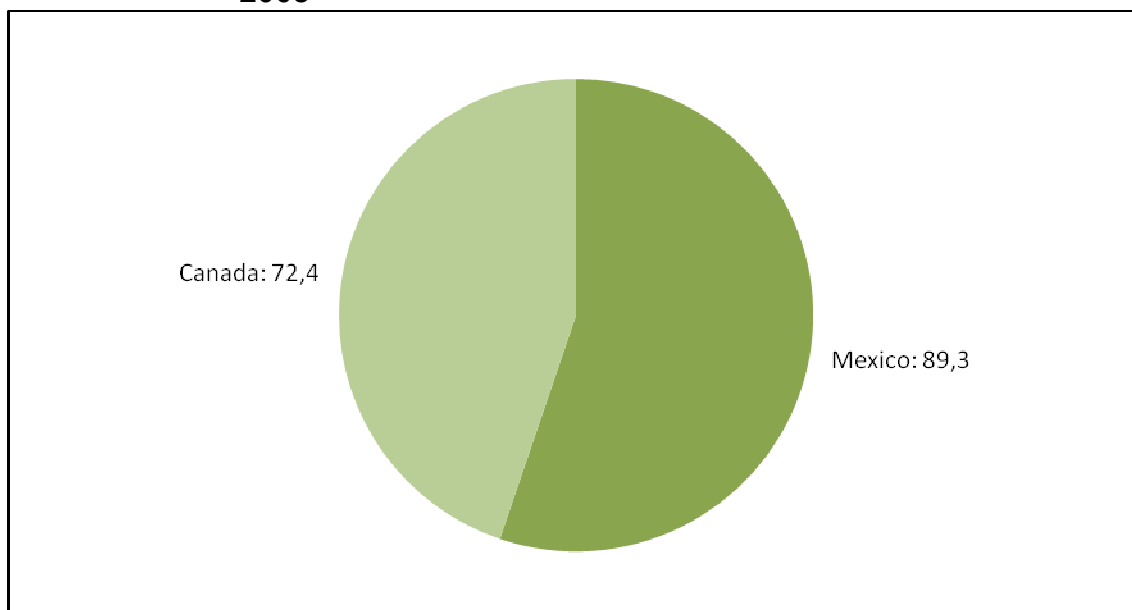
Graphic 6.VI – USA sheep meat exports by destination - 2008



Source: Comtrade; USDA, 2009

Exports of live animals are destined for Mexico and Canada. Usually older animals, disposal, that American consumers do not appreciate and which reached an average price of \$71 per head in 2008.

Graphic 6.VII – USA live sheep exports by destination (thousand heads) - 2008



Source: Comtrade; USDA, 2009

6.1.5 – Imports

U.S. imports have skyrocketed in the wake of the significant herd decline that occurred in the last 20 years. Currently, the country imports four times more than 20 years ago.

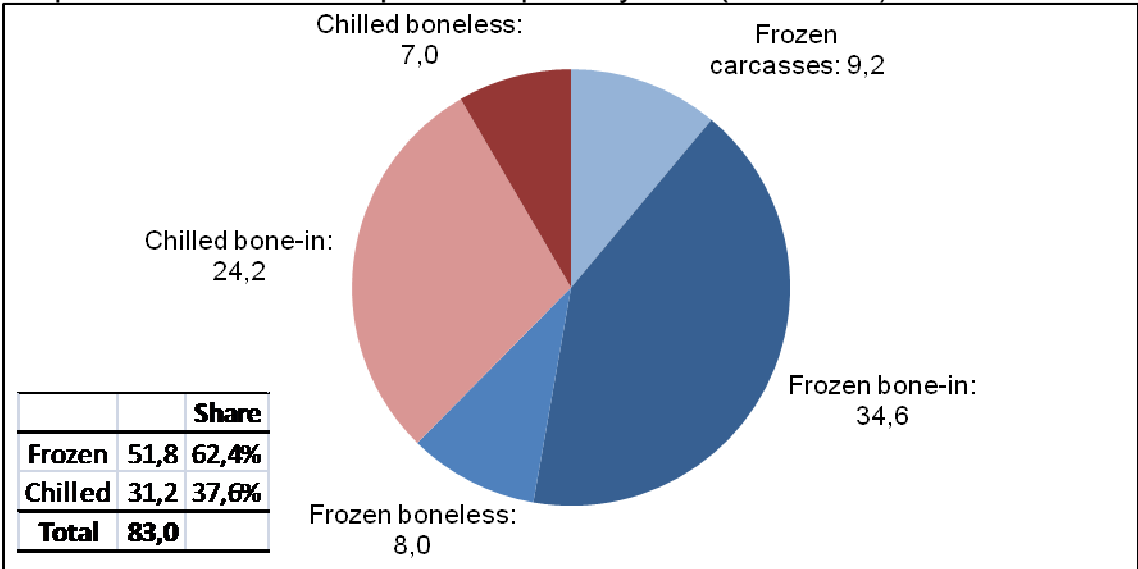
Graphic 6.I – Sheep meat imports by USA (thousand t)



Source: Comtrade; USDA, 2009

Chilled meat, the highest value, has a significant participation in U.S. imports, with nearly 40% of imported value.

Graphic 6.II – Kind of sheep meat imports by USA (thousand t) - 2008



Source: Comtrade; USDA, 2009

Australia and New Zealand are almost exclusive lamb meat supplier to the U.S. market, with over 60% being provided by Australians.

Graphic 6.III – USA sheep meat imports by origin (thousand t) - 2008



Source: Comtrade; USDA, 2009

In the frozen balance existent between the two suppliers, with an average price of U.S.\$4.069 per ton. However, regarding chilled meat, Australia predominates, supplying almost 80% of the imported volume. The average price that the U.S. pays for this type of meat is US\$8.171 per ton in 2008.

6.1.6 – Import Taxes

Tariffs on sheep and goat imports are fairly low, as the main means of protecting domestic market are complex non-tariff barriers already described.

Table 6.VIII - Aliquots applied to imports

	HTS	Aliquot ad valorem (%)	Aliquot specific (US\$/t)
Live sheep and goats			
Live sheep	010410	Zero	Zero
Live goat	010420	0,72	0,68/head
Sheep meat Fresh or chilled			
Lamb carcasses and half-carcasses	020410	0,15	70
Other sheep carcasses and half-carcasses	020421	0,78	28
Lamb cuts bone-in	02042220	0,09	70
Other sheep cuts bone-in	02042240	0,40	28

Lamb cuts boneless	02042320	0,12	70
Other sheep cuts boneless	02042340	0,37	28
Sheep meat Frozen			
Lamb carcasses and half-carcasses	020430	0,22	70
Other sheep carcasses and half-carcasses	020441	1,27	28
Lamb cuts bone-in	02044220	0,15	70
Other sheep cuts bone-in	02044240	0,52	28
Lamb cuts boneless	02044320	0,11	70
Other sheep cuts boneless	02044340	0,44	28
Goat meat Fresh, chilled or frozen			
Carcasses and cuts	0204050	Zero	Zero

Source: ITC; USDA; USITC, 2009

Many countries rely on exemption of import duties – Israel, Jordan, Canada, Mexico, the Andean Community, Caribbean and African countries and developing countries benefiting from the Generalized System of preferences (GSP). However, most cannot export meat because of sanitary barriers.

6.2 – China

China is the world's most populous country and also where the greatest sheep and goats herds are. Naturally, these features make the country the largest consumer of both meats.

The rapid growth of sheep and goats herd, which made China become a major exporter in recent years. At the same time, the country is a major sheep meat importer, mainly from Australia and New Zealand.

6.2.1 – Primary Sector

As it is customary in China, primary production is small scale. 74% of withdrawals come from owners who provide between 01 and 49 goats or sheep per year. These animals are sold to a middleman and are directed to markets with low added value.

Table 6.IX – Scale of sheep and goat production in China - 2002

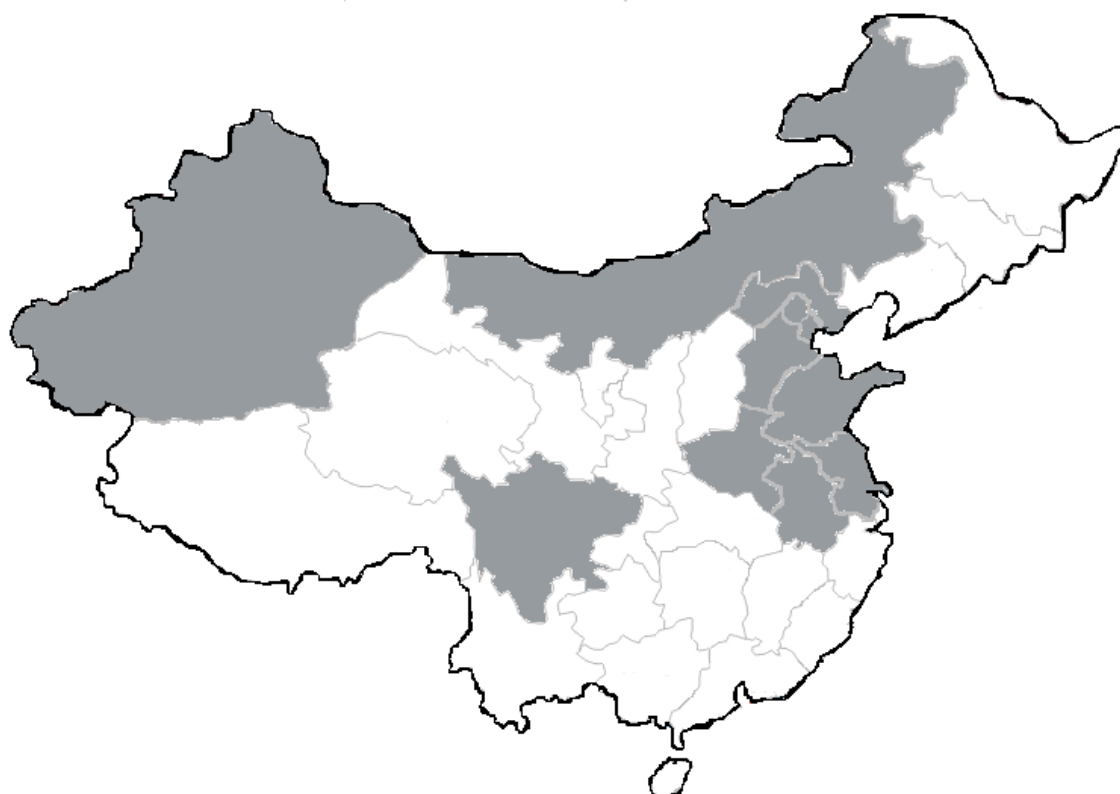
Annual sells	% herd holders
1 a 4 heads	33
5 a 49 heads	41
50 a 199 heads	19
200 a 499 heads	5
500 a 999 heads	2
More than 1.000 heads	1

Source: Waldron, 2007

Large producers tend to have greater technical capacity and aspire for the highest market value. Chinese consider the producers with annual sales of more than 200 as large producers, and there we include state farms and breeding seasons. More than half of these large producers are centered in the provinces of Inner Mongolia and Xinjiang.

Production is highly centered in some Northeast China provinces. Sheep are mainly centered in North and Northwest, called the pastoral region, and goats in the agricultural region called the central plains.

Figure 6.II – Concentration of sheep and goat flock in China



Source: Waldron, 2007

Table 6.X – Sells of sheep and goats by province (thousand heads) - 2002

	Annual sells (*)
--	-------------------------

Henan	19.245,0
Shandong	16.174,4
Jiangsu	9.684,4
Sichuan	9.561,7
Hebei	7.745,8
Anhui	5.589,7
Xinjiang	4.079,0
Inner Mongolia	3.907,4
Other Provinces	25.444,9
Total	101.432,2

Source: Waldron, 2007

(*) some animals are sells several times until to slaughter.

Sheep industry in China, the breeding sector is seen as the basis from where the rest of the chain is built. Planners and industry players tend to emphasize technical and physical attributes of the genetic basis. However, these attributes do not necessarily have a relationship with the demand of agents at lower levels, leading to conflicts in certain situations. There are 458 sheep reproduction stations in China, including 397 for broiler races and 61 races for fine wool. Traditionally Reproduction Stations deliver genetic material (sheep, semen and embryos) for producers in different ways – direct selling, especially for larger properties, rental sheep for service, and producers can bring the sheep to the station, to be crossed or inseminated.

Although they are private or privatized companies, reproduction stations are aligned with local governments and the Department of Animal Production. State farms remain under 4% of sheep and goat herd in the country and its importance is only being kept in jail for reproduction stations of fine sheep wool. Over 70% of sheep and goats are in state farms in Xinjiang province in the Western of the country.

China has reported 50 races, of which 31 are native. There are also 17 races in development registered, crossbred Merino, Charolais, Corriedale, Lincoln, Romney, Suffolk, Dorset and Texel. The import of pure animals generally comes from Australia or New Zealand.

The largest Chinese crossing program encourages the use of Short Tail Han race. It is estimated that 11 million sheep were crossed with this breed in recent years. The big attractive is its reproductive potential and rapid growth. The spread of this race has contributed to high rates of herd growth and encouraged Chinese policymakers to design chain ambitious goals.

Some reproduction stations develop integrated relationship with producers. The reproduction station repasses sires, which are paid with young female reproduction. These females are passed on to other producers. Lambs are retained for fattening and selling by producers. As Short Tail Han

has high productivity, the producer can also retain some females to increase his herd. Thus, the overall herd increases and also increases the demand for breeding station.

To maintain the competitiveness of some traditional breeds and disseminated, but of slow growth and high fat in the carcass, the identification of the product source has been stimulated. It applies to the Mongolian, a breed of wide tail and adapted to arid regions, which is treated as a differentiated product in large cities markets.

There are increasing cases of slaughter that relate to the producers in an integrated fashion, dictating the feed, breed and management creation. Producers receive slightly higher prices than spot market, especially for animals under 1 year old.

The main organizational forms that are used to circumvent the small production scale are:

- Small Creation Areas: It includes between 5 and 15 specialized family farms, which uses the same genetics supplier and organizes joint purchases and sales and technical policy;
- Specialized Towns: is a set of Small Creation Areas that dominate and entire micro-region;
- Farmers' Associations;
- Vertical integration with slaughterhouses, still in early development.

For Small Areas and Specialized Towns Creation, this arrangement facilitates the trading, because processing industry starts to meet the herd homogeneity in each specific region. At the same time, several formal contracts or informal arrangements link farmers to larger companies.

Government encourages this kind of organization, especially through the Animal Production Department, with the extension service in feeding, breeding and management. Especially the vertical integration is seen as the way of the chain to expand and develop.

6.2.2 – Industry

Only part of sheep and goats is consumed in the properties, vast majority is sold, in contrast to what occurs with cattle, swine and poultry. Sheep and goat meat consumption is centered in cities, with little involvement on the rural environment diet.

There are 3 main categories of industries dedicated to slaughter – frigorifics; regional slaughterhouses, abattoirs and relatives. A feature of the Chinese frigorific industry is being based on old plants and using rudimentary technology. Frigorifics are not specialized, being always

associated to the slaughter cattle. There are over 1000 stores that slaughter sheep and goats, 25% of which are state enterprises. The average weight of carcasses slaughtered in China was 15.5kg to 12.6kg for sheep and goats in 2004.

The official list of preferred food companies to be developed by the central government listed 40 companies linked to the meat. Of these, four are linked to the lamb – Jilin Haoyue, Inner Mongolia Nailun, Inner Mongolia Caoyuan Xingfa and Henan Shuanghui.

These companies are recognized as National Head of Dragon and receive special funding, tax exemption and other support measures. At the same time, in every province there are also smaller companies that receive special assistance from local governments.

Inner Mongolia Caoyuan Xingfa is the largest sheep slaughter in the country. There are 40 frigorifics in Northern China, 20 in Inner Mongolia province. Together, they can slaughter six million head per year, however slaughtering 3 million, being only 150 000 goats.

This company also owns frigorifics that slaughter poultry, cattle and yaks. Additionally, it has over 2500 franchised restaurants and a thousand exclusive sales points in supermarkets. At the same time, it also operates in meat and skins import and export.

Around Beijing there are four large companies that slaughter sheep. The declared capacity of slaughtering is doubted by the market, which believes that companies exaggerate the numbers to increase its importance in government's eyes. They are Beijing Kangda Muslim Food (slaughter of 300 000 head per year); Beijing Fumin Muslim Food (200 000 head); Beijing Xiangyun Food (250.000 heads), and Beijing Zhuochen Livestock (200 000 heads).

Regional slaughterhouses meet sanitary standards and are subject to supervision and fees payment. It is a way of slaughtering that has been enhanced with the decrease of family slaughterhouses. These outlets allow each family to do their own slaughtering, but normally after payment, but generally engaged in carcasses sale and market supply with low added value.

Small abattoirs have historical significance in China and were privatized after economic liberalization. It's still very common the specialization of entire villages in sheep and goats slaughter and marketing.

Due to health issues, family slaughter is being discouraged. In big cities and in the pastoral region of Xinjiang, this policy is being well implemented, but in most of the country it advances slowly.

Among other reasons, issues related to higher slaughtering cost inspected for slaughtering families are presented.

6.2.3 - Organizational and Institutional Aspects

Small retail accounts for most of sheep and goats scale in China, especially the one of low value. In recent years, sales at supermarkets and restaurants have been experiencing rapid growth, but the starting point was a low base and therefore is not the main forms of sheep and goat meat.

In the wholesale sector, large public markets are 300 public market distributors in China, where traders refuel hotels and restaurants. Over half of sheep and goat meat that come in big cities passes through these wholesaler points.

The most common form of consuming sheep and goats in major cities are the restaurants, with several traditional dishes from the Mongol and Muslim tradition. Ratio of sheep with Muslim minority makes the majority of sheep products be processed in accordance with Halal practices.

There is a large number of public policies in China that only serve to government advertising and fail to benefit the chain effectively, either by lack of personnel to implement it or effective lack of resources.

Anyway, the tradition of central control makes some institutions have the capacity to direct and influence the development of productive chains. For example, the Ministry of Agriculture has the power to guide agriculture production, input usage, the occupation of areas in the industrial processing, marketing and development of productive chains.

The main Ministry of Agriculture body which has an influence on livestock is the Department of Animal Production. Government emphasis is directed toward increasing production, rather than administrative matters, economic and environmental supply chain.

Producer associations have multiplied in recent years, but they are not as strong and attractive as in other countries with less centered economy. The two main entities are Chinese Animal Agriculture Association (CAAA, the acronym in English), which is a national producers association; and the Association of Sheep Production in China, with 200 members, including confiners, Reproduction Stations and industries.

Most of the production associations' chain has a history attached to government departments or agencies, such as the Chinese Meat Association, which brings together around 500 companies and represents the chain with government, besides providing market information and participation in fairs and exhibitions.

Despite an ambitious program to provide market information, the Chinese system is not objective and does not use statistical standards accepted worldwide, and this makes the published data have limited use in the production chain.

Generally, the gathering of information is only made for sheep and goat meat. Basically, what is available is the movement of prices over time and in different provinces, without more details, especially regarding slaughter and trading.

A program of agro climatic zoning identified four priority areas for sheep and goats – Central Plains, the Midwest (including Inner Mongolia and Hebei); Northwest (including Xinjiang and Gansu) and the Southwest. The sheep and goats belt of central plains is the area chosen as the main development of the productive chain.

On municipalities benefited from agro climatic zoning, state resources are used to fund the sheep creation by small producers considered poor farmers. Companies specialized in produce females sell with these funds for beginner sheep producers. Payments are made in cash, or even lamb to slaughter and females to other breeders. Therefore, this initiative is also part of the poverty alleviation programs in China.

Yet, like others, this program promises benefits, but for real there are few resources available. With that, who makes the investment is partially provincial governments, which limits the speed of actions' implementation.

An important program that was implemented in 1992 is called Advantage Program of Straw Tilling. It promotes **amoniação** of the remaining harvest, increasing food availability for ruminants and decreasing the demand for grain. It reaches 13 states and 380 municipalities and it is scheduled to last until 2010.

Chinese Environmental institutions are known for their low capacity to influence on the formulation of economic policies. Major environmental initiative is called the Program for Protection of Native Fields and Herd Reduction (**PPFNDR**). In contrast to other programs, PPFNDR wants to decrease the pressure on pastures, through better use and fences construction, in addition to reducing the herd of sheep and goats. So far PPFNDR caused little impact, centered in some specific

municipalities, due to the autonomy of local governments and the fact the decline of the herd also decreases the farmers' income.

However, PPFNDR has the potential to change the way Goat and Sheep farming is given in pastoral regions. Intensive feeding practices increase should also increase the degree of market coordination as well. One of the indirect benefits is the stimulus for farmers to sell animals at earlier ages as means of reducing stocking rate and reduce feed costs.

The Ministry of Agriculture maintains Safe Food and Organic Food initiatives. But the Ministry of Health coordinates the program Healthy Food. Actually, there are widespread difficulties to enforce hygiene standards for slaughtering animals on a small scale. Although there are many rules, there is no control or coordination needed to be accomplished. For example, it is common water injection in the meat, to increase the weight and make it seem cooler.

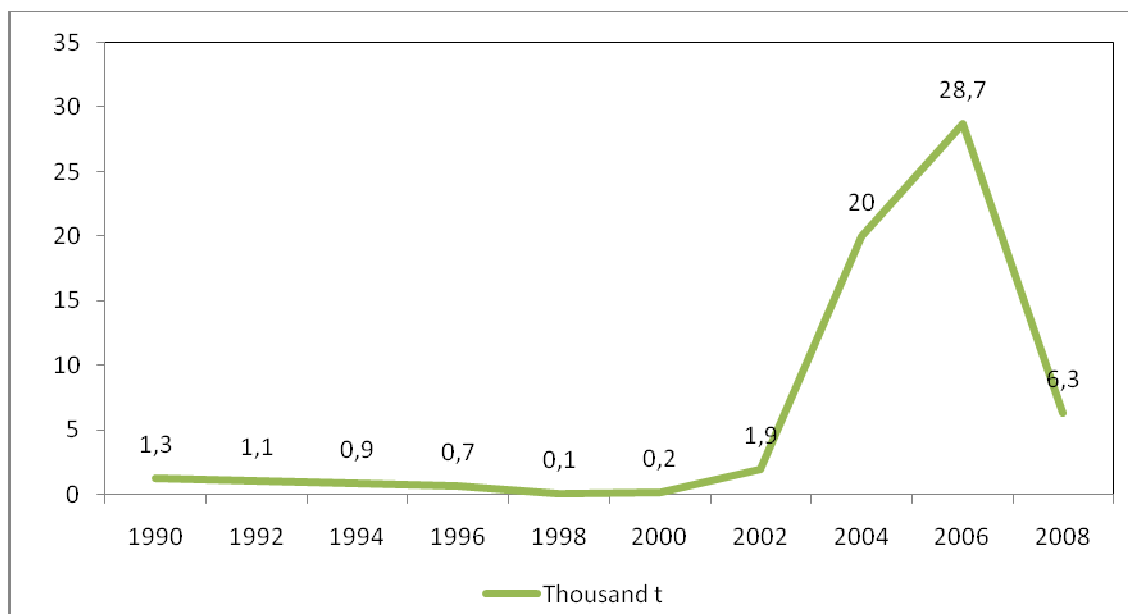
It leads to the existence of low consumer confidence by the Chinese in relation to the implementation of official hygiene and sanitation standards. Thus, some large companies have self-imposed health standards and founded the *Green Food Standards* (GFD, the acronym in English). Twenty-two companies are selling or slaughtering sheep and look for an association between the GFD and sheep on consumer's mind. With it, consumers' confidence has been increasing and getting higher urban incomes in these brands and companies.

There are no official quality standards of meat-related products in China. Mainly because meat is sold in low added value forms, and consumers have no exact notion of meat quality. Thus, classification forms are informal and market-related higher value, usually imposed by companies or associations. The main types are the kind of cut and the animal age. In some markets, no difference is made between goat and sheep, though it has been disappearing. Some companies have been campaigning for the consumer to notice the difference between adult sheep and lambs. But preferences vary from region to region, with Western China preferring older animals.

6.2.4 – Exports

Chinese trade import policy substitution also reaches the lamb with complementary mission of promoting the export of this type of product. China is a relatively new participant in the team of major mutton exporters and maintains an erratic behavior in its presence in international markets.

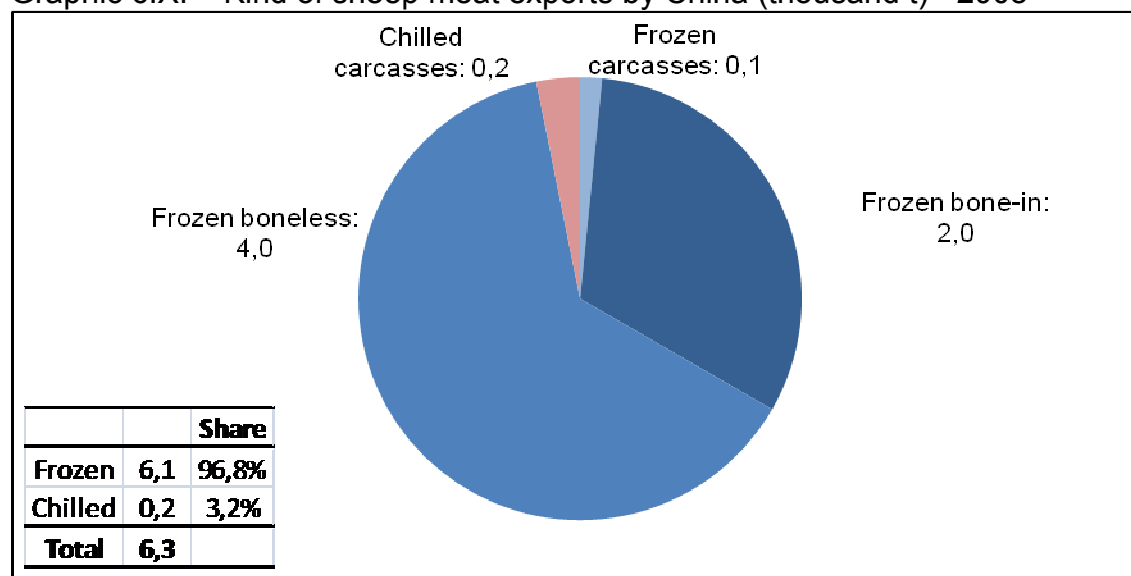
Graphic 6.X – Sheep meat exports by China (thousand t)



Source: Comtrade, 2009

Sheep meat exports are basically frozen, with almost two thirds being of boneless meat. The average price reached U.S.\$ 3.878 per ton in 2008.

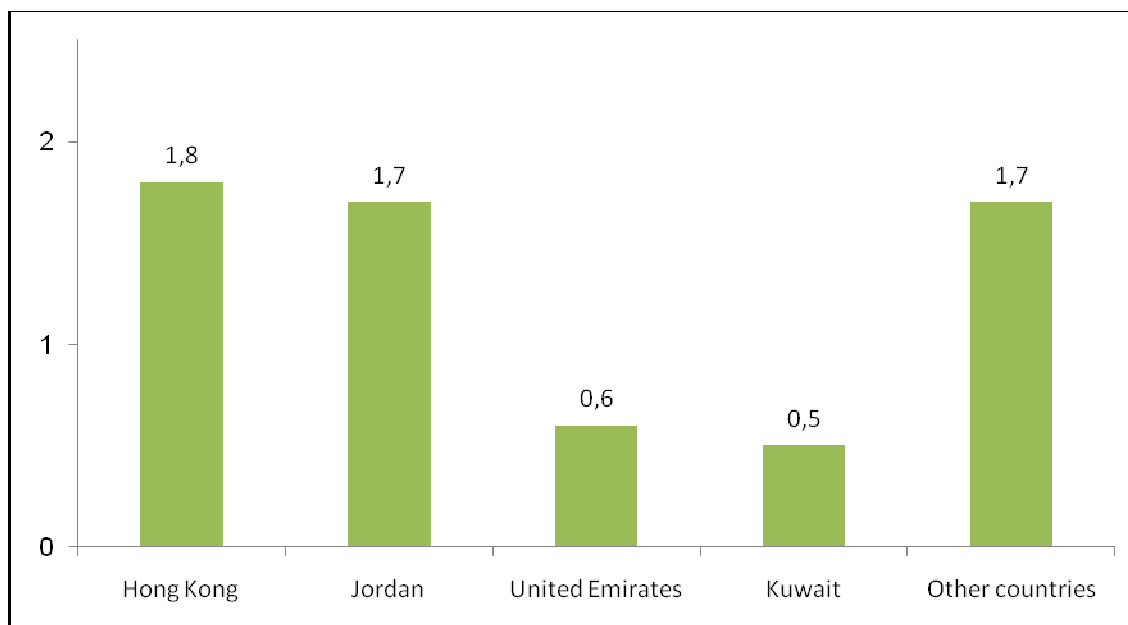
Graphic 6.XI – Kind of sheep meat exports by China (thousand t) - 2008



Source: Comtrade, 2009

The nearby Hong Kong and the Middle East countries are the main destinations of Chinese sheep meat.

Graphic 6.XII – China sheep meat exports by destination (thousand t) - 2008

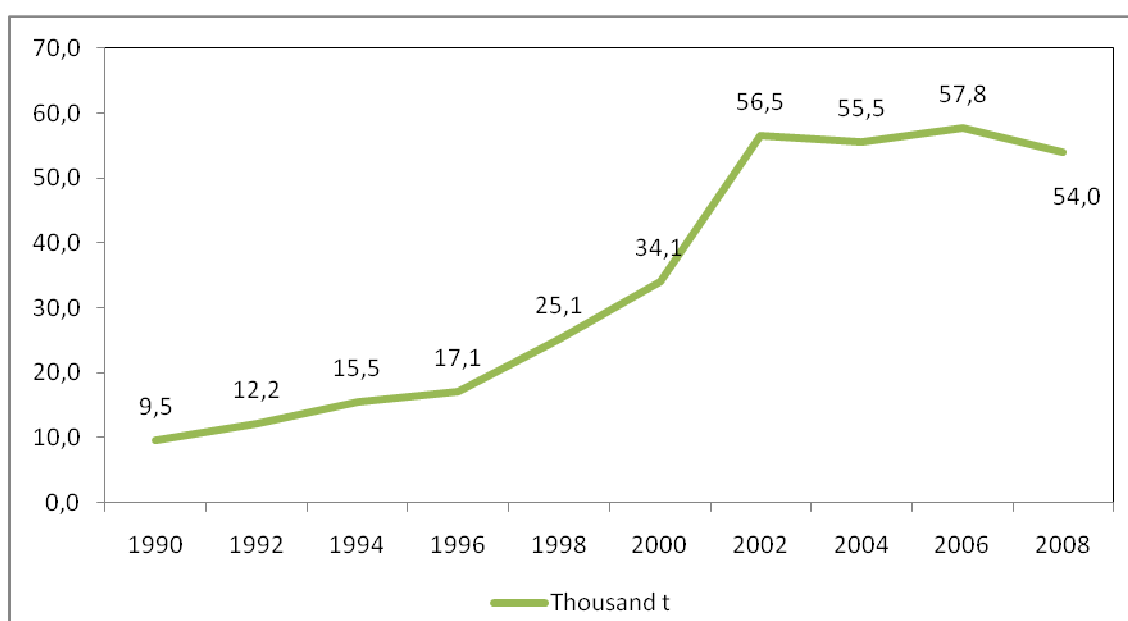


Source: Comtrade, 2009

6.2.5 – Imports

Imports increased by five times since 1990, reflecting the revenue growth achieved by China's population in recent years. Chinese imports consisted mainly of frozen meat on the bone (98%), paying an average price of US\$1.931 per ton in 2008.

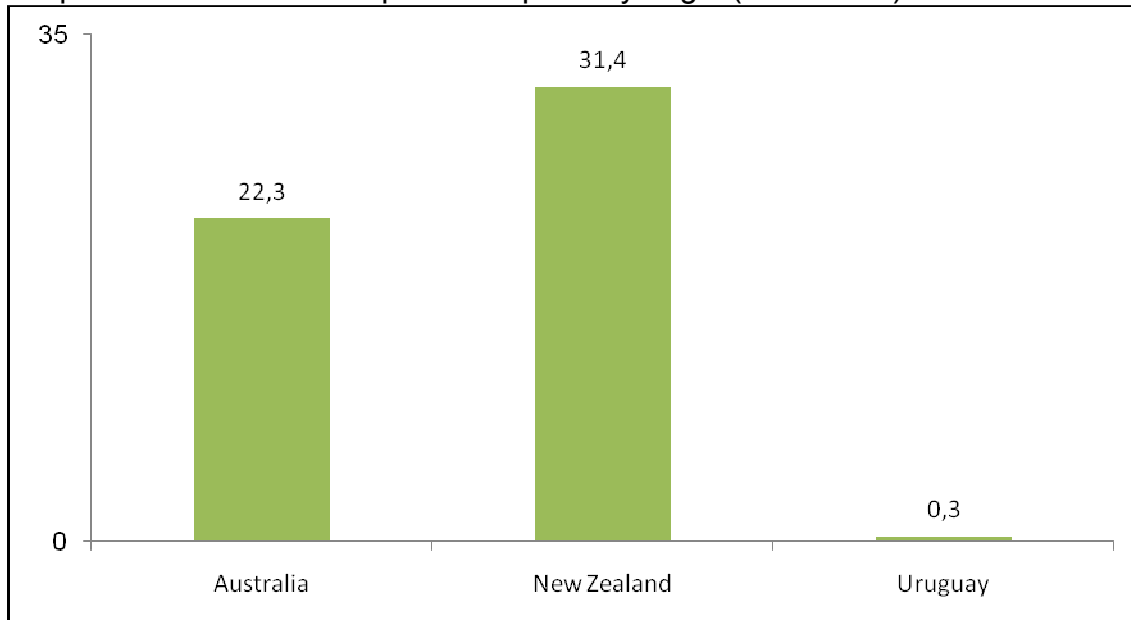
Graphic 6.VIII – Sheep meat imports by China (thousand t)



Source: Comtrade, 2009

Australia pays a zero rate for mutton exports, according to a bilateral trade with China. Even so, Zealand is the largest exporter to the Chinese market. Both countries represent almost all of Chinese imports.

Graphic 6.IX – China sheep meat imports by origin (thousand t)



Source: Comtrade, 2009

6.2.6 – Import taxes

Import taxes are relatively high, making no distinction between frozen and chilled. However, the price Chinese market is willing to pay for lamb naturally limits the chilled meat export, which tends to have higher value.

Table 6.XI - Aliquots applied to imports

	HTS	Aliquot ad valorem (%)
Live sheep and goats		
Live sheep and goats with pedigree	01041010 01042010	Zero
Live sheep and goats, others	01041090 01042090	10
Sheep meat Fresh or chilled		
Lamb carcasses and half-carcasses	020410	15
Other sheep carcasses and half-carcasses	020421	23
Lamb cuts bone-in or boneless	020422	15

	020423	
Sheep meat		
Frozen		
Lamb carcasses and half-carcasses	020430	15
Other sheep carcasses and half-carcasses	020441	23
Cuts bone-in	020442	12
Cuts boneless	020443	15
Goat meat		
Fresh, chilled or frozen	020450	20

Source: ITC; USITC, 2009

7 - Profile of Importing Countries

The European Union is far, the main lamb importer on the planet. The other major importers do not have much relevance in terms of volume.

However, opportunities related to sheep and goat products trade to Brazil are described in productive chain and the import profile from Saudi Arabia, South Africa, UAE and Mexico, completing the list of world's largest importer of sheep meat.

7.1 – European Union

Due to the European imports size, the local market has great importance in delineating strategies for prices and production and trade of exporters. Any changes in the consumption dynamics in agricultural policy or health policy in the block have marked effects that impact prices obtained by producers in exporting countries and influence trends in international market for lamb meat.

7.1.1 – Primary Sector

Actual sheep effective in the European Union decreased continuously in recent years. The largest herds are in the UK and Spain, which together hold almost half the sheep population. The European goat herd is only 15% the size of the herd and it is highly centered in Greece and Spain.

Table 7.I – Sheep livestock in EU-27 (million heads)

	2004	2005	2006	2007	2008
United Kingdom	24,5	23,7	23,4	23,7	22,0
Spain	22,7	22,5	22,5	22,2	20,0
Greece	9,2	8,7	9,0	9,0	9,0
Rumania	7,4	7,6	7,7	8,5	8,9
Italy	8,1	8,0	8,2	8,2	8,2
France	8,9	8,8	8,5	8,3	7,8
Other countries	17,4	16,9	16,4	15,8	14,4
Total	98,2	96,2	95,7	95,7	90,3

Source: Eurostat, 2009

Table 7.II – Goat livestock in EU-27 (million heads)

	2004	2005	2006	2007	2008
Greece	5,2	4,9	4,9	4,9	5,0
Spain	2,8	2,8	3,0	2,9	3,0
France	1,2	1,3	1,3	1,3	1,3

Other countries	4,3	4,0	4,0	4,1	3,9
Total	13,4	13,0	13,2	13,2	13,2

Source: Eurostat, 2009

The sheep broiler herd decrease of the main producing countries of European Union is primarily linked to:

- Until the reform of Common Agricultural Policy (CAP) implemented in 2005, sheep and goat raisers block received an allowance per animal. Reform has determined that producers should receive a single payment with no relation to the number of animals;
- FMD outbreak that hit the UK and some other European countries in 2001 resulted in a reduction of almost 10% effective in sheep. Furthermore, outbreaks occurrence of bluetongue in the Iberian Peninsula from 2004 on, and more recently in Northern Europe, with new outbreaks of FMD in 2007.

Figure 7.1 – Concentration of sheep flock in European Union



Source: Eurostat, 2009

7.1.2 – Industry

Official projections indicate a declining trend of European lamb production in the coming years, further stabilize goat meat production. As consumption should decrease less than production, it is anticipated that EU will depend increasingly on imports to meet its domestic market.

Table 7.III – Sheep and goat slaughters (million heads)

	United Kingdom	Spain	Greece	Italy	France	Rumania	Other countries	Total EU-27
Lamb								
2006	14,1	18,0	6,1	5,4	5,7	3,2	6,6	59,1
2007	13,6	16,2	5,9	5,3	5,6	2,9	6,3	55,8
2008	14,4	13,0	5,9	5,0	5,2	3,3	6,4	53,2
Mutton								
2006	2,3	0,7	0,9	1,2	0,8	3,0	3,5	12,4
2007	2,2	0,9	0,9	1,2	0,7	3,1	3,5	12,5
2008	2,3	0,8	0,9	1,2	0,8	2,3	3,1	11,4
Goat								
2006	0	1,5	4,0	0,3	0,9	0,4	1,1	8,2
2007	0	1,4	3,9	0,3	0,9	0,6	0,7	7,8
2008	0	1,2	3,8	0,3	0,9	0,7	1,1	8,0
2008 Total	16,7	15,0	10,6	6,5	6,9	6,3	10,6	72,6

Source: Eblex; Eurostat; Institut de L'Elevage, 2009

Table 7.IV - Sheep and goat slaughters (thousand t)

	United Kingdom	Spain	France	Greece	Italy	Rumania	Other Countries	UE 27
Lamb								
2006	266	200	101	58	42	29	108	804
2007	264	179	99	57	38	26	102	765
2008	268	141	91	56	59	29	99	743
Mutton								
2006	64	14	21	17	17	32	68	233
2007	61	17	19	17	21	41	69	245
2008	57	16	20	17	20	30	46	206
Goat								
2006	0	12	8	39	3	4	12	78
2007	0	10	8	38	2	6	15	79
2008	0	9	8	38	2	7	14	78
2008 Total	325	166	119	111	81	66	159	1.027

Source: Eblex; Eurostat; Institut de L'Elevage, 2009

7.1.3 - Organizational and Institutional Aspects

Lamb is increasingly seen by Europeans as a meat for festive occasions, which has its peaks coinciding with the main religious Christian or Muslim festivals.

Grants are received by sheep and goat raisers through two mechanisms. The first is connected to the system on the market. Until recent days, production included direct payments, additional payments and a device to support private store. The second mechanism, indirect, is a result of tariff barriers, which has the effect to higher domestic prices formation than international market prices.

In 2005, EU began implementing a thorough CAP reform. EU farmers now receive a fixed annual support, equivalent to the weighted average of the subsidies amount they had received in the years 2000 to 2002. In the case of broiled sheep industry, most Member States have opted for a transitional regime, with shutdown of only 50%. Thus, to receive the same amount they received before, producers had to continue producing. Otherwise, they received only half the support.

Table 7.V – Impact of European subsidies over the sheep held profits in United Kingdom

	Hills	Uplands	Lowlands
Sample (properties)	242	82	38
Sheep flock average	849	547	411
Farm products	pound/sheep	pound/sheep	pound/sheep
Lamb sells	32,28	53,09	58,10
Other sheep sells	8,65	7,49	6,35
Wool	1,16	1,33	1,51
Subsidies	23,55	20,51	14,68
Buy of animals	- 4,77	- 7,97	- 8,98
Total	60,87	74,45	71,66
Operating Cost	pound/sheep	pound/sheep	pound/sheep
Concentrate diet	7,90	9,17	7,56
Replacement animals	2,37	0,87	0,45
Veterinary services and medicines	2,72	3,04	2,83
Other livestock costs	3,25	3,95	5,06
Forage production	7,42	9,89	7,35
Total	23,66	26,92	23,25
Gross Margin	37,21	47,53	48,41
Gross Margin without subsidies	13,66	27,02	33,73

Source: Defra, 2008

Trade restrictions applied by the EU are not limited to tariff barriers. To be able to export to the block, countries should receive veterinarian inspection of the European Union Office. These missions are intended to verify if the exporting country and their frigorifics follow standards and procedures for health security equivalent to EU standards.

To authorize the imports, the European Commission takes into account the health status of the exporting country, especially related to foot and mouth disease and bovine spongiform encephalopathy. The EU can recognize as part of a country free of disease. It also requires the

plan of control of biological waste implementation, such as hormones, drugs and contaminants in animal products. In recent years, it began to impose standards that relate to animal welfare, demand increasingly important to consumers in the continent.

Regarding the production chain organization and the various slaughtering stages, processing and marketing, each Member State of the European Union has specific characteristics. For this reason, we chose to present in depth the situation of two countries that are major markets in the EU-27 for lamb meat.

The **UK** has a key role in the dynamics of lamb price formation in the EU, since they account for almost half of extra-EU imports. At the same time, the UK is the leading exporter in intra commerce.

It has more than 79.000 specialized farms, which are located mainly in Wales and Scotland. Broiling sheep industry has been constituted, historically, an essential component of agricultural production in the country.

Animals sold for slaughter are sold by sheep and goat raisers cooperatives via specialized wholesalers or through auctions. The auctions are a major marketing channel in the UK sheep production case. In 2006, 45% of lambs and adult sheep traded were traded through 137 auctions that existed in the country.

In 2006, Britain had 287 frigorifics specialized in sheep slaughtering, 227 of these companies considered medium or low capacity. Plants of medium or small capacity are operated by regional companies. Slaughtering is centered on the 10 largest plants in the country accounting for more than 45% of sheep slaughtering.

Lamb distribution is done mainly by large domestic and foreign companies operating in the UK market, which in 2008 accounted for more than 2/3 of sheep meat sales at retail.

In all production regions of the UK, various links of the supply chain are grouped into associations to promoted races, unions or regional sheep and goat races club. The Agriculture and Horticulture Development Board (AHDB, the acronym in English), has encouraged the various agencies to create chains of mixed economy that operate on the basis of public resources and contributions from its own members.

In England, meat supply chain professionals are gathered in the Beef and Lamb in England (EBLEX, the acronym in English). EBLEX goal is to increase the British meat chain

competitiveness and promote their products. Its strategy looks forward to increase the production chain profitability and stimulate growth of demand. The three main action lines are: increase the economic income of farmers, to adopt a comprehensive approach to supply chain and develop marketing initiatives for the English production.

In Wales, functions similar to EBLEX are met by the Meat Promotion Wales (MPW, the acronym in English). In Scotland, this work is carried out by Quality Meat Scotland (QMS, the acronym in English). Both entities have developed programs for good agricultural practices, with development of quality labels. In the certification area, it should also mention the activities of the entity Assured British Meat (ABM, the acronym in English) to promote the quality certification devices adoption, along with ranchers and sheep and goat raisers in the country.

The *National Sheep Association* (NSA, the acronym in English) is a British organization that represents and defends the interests broiling sheep and goat raisers. On behalf of its members, it negotiates with government authorities, with farmers unions, the EBLEX and EU institutions.

France produces less than half of its domestic lamb consumption in more than 64.000 properties specialized in sheep, of which 5.000 with sheep milk. Usually, properties are small, with average herd of 71 sheep, mainly located in the South. There is a large number of sheep and goat raisers' associations, whose sole purpose is selling live animals to the local slaughterhouses.

Firms conducting sheep slaughter are usually small, and often they are not used to process production beyond providing traditional cuts. Currently, sheep slaughter is carried out in 218 slaughterhouses, of which 122 are controlled by municipal administrations.

Butcheries sell, in most cases, to wholesales companies specializes regional or via sheep and goat cooperatives. Regarding retail, 55% of the meat is sold by supermarkets and 30% is sold in bars and restaurants. There are also alternative channels already established, such as trade fairs and direct sales to consumers who benefit from the support of industry organizations. These channels are used mainly by sheep and goat groups operating in regions where production is protected by seals of origin and quality.

In France, besides several regional associations to promote races and sheep industry unions, members of the chain had significant involvement in the creation of the *Association Nationale Interprofessionale du Bétail et des Viandes – Ovins* – Interprofessional National Association of Cattle and Beef – Sheep (*Interbev-ovins*, its acronym in French). This private association aims

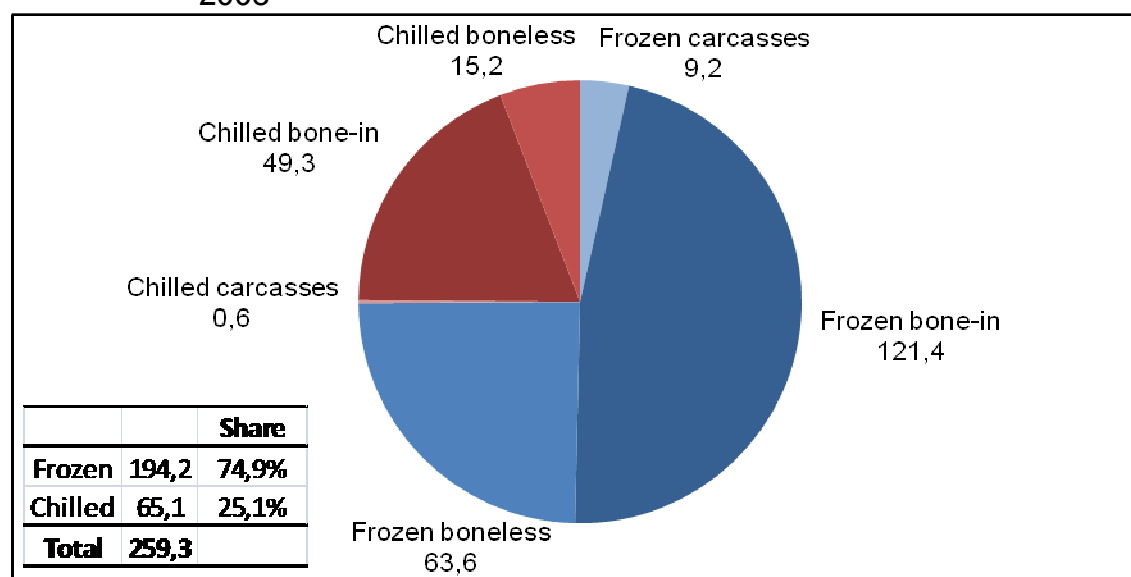
to encourage business partnerships between the various links in the chain, promote sheep and build research programs based on industry demands. The chain of sheep industry also receives support from the *Institut de l'élevage* – Institute of Livestock (*II*, its acronym in French). The *II* is a private subsidized by the government. Provides service to all links in the supply chains linked to red meat, to improve livestock competitiveness.

7.1.4 – Imports

The extra-EU lamb meat imports are dominated by frozen sections, especially ham bone and some cuts, and the average price was US\$5.050 per ton in 2008. Chilled meat to US\$7.305 per ton in 2008.

Regarding the intra-community commerce, biggest sellers are the UK, Ireland, Belgium, Spain and Holland. It should be noted that Belgium and Holland appear in this list because they were ports of delivery due to its importance in the continent logistics. The extra-EU sheep meat exports represent an almost expressionless volume.

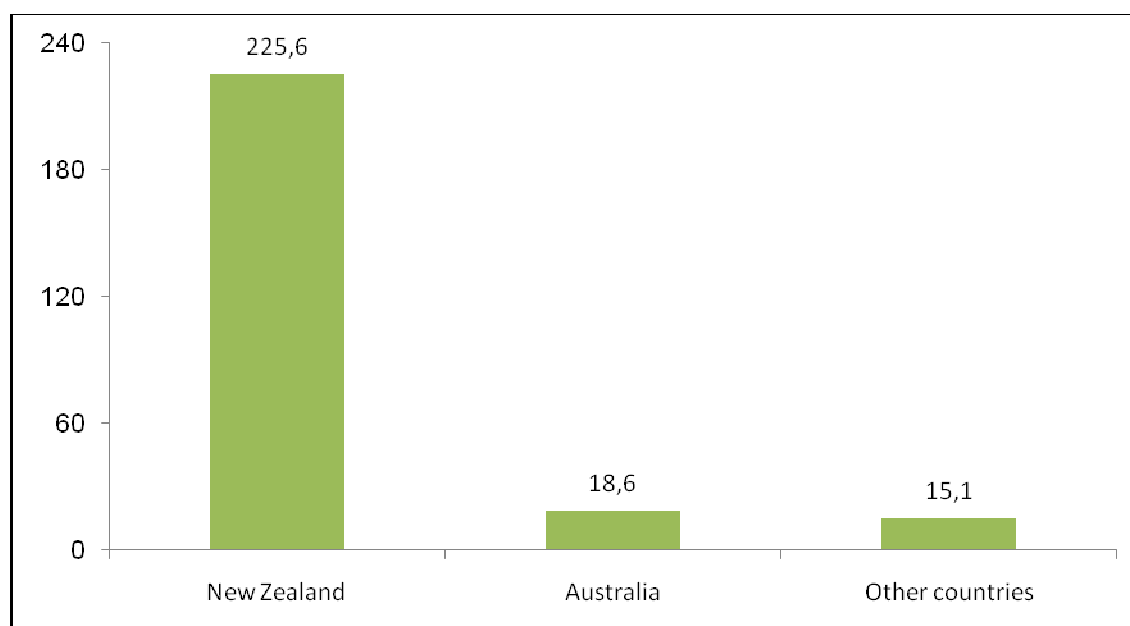
Graphic 7.I – Kind of sheep meat imports by European Union (thousand t)
- 2008



Source: Comtrade; Eurostat, 2009

The extra-EU lamb meat frozen sections imports are dominated by mainly ham bone and some cuts, and the average price was US\$5.050 per ton in 2008. Chilled meat reached US\$7.305 per ton in 2008.

Graphic 7.II – EU-27 sheep meat imports by origin (thousand t) - 2008



Source: Comtrade; Eurostat, 2009

From 35-40% of the meat exports from New Zealand to the European Union is destined for the British market, where it occupies consolidates space. Alone, the UK would be considered the main New Zealand importer, including lamb carcasses, loin, cutting back and viscera. One third of the lamb consumed in the UK comes from New Zealand.

7.1.5 – Import Taxes

Sheep and goats imports in the EU are carried out almost exclusively by the use of tariff rate quotas, which are not subject to rates' payments.

Table 7.VI – Sheep and goat meat trade quotas (thousand t)

	2005		2006		2007		2008	
	Available	Used (%)	Available	Used (%)	Available	Used (%)	Available	Used (%)
New Zealand	226,7	97	227,8	98	227,9	98	227,9	99
Australia	18,7	99	18,8	98	18,8	96	18,8	99
Argentina	23,0	38	23,0	35	23,0	24	23,0	25
Uruguay	5,8	100	5,8	99	5,8	98	5,8	98
Chile	5,4	77	5,6	82	5,8	78	6,0	42
Others	2,6	27	2,6	27	2,9	24	3,3	36

Source: European Commission, 2009

Rates charged (and ad valorem plus a specific rate) on imports outside the quotas are too high, which often derail this type of operation. So, to be competitive in European Union, a country must have export quotas for sheep meat to the block.

Table 7.VII – Aliquots applied to extra-quotas imports

	HTS	Aliquot ad valorem (%)	Aliquot specific (euro/t)
Live sheep and goats			
Live sheep with pedigree	01041010	Zero	Zero
Live lambs	01041030	47,1	1.207
Other live sheep	01041080	64,2	1.207
Goats with pedigree	01042010	3,2	Zero
Others live goats	01042090	42,3	1.207
Sheep or goat meat Fresh or chilled			
Carcasses and half-carcasses	020410 020421 02045011	12,8	1.713
Forequarter bone-in	0204221 02045013	12,8	1.199
Rib and loin bone-in	0204223 02045015	12,8	1.885
Hindquarter bone-in	0204225 02045019	12,8	2.227
Other cuts bone-in	0204229 02045031	12,8	2.227
Sheep or goat meat Frozen			
Carcasses and half-carcasses	020430 020441 02045051	12,8	1.288
Forequarter bone-in	0204230 0204421 02045053	12,8	902
Rib and loin bone-in	0204423 02045055	12,8	1.417
Hindquarter bone-in	0204425 02045059	12,8	1.675
Others cuts bone-in	0204429	12,8	1.675
Boneless cuts	020443	12,8	2.345

Source: European Commission; ITC; USITC, 2009.

7.2 – Saudi Arabia

The country has almost 100% of Muslim religion in the population, and is the largest food importer from the Persian Gulf. Saudi market for Halal foods is estimated at US\$5 billion annually.

Saudi Arabia is the 3rd largest sheep meat importer, with important distinctions in its market compared to other countries in important international lamb flow.

7.2.1 – Primary Sector

Herd is relatively stable, fluctuating according to the weather, more or less severe each year. However, the goat herd has halved over 10 years ago.

Table 7.VIII – Sheep and goat livestock (million de heads)

	2000	2002	2004	2006	2008
Sheep	7,93	7,01	7,90	7,00	7,20
Goat	2,46	2,21	2,24	2,20	2,25
Total	10,39	9,22	10,14	9,2	9,45

Source: Bourne, 2003; Saudi Arabia, 2009

Table 7.IX – Saudi Arabia livestock distribution (million heads)

Administrative Region	Sheep	Goat
Hai'l	1,62	0,65
Al Riyad	1,09	0,21
Al Qasim	0,96	0,40
Makkah	0,81	0,09
Tabuk	0,63	0,02
Al Bahah	0,51	0,36
Other administrative regions	1,58	0,52
Total	7,20	2,25

Source: Bourne, 2003; Saudi Arabia, 2009

Both sheep and goats herd, is highly centered in the central region, near the capital, Riad.

Figure 7.II – Sheep and goat flock concentration in Saudi Arabia



Source: Bourne, 2003; Saudi Arabia, 2009

Individual herds tend to be relatively large and move through regions, supplying isolated locations. Native vegetation accounts for about 20% feeding the herd, while the rest are conserved forages, planted during the rainy season or in irrigated areas.

7.2.2 – Industry

The main port of entry is Jeddah (80% of food entering Saudi Arabia), who is also one of the major ports in the Middle East. Damman port, on the Persian Gulf, also receives live sheep and meat.

There are public slaughterhouses across Saudi Arabia and people are encouraged to do their slaughtering for ritual or routine consumption at these sites.

Since 1983 there is a program for the optimum utilization of meat of slaughtered animals by pilgrims. The Islamic Development Bank (IDB, its acronym in English) is responsible for the program and pilgrims can get a coupon and delegate to IDB ritual slaughter of animals for their benefit.

In the 84 hours that lasts Hajj, 700.000 animals were slaughtered by IDB in 2008, of which 90% were sheep and the remaining cattle and camels. Approximately two thirds is distributed free in the country and one third goes to the neighboring Muslim countries, because the ritual slaughter of meat cannot be sold. In 2008, a coupon cost the equivalent of US\$105 and could be purchased over the internet (30.000 animals were sold in this way). Despite the use of this program is growing, there is much illegal logging in the vicinity of its own slaughterhouses run the BDI.

One of the ideas behind the program is using to distribute meat among the poor and needy of the country and neighboring countries. Also under construction is a factory for producing gelatin from skins that are damaged during slaughter process.

The concern of Saudi Arabia authorities is that slaughter of animals by informal rituals can cause health problems, because the animals are not examined before slaughter. Moreover, there is a secondary problem of environment and health to adjacent areas.

7.3.3 - Organizational and Institutional Aspects

Sheep and goats production in the country reaches over 98.500 tons and, with the imported meat, it means 16% of total meat consumption. It is guaranteed by the government that all food entering the country is Halal (see Annex A) and therefore it is not a routine concern for Saudi Arabia.

In fact, Saudi Arabia is not a homogeneous market. It identifies four distinct markets for sheep: intake of urban native inhabitants; intake of foreign workers (30% of the population), spending by tourists and businessmen in hotels, and the consumption of religious pilgrims.

Meat consumption tends to decrease during Ramadan fasting due to religious and during the summer (2nd week of June until the first week of September) when millions of Saudis and foreign workers leave the country on vacation. Moreover, the demand increases for the religious festival called Hajj, with hotels and retailers increasing their inventory to meet the 2.5 million pilgrims traveling to Mecca every year. The foreign pilgrims, who mean half of the flow, usually stay an average of two weeks between the cities of Mecca, Jeddah and Medina before and after Hajj rituals.

There is a clear preference in the Middle East for fresh meat. People like to slaughter their own pet in the morning and have lunch or even later, at dinner. At the same time, hot beef price is usually lower than frozen meat price, especially by the application of import subsidies and trade

in live animals. Eventually, subsidies are also applied to chilled meat importation, but never frozen meat.

There is an official concern with animals' welfare, as this is provided in the Quran. This fact complicated the transport operation and unloading of animals in Saudi Arabia. However, this concern of the authorities does not become widespread among the population.

Standards Organization of Saudi Arabia (SASO, the acronym in English) is the authority that determines standards and packaging required for all types of food imported into the country. All foods exported to Saudi Arabia must have packaging written in English and Arabic. Various documents are required, including the certified Halal. In addition, the Quality Control Department may request samples and laboratory tests to verify the quality of the product for human consumption. There is great fear in relation to botulinum toxin and exams are frequently conducted at the ports of landing.

7.3.4 – Imports

Country imports almost tripled since 1990, indicating the increase of population income in this period.

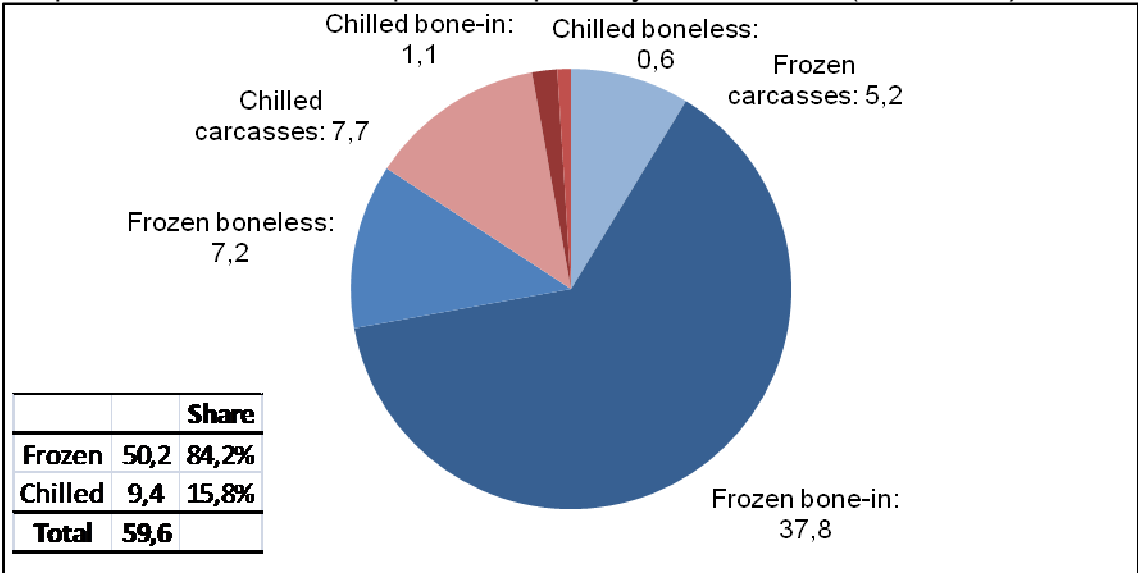
Graphic 7.III – Sheep meat imports by Saudi Arabia (thousand t)



Source: Comtrade; Meat and Livestock Australia; New Zealand Meat and Wool, 2009

Saudi imports are centered in frozen meat, with more than 80% of the volume, which pays lower import tariffs. The average price paid for this type of product was US\$2.521 in 2008. While chilled meat was purchased at US\$4.687 per ton on average.

Graphic 7.IV – Kind of sheep meat exports by Saudi Arabia (thousand t) - 2008



Source: Comtrade; Meat and Livestock Australia; New Zealand Meat and Wool, 2009

Australia and New Zealand accounted for more than 80% of sheep meat imports from Saudi Arabia, which also supplies in neighboring countries.

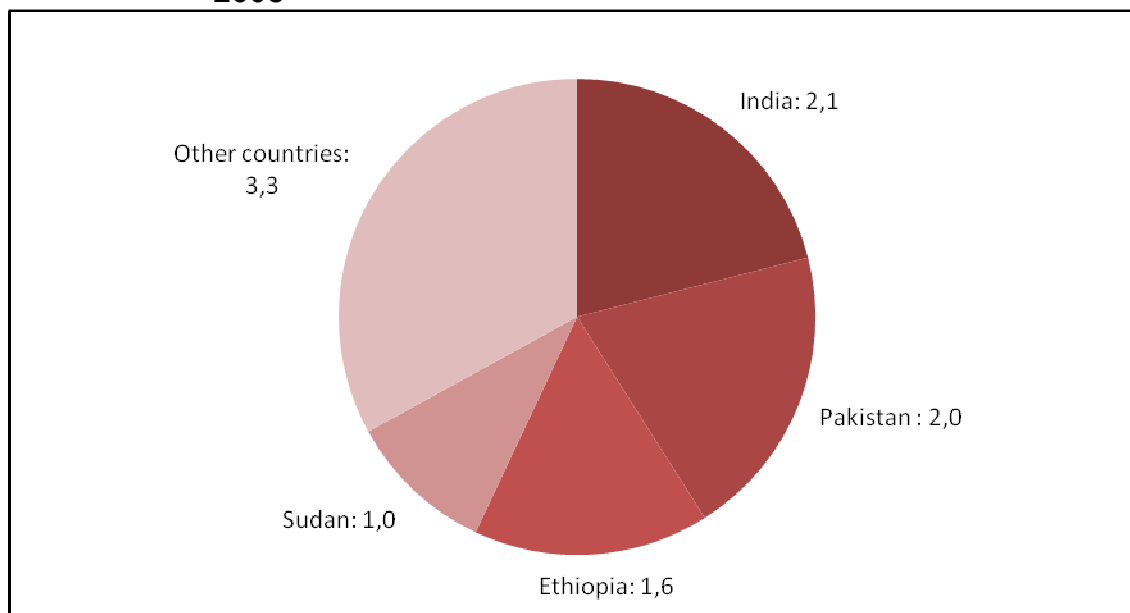
Graphic 7.V – Saudi Arabia sheep meat imports by origin (thousand t) - 2008



Source: Comtrade; Meat and Livestock Australia; New Zealand Meat and Wool, 2009

The market for frozen meat is dominated by Australia and New Zealand, which accounted for more than 90% of shipments in 2008. However, chilled meat has more diverse origin and Oceania countries have marginal involvement in this market. Main meat Saudi Arabia suppliers are India and Pakistan.

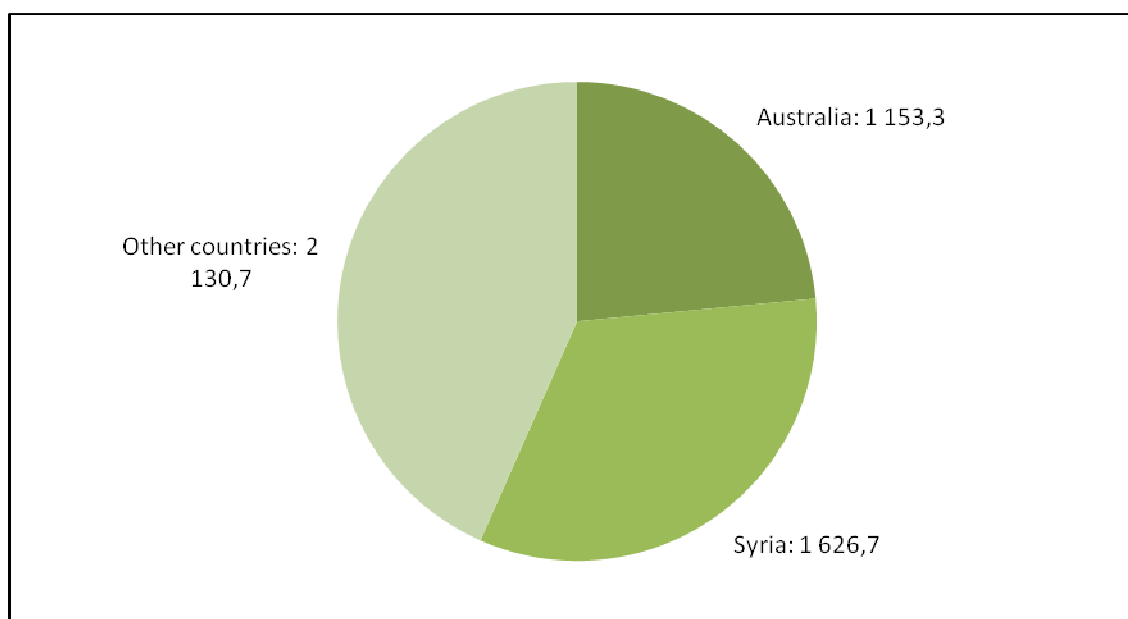
Graphic 7.VI – Saudi Arabia chilled sheep meat imports by origin (thousand t)
- 2008



Source: Comtrade, 2009

Saudi Arabia is the largest live sheep importer, accounting for almost half the international flow. Every year, the Saudis are seeking for new suppliers who can guarantee supply at low prices. However, only Syria, Sudan and Australia have been constant partners. The average imports value was US\$89 per head in 2008.

Graphic 7.VII – Saudi Arabia live sheep imports by origin (thousand heads)
- 2008



Source: Comtrade, 2009

7.3.5 – Import Taxes

Import tariffs are relatively low, but they prefer live animals and also chilled meat instead of frozen meat.

Table 7.X - Aliquots applied to imports

	HTS	Aliquot ad valorem (%)
Live sheep and goats		
Live sheep and goats	0104	Zero
Sheep or goat meat Fresh or chilled		
Carcasses and half-carcasses Meat from sacrifice	020410 020421 02045021 02045031 02045011	Zero
Cuts	020422 020423	5
Sheep or goat meat Frozen		
Carcasses and half-carcasses Cuts Meat from sacrifice	020430 020441 020442 020443 02045022 02045032 02045012	5

Source: ITC; USITC, 2009

7.3 – South Africa

South Africa is the most industrialized nation in the continent, and has almost 50 million inhabitants. Its tradition in consuming sheep and goats makes the country one of the world's major importers of the product, although it is also a major producer.

7.3.1 – Primary Sector

South Africa has about 84 million hectares of grassland, representing over two thirds of the country. The number of farms engaged in livestock production reaches 31.500, with average size of 2015 hectares. The country has over 1 million hectares planted with alfalfa, which comes with a ruminant quality feed and relatively inexpensive.

South African herd has guidance for wool production, with more than two thirds of the animals being wool producing breeds. As almost all countries, the herd has been declining since 1990, when it came to be 30 million head. Goat herd also declined from 2.8 million in 1990 to 2.1 million in 2008. Anyway, sheep and goat represent 3.4% of GDP in the primary sector of the country.

Table 7.XI – Sheep and goat livestock (million heads)

	Sheep			Goat	Total Sheep and goat
	Wool	Without wool	Total	Total	
2000	16,5	7,1	23,6	2,4	26,0
2002	16,1	6,5	22,6	2,2	24,8
2004	16,0	6,3	22,3	2,2	24,5
2006	15,6	6,3	21,9	2,2	24,1
2008	15,9	6,1	22,0	2,1	24,1

Source: South Africa, 2009

Over half of the sheep and goats herd is on commercial farms. The rest is distributed among various family farming forms, from the most organized and technicality to the most primitive, in reserves for the indigenous population.

Table 7.XII – South Africa livestock distribution (million heads) - 2004

State	Sheep	Goat
Eastern Cape	6,62	1,01
Northern Cape	5,76	0,17
Free State	4,68	0,07
Kwazulu-Natal	0,66	0,30
Limpopo	0,17	0,35
Other Provinces	4,41	0,30

Total	22,30	2,20
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Source: South Africa, 2009

Figure 7.III – Sheep and goat flock concentration in South Africa



Source: South Africa, 2009

There is a general complaint against the cattle, beef and sheep theft, and even an animal specialist. However, over 130.000 sheep and goat heads and 70.000 cattle heads are stolen annually. Approximately 70% of the stolen animals are sold in cities through street vendors or small butcher shops.

7.3.2 – Industry

Industrial system accounts 51 medium and large, a total of 200 registered abattoirs. Of these, 168 industries slaughter sheep and goats. Over 80% of the slaughter occurs in only 10 stores.

Illegal logging is estimated at 20-30\$ of sheep and goats, and is closely linked to the issue of animals' theft within the country.

Table 7.XIII – Sheep and goat inspected slaughter (million heads)

2000	2002	2004	2006	2008
6,12	5,96	6,12	6,28	5,81

Source: South Africa, 2009

The country can produce about 75% of its sheep and goat consumption. The rest is mainly imported for Port Elizabeth, situated in the South.

7.3.3 - Organizational and Institutional Aspects

South African Meat Industry Company (SAMICO, its acronym in English) is the entity that runs the SAG of meat in the country. SAMICO is responsible for: marketing and meat classification; coordination of research and industrial development, and collect and disseminate statistical and strategic information to jail. A major goal is to promote meat export from South Africa.

Southern African believe that there are serious deficiencies on sanitary control systems of smaller abattoirs and meat marketing, because every state has its own legislation and understaffed to carry out the controls. Therefore, one of the immediate SAMICO goals is to increase health services presence, establish a food security policy, and qualify human resources. The goal is to have a state veterinarian and an inspector in every meat of SAMICO large slaughterhouse, to work together with the inspectors of private companies (a sanitary inspection is not actually state in South Africa).

We established a classification system for sheep and goat carcasses, based on age, fat cover and carcass information. The system classifies with stamps in each room of the slaughtered animal meat quality obtained, according to the color. In the same legislation, SAMICO tried to suggest to the industries that the cuts should be made to offer the consumer market, without being required to adopt this presentation.

SAMICO promotes a competition for carcasses annually. In 2007, there were 5559 sheep and 428 goats participating in competitions. The winners were Dorper and Boer breeds.

The frigorific industry is organized around the Red Meat Abattoir Association (RMAA, the acronym in English). RMAA is one of the great advocates of stricter oversight on health issues, as large refrigerators resented the deregulation of the sector held in late 1990s. This deregulation led to open small frigorifics in various parts of the country, which naturally reduced the supply of slaughter animals in large companies.

The *National Woolgrowers Association of South Africa* (NWGA, the acronym in English) was founded in 1929 and looks for promoting the creators interests in the market for wool and meat from culling owes, Its approximately 10.000 members produce 34.000 tons of wool a year, meaning more than 80% of production in South Africa.

A significant amount of promotion association breeds of sheep and goats over the country. The national registry is done by South African Stud Book – Book of Races in South Africa (sasbe, the acronym in English). Sasbe includes all livestock economy of the country into one entity.

Within the national integration plan is one that aims to encourage farmers to turn into black sheep producers. National Emergent Red Meat Producers Organization (NERPO, the acronym in English) works in the search for subsidized credit and training for poorer producers. NERPO also has the explicit intent of integrating assisted producers to meat agribusiness chain, which should provide greater competitiveness to family farmers in long term.

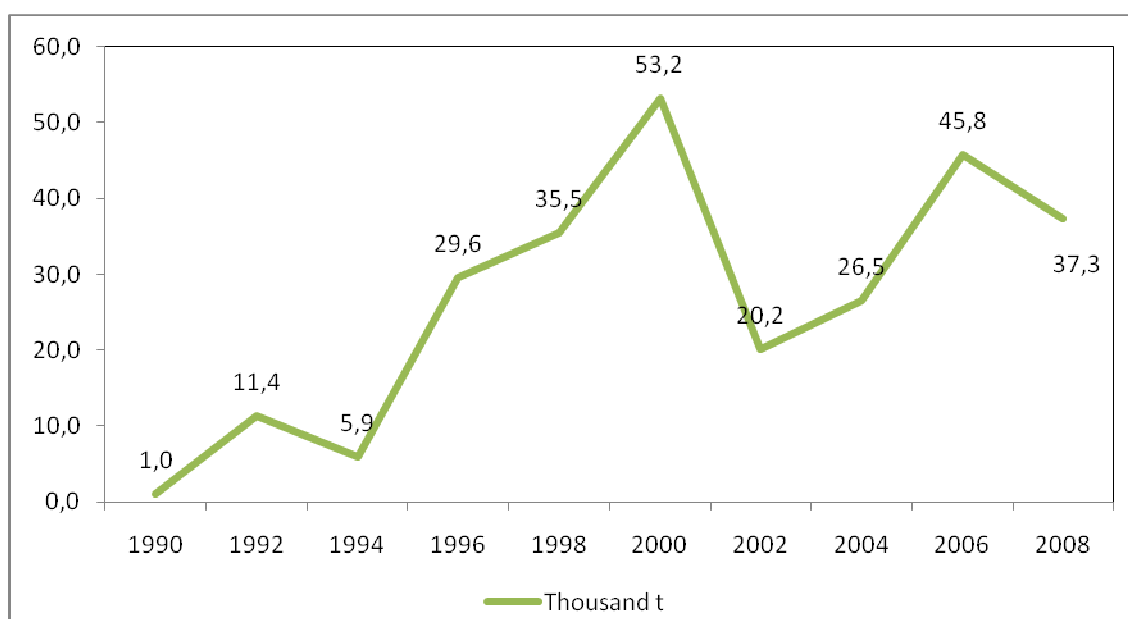
The enclosed form of sheep along with cattle, the South African Feedlot Association (SAFA, the acronym in English). One of SAFA concerns is to ensure that participants ensure animals' well-being conditions, minimizing the possible pressure of urban society.

Meat Exporters Association of South Africa (MESA) is part of SAMICO and helps the establishment of protocols with countries that can be meat importers in South Africa, and identify opportunities for new markets and report to jail on trends in the meat market.

7.3.4 – Imports

Import volumes are quite variable, but it is normal to South Africa among the world's leading lamb buyers. For 20 years the country was exporting, but this situation changed consistently.

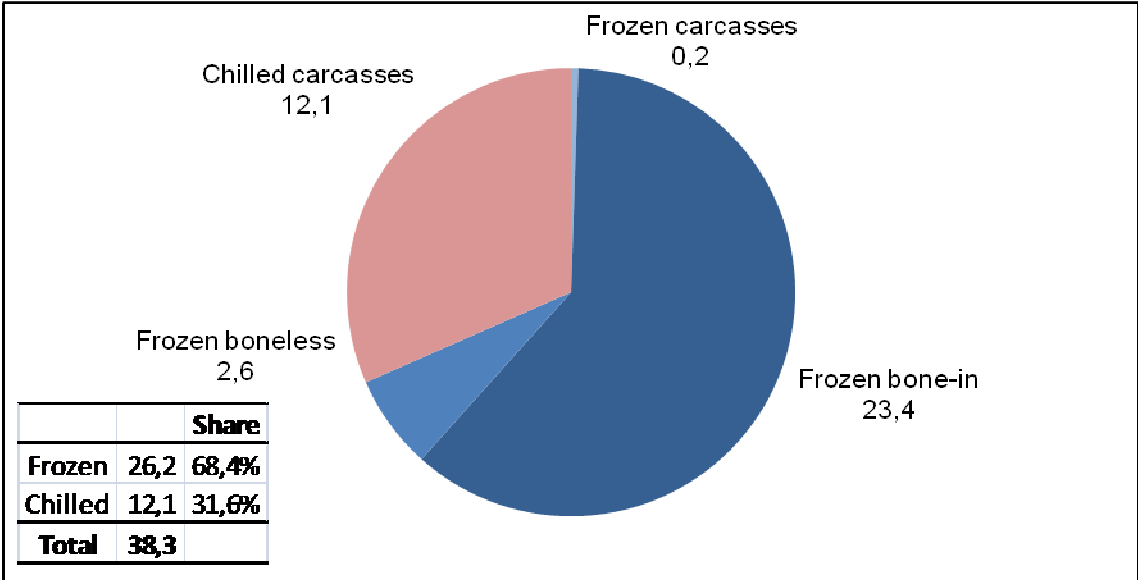
Graphic 7.VIII – Sheep meat imports by South Africa (thousand t)



Source: Comtrade; Namibia Meat Board, 2009

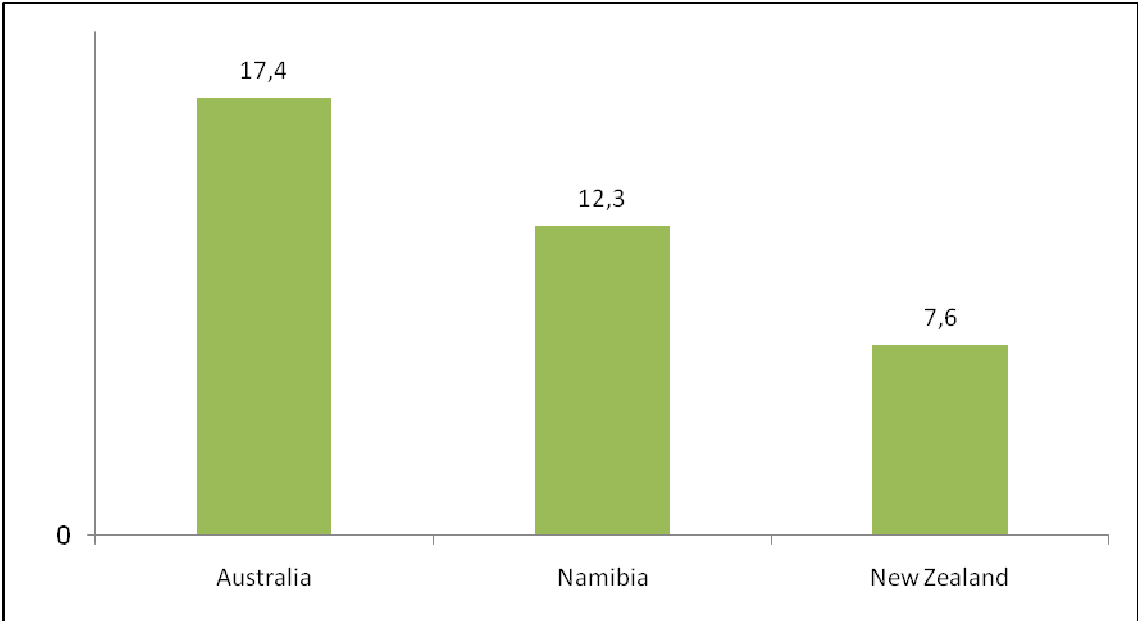
Suppliers are Namibia, Australia and New Zealand. Beef is imported frozen from Oceania, mainly in the form of bone cuts and the average price in 2008 reached US\$1.254 per ton. There is meat purchased from neighboring Namibia in the form of chilled carcass, with an average price of US\$3.520 per ton in 2008.

Graphic 7.IX – Kind of sheep meat imports by South Africa (thousand t) - 2008



Source: Comtrade; Namibia Meat Board, 2009

Graphic 7.X – South Africa sheep meat imports by origin (thousand t) - 2008



Source: Comtrade; Namibia Meat Board, 2009

The country also imported in Namibia in 2008, 42 thousand sheep and 226 thousand live goats for slaughter, accounting for 100% of international purchases of South Africa in this mode. An average price of \$71 per sheep and \$50 per goat was paid.

7.3.5 – Import Taxes

South Africa protects its domestic market to use prohibitive tariff tools and sanitary barriers. A uniform ad valorem tax rate of 40% is charged of sheep and goat meat. Namibia and other countries participating in the Southern Africa Customs Union (SACU, the acronym in English) pay no import tax to enroll their products in South Africa.

The possibility of import of live animals for slaughter from Australia has generated a discussion that will culminate in the implementation of an ad valorem tax of 40% of the FOB price on the value of possible cuts to be made with the carcass of this animal that comes alive to the country.

Similarly, to avoid problems of under imports invoicing, it may be developed a fixed rate on the CIF meat value, reviewed every six months.

Quota system allows the import of some sheep meat without tax payment from SACU non-member countries. These import quotas are divided among 32 companies nationwide. However, only three companies for more than half available quotas, which anyway are not significant related to country's total imports.

Table 7.XIV – Sheep meat imports aliquots distribution by company - 2008

	Quota allocated (t)
Merlog Foods	312
Chester Wholesale Meat	177
South Atlantic Meat	168
Others 29 companies	573
Total	1.230

Source: South Africa, 2009

The preferential trade agreement signed between MERCOSUR and SACU should lead to a gradual reduction of tariff barriers between the two blocks. However, that agreement has not yet had any effect in the case of sheep and goat meat.

Table 7.XV- Aliquots applied to imports

	NCM	Aliquot ad valorem
--	------------	---------------------------

		(%)
Live sheep and goats		
Live sheep and goats	0104	Zero
Sheep and goat meat		
Fresh, chilled or frozen	0204	40% or US\$ 200/t, whichever is higher

Source: ITC; Revenue Service; USITC, 2009

7.4 – United Arab Emirates

The United Arab Emirate (UAE) is a federation of seven emirates in the Persian Gulf coast. The country territory is very small, almost all desert, and its nearly five million people depending on food imports to domestic supply. It is one of the countries with highest growth and income per capita in the world. This recent increase in income and the population increase caused by immigration, transformed the country into a major sheep meat importer and live animals for slaughter.

7.4.1 – Primary Sector

Sheep and goats activity is considered as traditional and non-commercial, it serves primarily the rural population subsistence cultivation. The herd occupies 300.000 hectares of pasture called communal areas. In a way, a way of creation is quite similar to that found in neighboring Saudi Arabia.

The herd is small, has a predominance of goats, and has shown a slow, steady growth since 2000.

Table 7.XVI – Sheep and goat livestock (million heads)

	2000	2002	2004	2006	2008
Sheep	0,49	0,51	0,55	0,58	0,60
Goat	1,28	1,30	1,35	1,40	1,45
Total	1,77	1,81	1,90	1,98	2,05

Source: Bourne, 2003; Faostat, 2009

The herd is distributed in this way:

Table 7.XVII – UAE sheep and goat livestock distribution (million heads) - 2003

Administrative Region	Sheep	Goat
Central	0,31	0,50

Abu Dhabi	0,11	0,30
Other regions	0,10	0,55
Total	0,52	1,35

Source: Bourne, 2003

Figure 7.IV – Sheep and goat flock concentration in UAE



Source: Bourne, 2003

7.4.2 – Industry

Withdrawals are largely composed by imported animals, mainly from Australia. Approximately two thirds of the country's demand for meat is obtained through imports.

Table 7.XVIII – Sheep and goat slaughter (million heads)

	Sheep	Goat	Total
2000	0,89	1,40	2,29
2002	0,95	1,15	2,10
2004	0,75	1,40	2,15
2006	0,75	0,95	1,70
2008	0,75	0,95	1,70

Source: Bourne, 2003; Faostat, 2009

Due to logistical facilities, UAE are major exporters and re-exporters of sheep meat and live sheep and goats to other Persian Gulf countries. The UAE have one of the largest ports in the Middle East, called Jebel Ali.

In Dubai, the largest city of the UAE, there are three slaughter houses, which belong to the municipality. These plants are mainly service providers to marchers, supermarkets, restaurants and the consumer. Together, they have the capacity to slaughter 2.100 sheep and goats per day. All plants are modern and offer health quality and convenience to consumers, preventing illegal logging and related public health problems.

In Abu Dhabi, capital of the country operates a large slaughterhouse in the same manner of slaughter houses in Dubai. This frigorific is possible to order a slaughter service for weddings, so that municipality is responsible for delivering the sheep or goat at the party site, against fee payment.

7.4.3 - Organizational and Institutional Aspects

Mutton consumption by the local population accounts for over one third of animal protein intake. The UAE inhabitants prefer small animals, possibly influenced by the tradition of consumption of a local breed of sheep, dark and short stature.

Halal slaughter issue is crucial to the UAE market, because almost the entire population is Muslim.

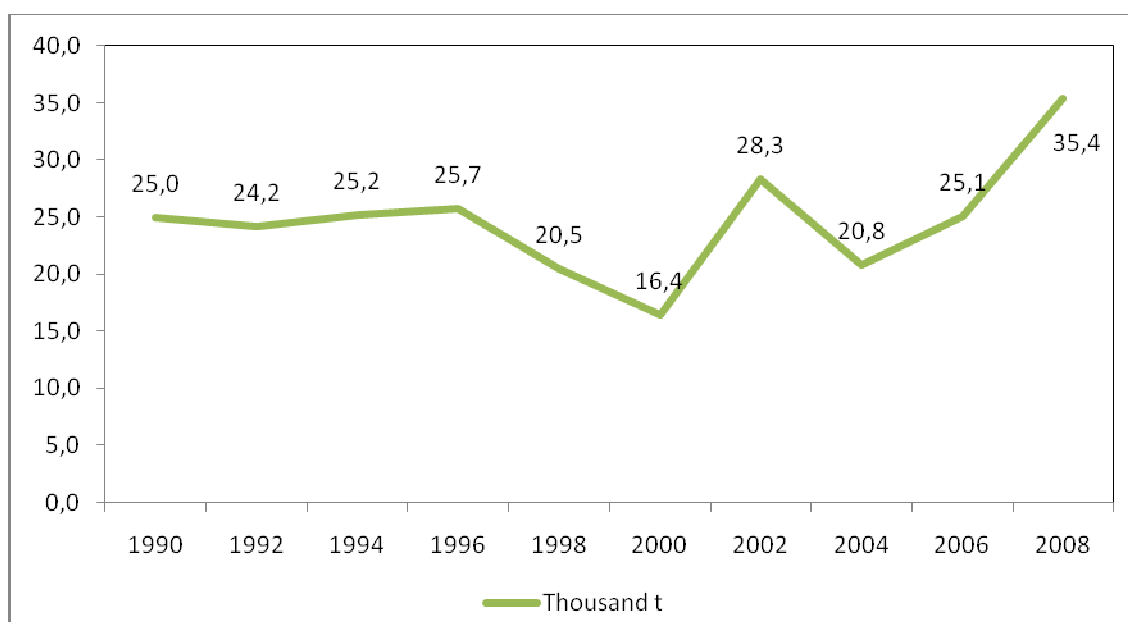
Just as Saudi Arabia, UAE consumers prefer to consume fresh meat, which makes important sheep and goats slaughter immediately before consumption. One argument is that this meat is cheaper than the frozen or chilled.

The Ministry of Agriculture and Fisheries takes all decisions in relation to livestock production and associated standards, and import authorizations. Together with the Ministry of Health is also responsible for matters related to the health safety of food. But the Ministry of Economic Development is responsible for the license to construct and operate frigorifics.

7.4.4 – Imports

Lamb meat import has increased in 2008 compared to the historical average, making the UAE the 6th largest sheep meat importer in the world.

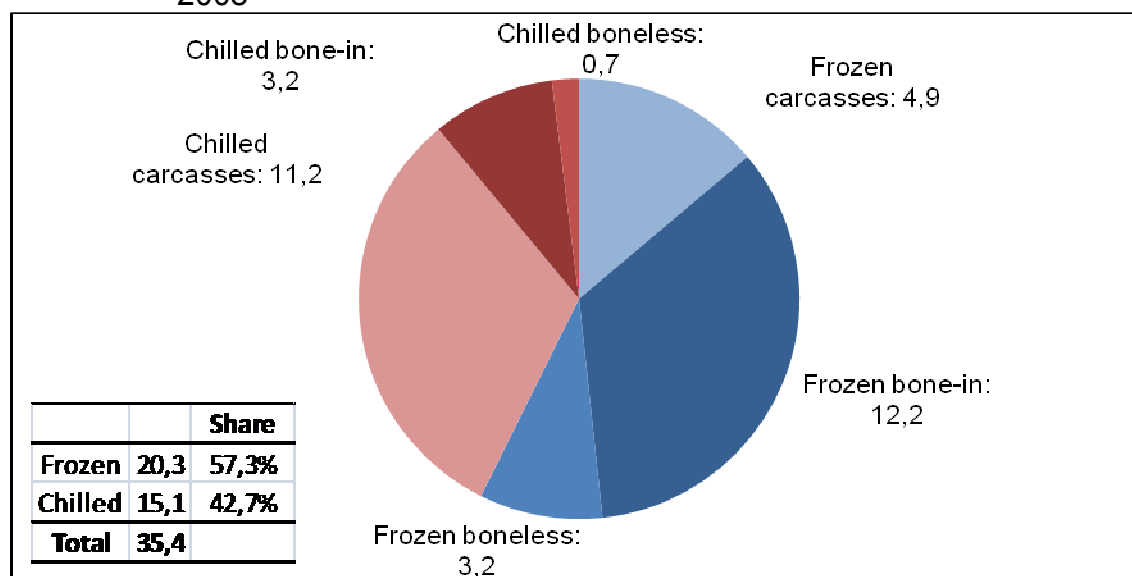
Graphic 7.XI – Sheep meat imports by United Arab Emirates (thousand t)



Source: Comtrade, 2009

The international purchases are mostly chilled, centered on carcasses. The average price paid by the chilled meat in 2008 was US\$4,698 per ton, while the frozen meat in the country came to US\$2.949 per ton.

Graphic 7.XII – Kind of sheep meat imports by UAE (thousand t) - 2008



Source: Comtrade, 2009

Australia is the largest provider, with approximately half of imports.

Graphic 7.XIII – UAE sheep meat imports by origin (thousand t) - 2008

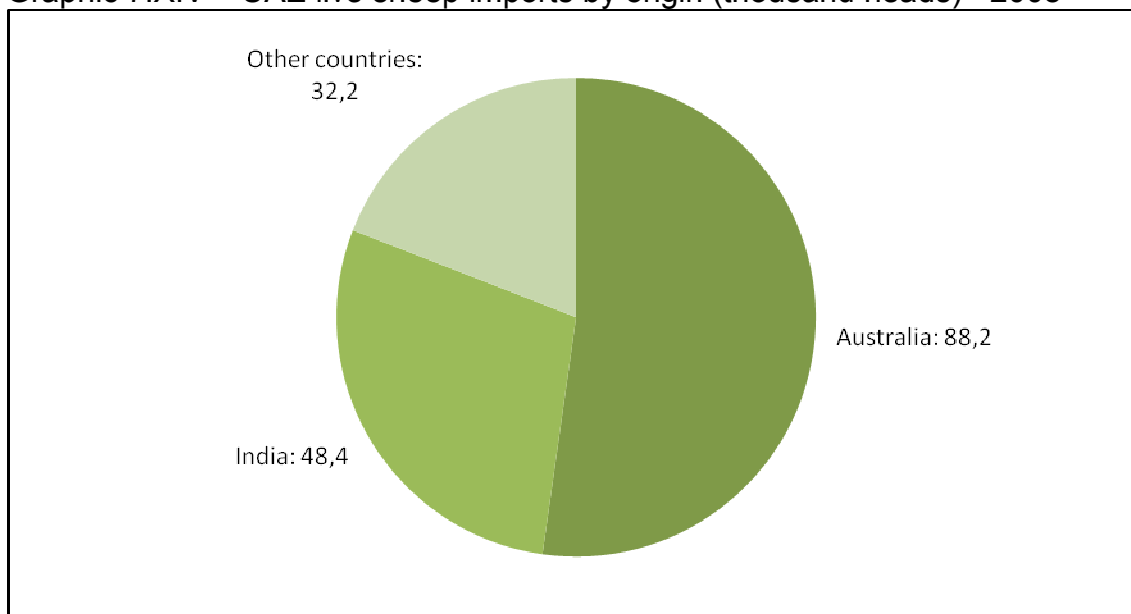


Source: Comtrade, 2009

Australia and New Zealand provide over 95% of frozen meat. As for the chilled meat in addition to Oceania countries (which deliver more than 70% of this type of meat imported by the UAE), appears as a key supplier to India.

The country imports large quantities of live animals for slaughter. Importation of live sheep has reached 169.000 head in 2008, more than half from Australia. The average price paid for the country was \$78 per animal imported.

Graphic 7.XIV – UAE live sheep imports by origin (thousand heads) - 2008



Source: Comtrade, 2009

7.4.5 – Import Taxes

The meat undergoes incidence of import duties if it is frozen. Chilled meat is free of taxes, as well as the importation of live animals.

Table 7.XIX - Aliquots applied to imports

	HTS	Aliquot ad valorem (%)
Live sheep and goats		
Live sheep and goats	0104	Zero
Sheep or goat meat Fresh or chilled		
Carcasses and half-carcasses Cuts Meat from sacrifice	020410 020421 020422 020423 02045011 02045021 02045031	Zero
Sheep or goat meat Frozen		
Carcasses and half-carcasses Cuts Meat from sacrifice	020430 020441 020442 020443 02045022 02045032 02045012	5

Source: ITC; USITC, 2009

7.5 – Mexico

Mexico is the 2nd most populous country in Latin America, with over 100 million inhabitants. Its territory is largely semiarid, and it makes the country a major world meat importer, with sheep being part of this item.

7.5.1 – Primary Sector

Sheep and goats production is characterized by small herds of low productivity, poor organization of producers and health problems. Only 20% of the properties can be considered as technified semitechnified. It is an activity operated by the poorest farmers, with little or no tech. It is estimated that over 400.000 families depend on the goats as the main or supplementary activity.

Table 7.XX – Sheep livestock distribution (million heads)

State of Mexico	0,89
Hidalgo	0,82
Puebla	0,64
Guanajuato	0,54
Zacatecas	0,41
Veracruz Llave	0,36
Other States	3,65
Total	7,31

Source: INEG, 2009

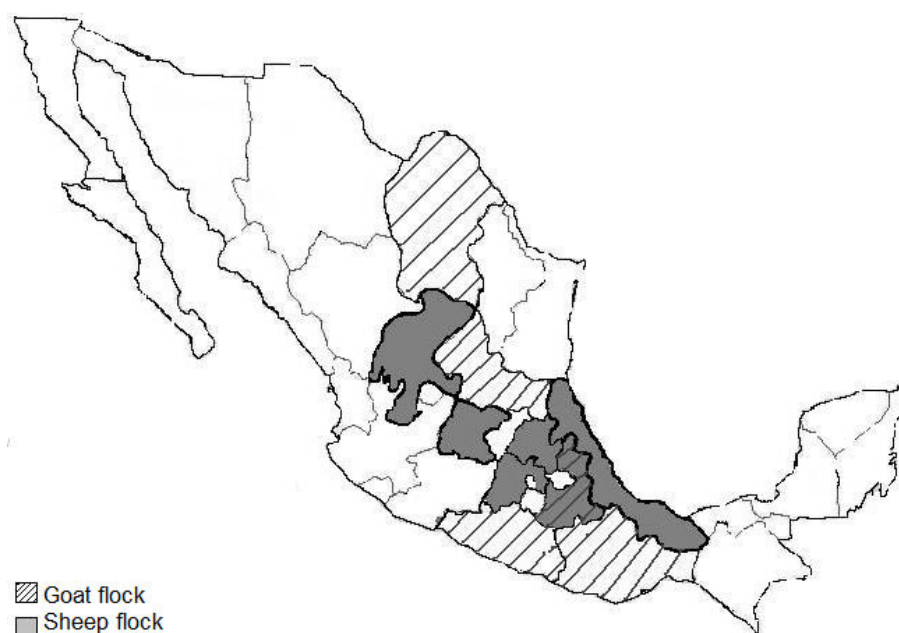
More than 7 million sheep, only 2.7 million are declared as wool producers, showing a direction of the animals for meat production. The herd of goats reached 8.9 million head, with the main objective to produce meat for subsistence. This goat herd, $\frac{3}{4}$ belong to farmers below the poverty line.

Table 7.XX – Goat livestock distribution (million heads)

Puebla	1,39
Oaxaca	1,16
San Luis Potosí	0,73
Guerrero	0,68
Coahuila	0,61
Other States	4,33
Total	8,90

Source: INEG, 2009

Figure 7.V – Sheep and goat flock concentration in Mexico



Source: INEG, 2009

The main sheep breeds are Pelibuey and Black Belly, while the main goats breed is Criollo. Sheep breeding is mainly imported from Australia, while pure goats come from the USA.

Despite the production chain poor organization, Mexico has achieved sales of pure sheep to Latin America, mainly to Equator and Colombia and Central America countries.

7.5.2 – Industry

Slaughter is estimated in 2.55 million goats and 2.49 million sheep a year. Slaughtering rate in Mexico is approximately of 34% per year for sheep and 29% for goats. A Mexican slaughter portion is made from sheep imported from the USA. Thus, slaughter distribution in the country does not necessarily reflect the herd size in that state or even efficiency of local producers.

Table 7.XXI – Sheep inspected slaughter distribution (thousand heads) - 2008

State of Mexico	Veracruz	Hidalgo	Puebla	Zacatecas	Other States	Total
357,7	261,9	247,6	132,0	111,7	1.065,3	2.173,3

Source: INEG, 2009

Frigorifics are small and medium, and few brands are recognized in the local market. Sheep and goat meat production has increased in recent years, reflecting the effort to make the chain more competitive. The average lamb weight carcass reaches 19.4kg per animal.

Table 7.XXII – Meat production (thousand t)

	2000	2002	2004	2006	2008
Sheep	33,4	38,2	42,1	44,6	48,5
Goat	38,8	42,2	41,6	36,5	32,0
Total	72,2	80,4	83,7	81,1	80,5

Source: INEG, 2009

7.5.3 - Organizational and Institutional Aspects

Despite discussions about the importance of developing sheep industry in the country and the deployment of a system to classify carcasses, the practice moves little, due to the characteristics of the production chain Mexican fragmented.

Asociación Mexicana de Creadores de Ovinos – Mexican Breeders Sheep Association (AMCO) represents the creators of Clean animals, despite having initiated an effort in recent years to put itself as a representative of the entire production chain. In virtually all Mexican states are local associations that represent Sheep farmers, often linked to associations of livestock farmers.

There is an entity called *Asociación Mexicana de Técnicos Especialistas en Ovinocultura* (AMTEO), linked to universities and consulting firms, dedicated to promote activity across the country.

The sheep industry organization is driven by the Mexican Ministry of Agriculture, in conjunction with the local Federation of Agriculture, in partnership with AMCO and the AMTEO.

In 2002, it was launched a government program called *Sistema Producto Ovino* – Sheep Commodity System (SPO), which only began to function effectively in late 2007. The main objective of the SPO is to develop collaboration between actors in the production chain and set up a strategic plan for the sheep industry in Mexico. For now, the SPO is still very much focused on primary production, with few actions with industry and retail.

Mexico in 2006 instituted a national system for sheep carcasses classification, based on age, weight, fat distribution and carcass conformation. Based on these parameters, carcass can receive the extra stamp, select, commercial or out of classification, according to its quality.

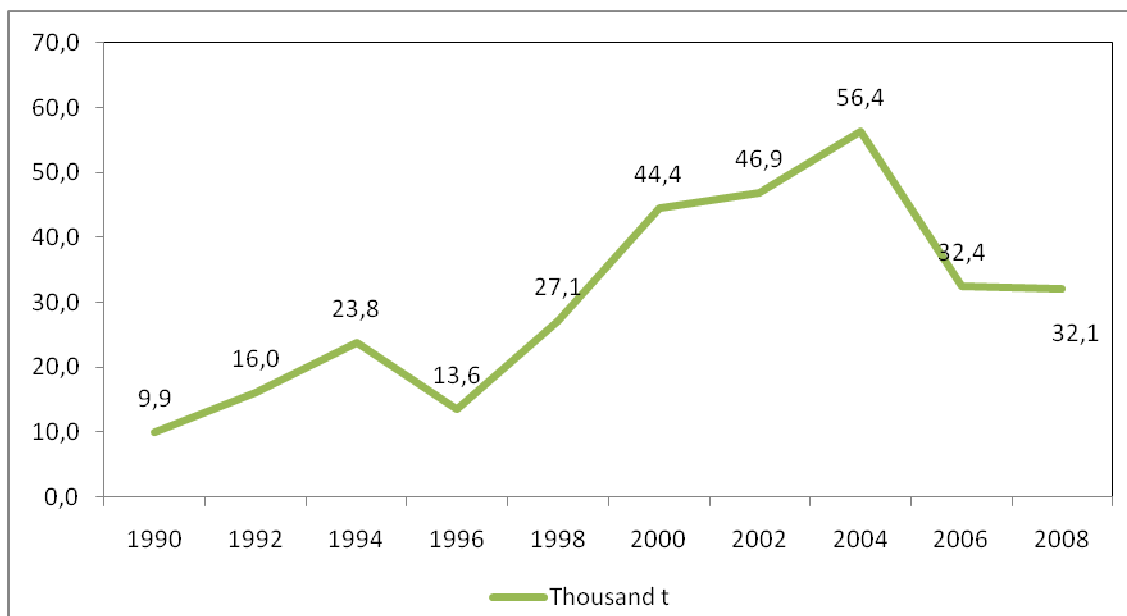
7.5.4 – Imports

Mexico has more than tripled the lamb meat import since 1990, although the volume has declined from its high of 56.000 tons in 2004.

Import consists almost entirely of frozen meat, accounting bone cuts for ¾ of the trade volume. As usual, big suppliers are New Zealand and Australia. The average price paid in 2008 was US\$2.224 per ton.

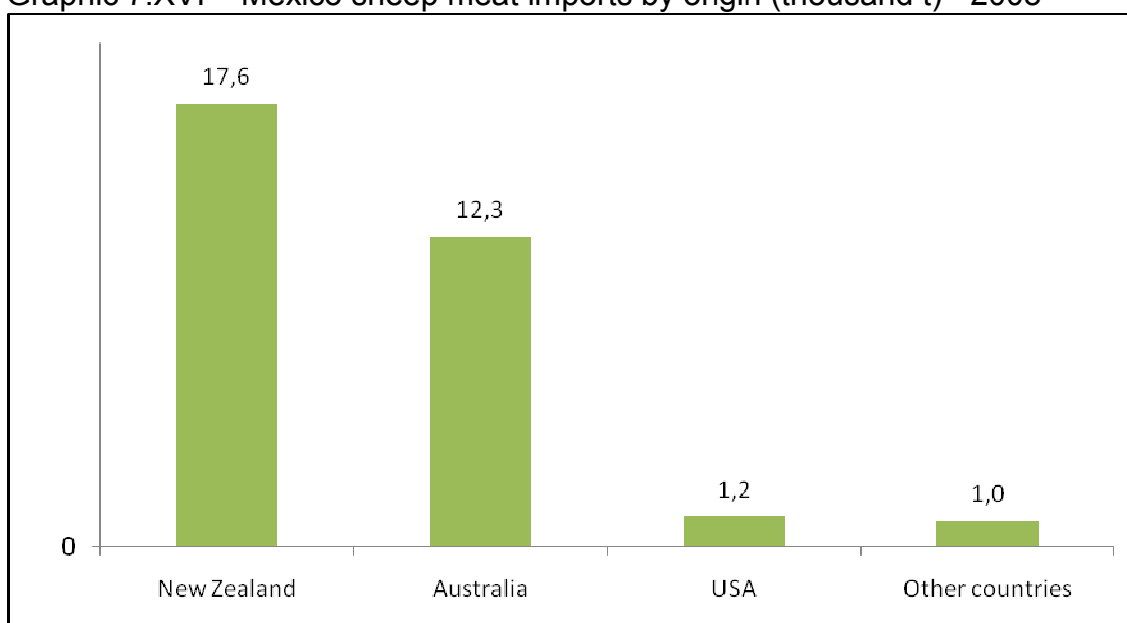
Mexico is also a large importer of live sheep for slaughter. 98.1 thousand were purchased abroad in 2008, all brought from the U.S. The average price was \$75 a piece.

Graphic 7.XV – Sheep meat imports by Mexico (thousand t)



Source: Comtrade, 2009

Graphic 7.XVI – Mexico sheep meat imports by origin (thousand t) - 2008



Source: Comtrade, 2009

7.5.5 – Import Taxes

Sheep and goat meat exportation is subjected to the recovery rate of 10%. Brazil, under the agreements of complementarity between member countries of the Latin America Integration Association (ALADI), is favored by 20% reduction in tariffs on imports. However, these provisions remain only theoretical as there is no agreement on sanitary equivalence based on the application of the regionalization of the OIE principle. Currently, Mexico is a country that restricts its meat imports from cloven-hoofed animals to countries where no vaccination

program against FMD and does not recognize the principle of regionalization adopted by the OIE.

Table 7.XXIII - Aliquots applied to imports

	HTS	Aliquot ad valorem (%)
Live sheep and goats		
Live sheep and goats with pedigree	01041010 01041020	Zero
Live sheep to slaughter	01041020	10
Other live sheep and goats	01041080 01042090	10
Sheep and goat meat		
Fresh, chilled or frozen	0204	10

Source: ITC; USITC, 2009

8 – Profile of the Foreign Trade of Brazil

Brazil has a negative trade balance for products from sheep and goat farming – livestock, meat, hides and wool. Sheep and goat skins are the main culprits. Wool is the only product in the chain that has a surplus in trade with foreign countries.

The wool accounts for roughly two thirds of Brazilian sheep and goat farming exports, despite the significant increase in the value of sheep and goat skin exports. Sheep meat Imports is the most significant and growing, but fur import has a weight greater than the average international market, accounting for more than half the trade value if they are combined sheep and goat skins.

Table 8.I – Brazil sheep and goat products exports (million US\$)

	2000		2004		2008	
	Value	%	Value	%	Value	%
Wool	15,76	64,5	16,19	72,7	20,46	61,1
Sheep skin	8,61	35,3	5,88	26,4	10,42	31,1
Goat skin	0,02	0,1	0,20	0,9	1,57	4,7
Live sheep	0	0	0	0	0,90	2,7
Sheep meat	0,01	0	0	0	0,08	0,2
Goat meat	0,02	0,1	0	0	0,04	0,1
Total	24,42	100	22,27	100	33,47	100

Source: Comtrade; MAPA, 2009

Table 8.II – Brazil sheep and goat products imports (million US\$)

	2000		2004		2008	
	Value	%	Value	%	Value	%
Sheep meat	12,43	43,4	6,07	31,4	23,44	38,2
Sheep skin	7,45	26,0	2,63	13,6	19,23	31,3
Goat skin	1,90	6,6	7,98	41,3	13,72	22,3
Wool	3,43	12,0	2,48	12,8	4,35	7,1
Live sheep	3,44	12,0	0,16	0,8	0,68	1,1
Total	28,65	100	19,32	100	61,41	100

Source: Comtrade; MAPA, 2009

Trade flow (sum of imports and exports) is increasing, rising from \$53 million in 2000 to nearly \$95 million in 2008. However, this growth is due mainly to increased imports, which more than doubled in the period. IN 2008, sheep and goat Brazilian farming trade balance was negative in nearly \$28 million.

Table 8.III – Brazil sheep and goat products trade balance (million US\$)

	2000	2004	2008
Exports	24,42	22,27	33,47
Imports	28,65	19,32	61,41

Credit balance	- 4,23	2,95	- 27,94
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Source: Comtrade; MAPA, 2009

The export of live animals is focused on providing genetic to some countries that have similar climate to Brazil. The average price of exported animals already indicates that purebreds are intended to improve herd genetics importer.

Table 8.IV – Brazil sheep live exports

	2005	2006	2007	2008
Value (thousand US\$)	92,57	14,23	25,58	902,44
Weight (kg)	28.330	2.935	4.030	167.208
Heads	385	56	66	3.200
Average (US\$)	240	254	388	282

Source: Comtrade; MAPA, 2009

Possibly, these animals are exported Santa Ines when the destination is in Africa and Dorper when the destination is Paraguay.

Table 8.V – Brazil sheep live exports by destination - 2008

	Value (thousand US\$)	Value %	Heads	Heads %
Angola	669,84	74,2	2.728	85,3
Senegal	220,60	24,4	403	12,6
Paraguay	12,00	1,3	69	2,2
Total	902,44	100%	3.200	100%

Source: Comtrade; MAPA, 2009

Uruguay is the largest supplier of live animals for Brazil, with the main purpose of slaughter. Australia also provides live animals, but they are animals of high genetic value and has the purpose of reproduction in the Brazilian elite herd.

Even modestly, the country has been seeking markets for its meat outside the country, especially in Portuguese-speaking Africa. In 2008, 20.7 sheep meat tons were exported and 5.5 tons of goat meat. Lamb was exported to Angola in the form of chilled cuts with bone at an average price of US\$2.274 per ton. The lamb is exported to Cabo Verde in the predominant form of frozen boneless cuts, as an average price of US\$7.045 per ton. While goat meat reached US\$6.946 per ton.

Table 8.VI – Brazil sheep and goat meat exports by destination (thousand US\$)

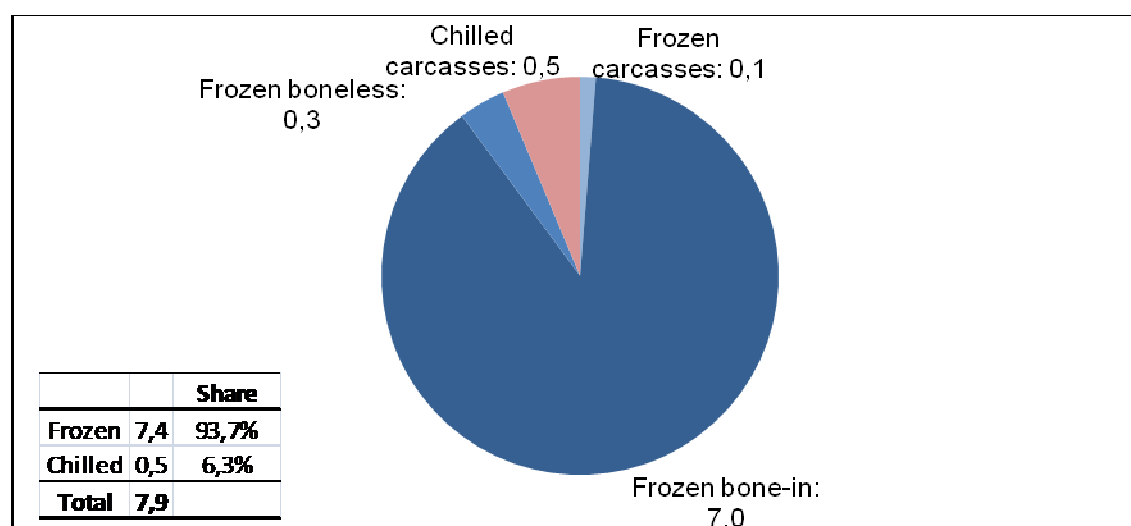
	2005	2006	2007	2008
Angola – sheep meat	17,4	19,3	56,6	32,2

Cape Verde – sheep meat	0	0	22,0	45,6
Cape Verde – goat meat	0	0	27,2	38,5
Total	17,4	19,3	105,8	116,3

Source: Comtrade; MAPA, 2009

Uruguay is the leading lamb meat supplier, the only one with significant volumes, it represents over 95% of Brazilian imports. The average price paid by chilled meat was US\$2.429 per ton, while frozen value was higher, US\$3.001 per ton. This apparent prices distortion is due to the fact that chilled meat has been imported in the form of carcasses, while frozen meat was received in the form of cuts, which tend to have higher value. Brazilian import is centered in frozen sections with bone and has the following profile:

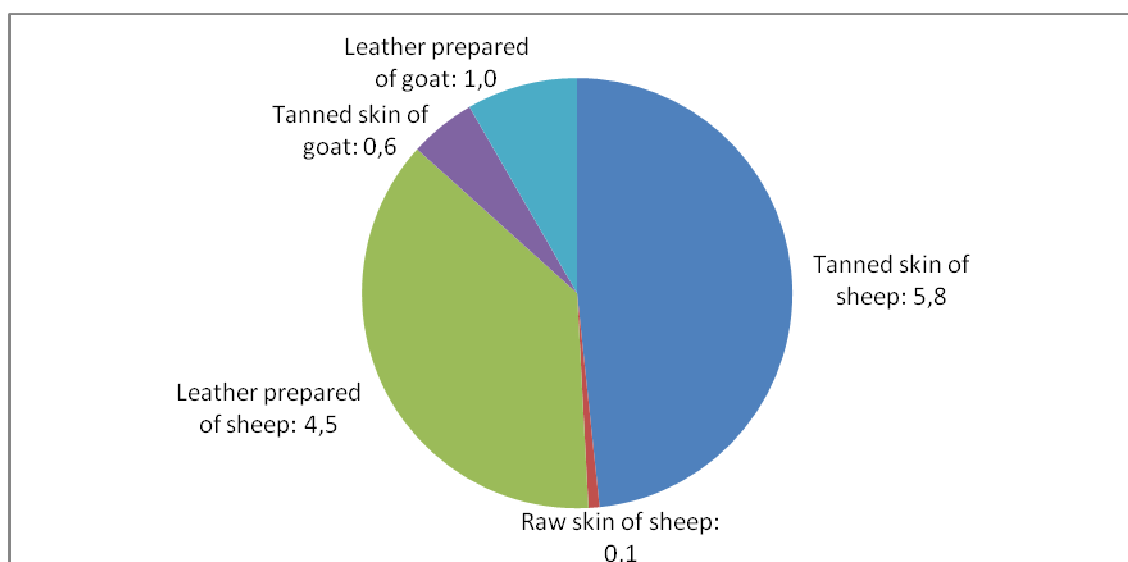
Graphic 8.I – Kind of sheep meat imports by Brazil (thousand t) - 2008



Source: Comtrade; MAPA, 2009

The export from Brazil is basically sheep skin, sheep with tanned leather and prepared representing almost 90% of exports. The main skin export destinations are the European Union and Hong Kong, with almost two thirds of the shipments, however, several countries acquire sheep and goats skin in Brazil.

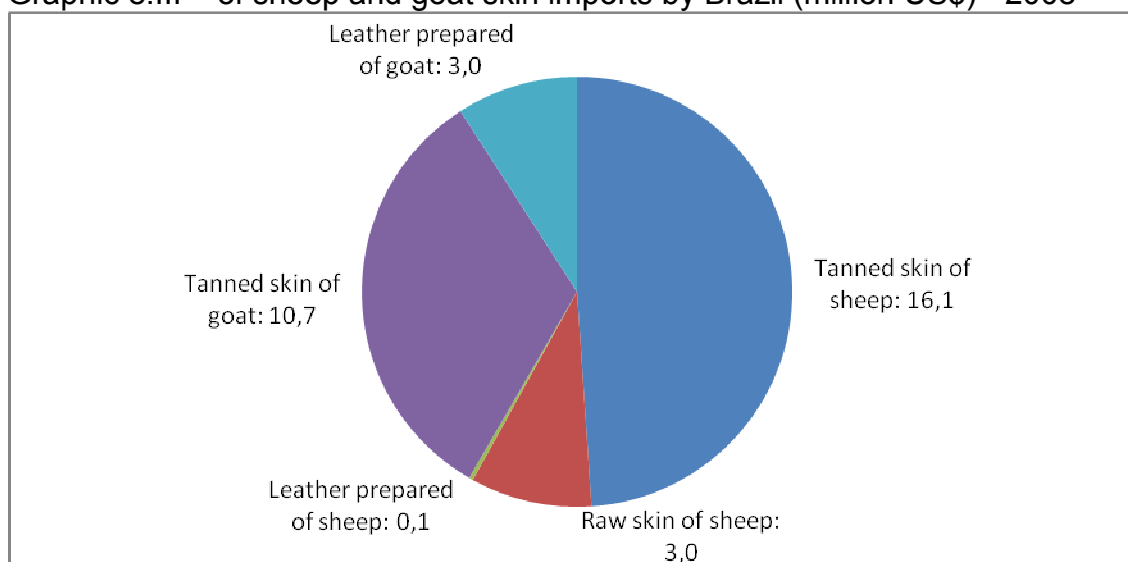
Graphic 8.II – Kind of sheep and goat skin exports by Brazil (million US\$) - 2008



Source: Comtrade; MAPA, 2009

Importation of sheep and goat skins are centered in tanned leather, which means over 80% of imports in 2008. Sheep skin suppliers are diverse, with Uruguay accounting for more than half of imported raw skin and the European Union and Kenya for half of tanned skin. Goat skin suppliers are also multiple, since there are no stand by that volume. However, Argentina, Nigeria, India and European Union have meant more than two thirds of imports in 2008.

Graphic 8.III – of sheep and goat skin imports by Brazil (million US\$) - 2008



Source: Comtrade; MAPA, 2009

MERCOSUR countries are the main wool suppliers to Brazil, with over 80% of purchases. But the destination of Brazilian wool is the European Union and Uruguay, with almost 85% of shipments. The wool purchased abroad by Brazil is mainly carded wool or combed, ready to be used in the textile industry, which accounts for more than 90% of the imported volume.

8.1 – Taxes

All ALADI countries have a 20% rebate on rates charged Import Tax, and Uruguay still has a preference and advantages of being a MERCOSUR member.

The sheep and goat meat are imported by Brazil paying the same tax, regardless of being frozen or chilled. If the imported meat is processed, packaged in the form of cuts suitable for direct consumption, they are subject to approval of the board of health monitoring.

Sheepskins suffer rating of 2% of imported crude and 10% if they are imported tanned or prepared. The tanned goat skin is free of Import Duty, while the prepared goat leather pays 10%.

All products also pay 1.65% to 7.60% for OIS and COFINS on the value of the note at the time of entry in Brazil, including live animals. There is no incidence of tax (IPI) in NCM sheep and goat farming.

Table 8.VII - Aliquots applied to imports

	HTS	Import Duty (% ad valorem)
Live sheep and goats with pedigree	01041011 01041019 01042010	0
Live sheep and goats to slaughter	01041090 01042090	2
Sheep and goat meat Fresh, chilled or frozen	0204	10
Raw skin of sheep	4102	2
Tanned or crust skins of sheep, without wool	4105	10
Leather further prepared after tanning or crusting, of sheep	4112	10
Tanned or crust skins of goat	410620	0
Leather further prepared after tanning or crusting, of goat	411310	10
Wool not carded or combed	5101	8
Wool carded or combed	5105	10

Source: Receita Federal, 2009

Besides this tax on imports, yet focus on the meat to normal GST taxation applied to each unit of the Brazilian Federation. That means there are 27 different laws that address the topic, because each state has autonomy in this matter.

9 – Competitiveness of Brazilian Beef Sheep in the International Market

When comparing import and export prices, it must be remembered that countries that export price based inform the FOB (free on board – in English), the port of origin in goods. Whereas exporting countries report the price based on CIF (cost, insurance and freight – Cost, Insurance and Freight, in English), port of arrival of the goods.

For comparison, price will be shown comparing lamb carcass in different countries, excluding China, it did not matter carcasses in 2008 and in this case is being considered the price of meat on the bone.

Among countries exporting chilled meat is worth one third more than frozen meat. Frozen meat price obtained from India was almost 40% higher than New Zealand. And in chilled meat, the U.S. managed to price 90% higher than those obtained by Uruguay. These figures must be viewed with caution because the volumes exported by Australia and New Zealand are far superior to any country and their averages correspond to samples beyond. The distance from the ports of destination also influence the information of prices in export markets.

Table 9.1 – Sheep carcasses price in export countries – 2008 (US\$/t)

	Frozen	Chilled
New Zealand	2.624	4.560
Australia	2.652	3.854
India	3.700	4.068
Uruguay	2.792	2.428
Namibia	3.315	3.450
USA	2.602	4.566
China	2.940	4.362
Average	2.946	3.898

Source: Comtrade; Meat and Livestock Australia; Namibia Meat Board; New Zealand Meat and

Wool; USDA, 2009

Sheep meat price in the importing markets varies significantly according to income level in the country with the consumers' demands, with the type of animal – lamb or adult, and the fact that meat is chilled or frozen. Naturally, the exporting countries designed the younger animals and noblest cuts for importing countries that are willing to pay more for the product.

Mexico pays less than half the price for frozen and chilled meat than the European Union, which practices the highest average import prices in the world.

Table 9.II – Sheep carcasses price in import countries – 2008 (US\$/t)

	Frozen	Chilled
European Union	3.367	6.782
USA	2.988	2.694
China	1.931	---
Saudi Arabia	2.563	4.258
South Africa	1.946	3.520
United Arab Emirates	2.834	4.617
Mexico	1.895	2.162
Japan	2.921	14.537
Average	2.555	5.510
Brazil	2.542	2.429

Source: Comtrade; Meat and Livestock Australia; New Zealand Meat and Wool; USDA, 2009

In a few cases, chilled carcass is worth less than the frozen. There are two main explanations – that the data refer to meat from adult animals as part of the frozen meat is lamb, as in Brazilians imports case, or chilled carcass volume is very small in comparison to the frozen as the case of the USA.

From the values in import markets, you can lead a rationale for determining the price may be paid to the creator for the Brazilian lamb to be competitive in the international market.

The average costs of freight prices out of Brazilian ports in August 2009, including fees, landing sites (approximately US\$150 per container), are shown in Table 9.III.

Table 9.III – Freight price of refrigerated container by shipping port
– August 2009 (US\$ per 40 feet container or 28.3 t)

	Rio Grande	Santos	Suape	Average
South Africa - Port Elizabeth	3.950	3.950	4.250	4.050
Saudi Arabia – Jeddah	4.250	4.250	4.550	4.350
China – Shanghai	5.200	5.200	5.600	5.333
United Arab Emirates – Jebel Ali	4.250	4.250	4.550	4.350
USA – Philadelphia	3.150	3.150	2.950	3.083
Japan – Kobe	5.200	5.200	5.600	5.333
Mexico – Veracruz	3.150	3.150	2.950	3.083
European Union – Liverpool	4.550	4.550	4.150	4.417
Average	4.212	4.212	4.325	4.250

Source: Sea freight companies, 2009

If each container of 28.3 tons costing an average US\$4.095 to reach the destination, it means that each transported ton leaves on average for \$145 or \$0.15 (fifteen cents per kg).

Taking into account the reference CIF price paid by the importing countries, shown in Table 9.II and less the freight cost average shown in Table 9.III, it is possible to set the beef prices shipped FOB in Brazilian ports (taking into account one U.S. dollar costing R\$1.75 in October 2009):

Table 9.IV – Maximum estimated FOB price of Brazilian sheep meat by destination and by kind of meat (R\$/t)

	Frozen	Chilled
European Union	5.736	11.712
USA	5.120	4.606
China	3.191	---
Saudi Arabia	4.332	7.298
South Africa	3.262	6.017
United Arab Emirates	4.806	7.926
Mexico	3.207	3.675
Japan	4.923	25.251
Average	4.322	6.872 *

* Japan was removed from the average, because it is negligible sheep meat volume, but with higher value than the other countries

If one takes into account a marketing margin of 15% of exporter frigorific, then the producer price would be approximately as follows:

Table 9.V – Maximum estimated price to Brazilian herd holder, by destination and by kind of meat (R\$/kg carcasses)

	Frozen	Chilled
European Union	4,88	9,96
USA	4,35	3,91
China	2,71	---
Saudi Arabia	3,68	6,20
South Africa	2,77	5,11
United Arab Emirates	4,09	6,74
Mexico	2,73	3,12
Japan	4,19	21,46 *
Average	3,67	5,84 *

* Japan was removed from the average, because it is negligible sheep meat volume, but with higher value than the other countries

If average prices were considered paid for sheep in Brazil in September 2009, R\$6 per kg of carcass, the country is uncompetitive in the international market. We could only export chilled meat to the EU, to Saudi Arabia and the UAE. Nowhere Brazil would be competitive with frozen meat.

Regarding livestock, the volume of international trade is significant, more than \$1 billion per year. However, they are intended for this type of trade in older animals, ewes and males disposal. For this reason, the price that is paid per head is usually low.

Table 9.VII – Sheep live price in both export and import countries (US\$/head) - 2008

	Exports	Imports
Australia	64	---
Uruguay	47	---
USA	71	---
Namibia	71	---
Saudi Arabia	---	89
United Arab Emirates	---	78
South Africa	---	71
Mexico	---	75
Average	63	78

Source: Comtrade; Meat and Livestock Australia; Namibia Meat Board; New Zealand Meat and Wool; USDA, 2009

On a ship of sheep export are loaded 40.000 animals, plus food and water, and the price of freight per animal, with port taxes, is around \$20 for the Middle East and \$15 for South Africa and Mexico.

Making the same reasoning was applied to the lamb with a margin of 10% of the exporter, the price could be paid to Brazilian producers to export live sheep would be as follows (dollar from \$1.75 in October 2009):

Table 9.VIII – Maximum estimated price to Brazilian herd holder, by destination (R\$/head)

	Value (R\$)
Saudi Arabia	109
United Arab Emirates	92
South Africa	88
Mexico	95
Average	96

The live animals market for slaughter in other countries can become an alternative mainly for developers located closer to ports for older animals disposal, that are not so interesting for frigorifics, which tend to prefer lambs.

10 – Final Considerations

The world market for sheep meat is in constant growth for several years, with increasing volumes and values more or less continuously. Some of the main actors of today, were not on the lists of biggest for 10 years, which shows the transformation dynamism that have occurred and are about to occur in this area.

Exports are highly centered in only two countries, New Zealand or Australia, which are aware of the difficulty to continue providing increasing values to international markets.

Brazil participates in the international market mainly as an importer, losing real opportunity to develop productive sheep and goats chain and occupy underutilized vast areas of pasture in our country.

To be a leader contender in sheep industry worldwide, the country needs to mirror the way that Australia, New Zealand and our neighboring Uruguay have been facing the challenges posed by the international meat market.

In this context, ensuring the herd health must be enhanced so that non-tariff barriers can be overcome and lamb can reach the Brazilian import markets that pay better product.

At the same time, stimulating the production scale primary is crucial for the country that can guarantee the volume of slaughter animals to allow, at the same time reducing production costs and seek markets outside Brazil.

Brazilian sheep and goat farming needs structural changes, because the way it is currently operated in the country, has little chance of winning the major markets of the world.

However, if supply chain initiatives – both private and governmental – that are already planned and/or in progress are quickly implemented, the country might become in a few years a major sheep meat exporter, as it has been shown to be able to other types of meat.

ANNEX A

Halal slaughtering

Despite the large Muslim concentration being in Asia and Africa, there are adherents of this religion in all continents. Total, there is the amount of more than 1.2 billion people, accounting for a market increasingly important in general, besides being essential for sheep and goat farming products.

The word Halal means permissible in Arabic. They are the consumable products by Muslims according to Islamic law. In meat and meat products case, food must be produced under the following conditions: the food and its ingredients should not contain animal parts or products of illicit consumption of a Muslim, or products from animals not slaughtered according to Islamic law; food should not contain anything deemed unclean, food is not prepared or it may have been processed using soiled or dirty equipment.

Impurities are considered: not allowed products, like pigs and their derivatives, blood and rotting food, foods that contain deemed illegal substances, foods that had direct contact with illegal substances, any substance expelled from human or animals' body.

All land animals are lawful to eat except: animals not slaughtered according to Islamic law, pig, dog, and its congeners; animals that have long canines which use them to kill their prey, a cat and monkey, birds of prey; disgusting creatures, like rats and insects, and forbidden to kill animals such as bees and birds for pets.

Halal slaughter technique should follow the following steps:

- The animals must be slaughtered by a Muslim who has reached puberty. He must recite a prayer during slaughter, the animal's face toward Mecca;
- The animal must not be thirsty at slaughter moment;
- The knife should be sharp and should never be sharpened in front of the animal. The cut should be a movement in the neck in half-moon format;
- Three vital points should be cut in the neck – the jugular, the trachea and esophagus;
- Animal death should be fast;
- Blood must be completely removed from the carcass.

ANEXO B
Main HTS Codes to Sheep and Goats

The products both imports and exports from Brazil are classified as NCM, and are Harmonized International Trade System (HTS) based.

NCM or HTS Code	
Live animals	
01041011 01041019	Live sheep with pedigree
01041090	Live sheep to slaughter
01042010	Live goat with pedigree
01042090	Live goat to slaughter
Meat of sheep and goat	
020410	Lamb carcasses, fresh or chilled
020421	Carcasses of sheep (except lamb), fresh or chilled
020422	Meat of sheep, bone-in, fresh or chilled
020423	Meat of sheep, boneless, fresh or chilled
020430	Lamb carcasses, frozen
020441	Carcasses of sheep (except lamb), frozen
020442	Meat of sheep, bone-in, frozen
020443	Meat of sheep, boneless, frozen
020450	Meat of goat, fresh, chilled or frozen
02045011	Meat of sheep or goat, from sacrifice, fresh or chilled
02045012	Meat of sheep or goat, from sacrifice, frozen
Skin of sheep and goat	
4102	Raw skin of sheep
4105	Tanned or crust skins of sheep, without wool
4112	Leather further prepared after tanning or crusting, of sheep
410620	Tanned or crust skins of goat
411310	Leather further prepared after tanning or crusting, of goat
Wool and hair	
5101	Wool not carded or combed
5102	Fine hair not carded or combed

5105	Wool carded or combed
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