

# CHAPTER 2 : THE EXISTING GOAT INDUSTRY IN SOUTH AFRICA

## 2.1 Introduction

If one were to decide to improve the commercial potential of indigenous goats, it would be logical to assume that the existing situation was currently underdeveloped. Aside from the obvious lack of goat products on South African retail shelves, it would, of course, be necessary to ascertain the current state of affairs in this industry before any recommendations regarding its improvement could be made. Thus, the first sub-problem addressed by this thesis becomes apparent. That is, if commercialisation were to occur, can the current South African goat industry be mobilised to ensure the consistency of supply demanded by the national and global market place? What does the current industry look like?

To answer the question raised by the sub-problem entails an in-depth survey of the current size and scope of the current goat industry, the infrastructure available in this industry, the institutional arrangements that govern it, and goat statistics. Unfortunately, relatively small quantities of goat products are produced in South Africa and, accordingly, there are limited statistics and information available on the industry, its institutions, market size and composition. Since the industry largely operates in the informal sector, it was found necessary to go directly to industry role-players to obtain the information.

This chapter provides an overview of the industry, its institutions, the current goat types, uses and products, and the national and international marketing channels available. Information regarding the current goat industry was obtained from various companies, universities, research organisations, retailers, traders, breed societies and goat producers. Information regarding indigenous goat breeds was obtained from various literature resources, breed societies and producers. In this context, it must be made clear that the Boer goat, Kalahari Red and Savanna are all “improved” indigenous goat breeds. Where relevant they are referred to directly by name, and in all other cases it can be assumed that “indigenous goats” also include these breeds.

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## 2.2 Origin and breeds of goats in South Africa

### Archaeological origins

Goats were one of the earliest animals to be domesticated. The first record of their domestication dates back 9000 years to where their wild ancestor occurred in southwestern Asia from the eastern Mediterranean to Turkey and the adjacent eastern regions. The ancestor of the modern goat was the Bezoar goat, *Capra aegagrus* (Davis, 1987; Reitz & Wing, 1999). In their wild state, goat herds are segregated into male and female groups that only come together during the mating season. Domestication interfered with this process as people took control of the breeding strategies. This illustrates how a species is forced to adapt to changing social conditions. The fact that it was able to tolerate and flourish despite these changes is one of the characteristics of successful domestication.

Goats were ideally suited to the requirements of early farmers and the animal dispersed rapidly to Europe, Asia and North Africa. This dispersal was facilitated by their toleration of extreme environmental conditions ranging from the tropical regions with high humidity, to semi-desert aridity. To this day they survive in degraded environments as they are browsers that can eat all types of vegetation and can also excavate roots and bulbs. Because of this ability to survive in poor environments they are often incorrectly accused of being the main cause of its degradation. Natural selection has made the goats very hardy and they frequently have a tolerance of the diseases and parasites present in their habitats.

It can be assumed that goats were originally kept for their meat (Zeder & Hesse, 2000). Age profiles of archaeological sites provide evidence of herd management strategies that were evident from the beginning of the domestication period. These profiles also allow the archaeologist to distinguish between domestic goats and wild goats (Zeder & Hesse, 2000). A secondary product of domestication and herd manipulation was increased milk production, as this commodity became a valuable addition to the human diet. It can also be assumed that derived milk products such as sour milk, cheeses and others soon followed. Skins and bones would also have had their uses as water containers, blankets, items of clothing, and as tools, weapons, musical instruments and ornaments. The goat had an important influence on the

development of human culture, particularly in semi desert and marginal areas, as it provided people with resources that would otherwise have been unavailable (Maree and Plug, 1993).

The earliest records of domestic goats in Africa can be found in Egypt and North Africa. Pictures of goats, goat herders and husbandry practices that are found in tombs date back to the 5th Dynasty - around 2400 years ago. Little is known about the actual breeds, but the differences in their horn shapes indicate that two or more breeds could have been present (Boessneck, 1988). The Egyptians had free-roaming goats but there is also pictorial evidence that goats were fed on grain in feeding troughs. Goat's hair as a textile fibre has biblical origins. When the Lord told Moses to build a tabernacle, his instructions included that he "should make curtains of goats' hair for a tent over the tabernacle" (Uys, 1988). It is not clear whether the hair referred to was mohair or cashmere, but from the reference it seems clear that it was highly regarded or valuable. The animals spread to the Horn of Africa from Egypt and then southwards towards the Great Lake region where the Bantu-speaking people of South Africa originated. The southward migration of these people to South Africa shortly after the beginning of the Christian era marked the beginning of the Iron Age of southern Africa. They brought with them a suite of domesticated animals that included goats, cattle, sheep, dogs and chickens (Plug & Voigt, 1985). Before this time the only domesticated animals present in the region were sheep. Present knowledge indicates that these were introduced around 100BC and were associated with Khoi pastoralists. In Southern Africa, goat remains have been found which are dated back to 500 AD (Maree and Plug, 1993).

Based on the bones found in archaeological deposits, it seems that these early goats were similar in stature to the indigenous goats of today, their limbs being relatively long in comparison to European breeds. Modern goats have a variety of horn and ear shapes, coat colours and hair lengths. These physical traits do not necessarily characterise breeds - breed characterisation is of recent origin and can only be substantiated by genetic DNA analysis (Dr E. Köster – current research at Department of Animal and Wildlife Sciences at the University of Pretoria – personal communication).

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### **Indigenous goat types**

There are many different types of goats, and genetic and environmental factors are responsible for this variation. These goat types are still well represented in the various regions and in several countries of Central and Southern Africa (Maree and Plug, 1993). African goats can be roughly classified into dwarf goats of the equatorial forest belt and the savannah goats of sub-Saharan Africa. Additionally, two dairy types, the Nubian and Maltese goats, are specialised dairy breeds found in North Africa and the Mediterranean regions. Although more than fifty types of African goats are recorded, distinctive features which separate them are not consistent and numerous intermediate types exist (Maree and Plug, 1993). These features include; ear length, horn type, colour or size.

The local breeds of goats are well adapted to their varied natural environments. This has influenced their characteristics and also the methods of husbandry practiced by their owners. Although there are highly specialised breeds, most of them are dual-or multi-purpose and in many cases, village flocks are of mixed breeding. Meat and/or milk, hair and skins are products of first economic value to owners (ARC, 1999).

The Gwanda-Tuli goats are found in Zimbabwe. They have long, pendulous ears with turned-up tips, short and erect horns, and may be white, black or brown. Spots are permissible. Their hair is usually short, but may be long on the hindquarter. The Tswana goats of Botswana are similar in appearance (ARC, 1999).

The Pafuri goats of Mozambique are found only on the Limpopo. This breed is also known as the Boer goat, which gives one an indication of its origin. However, its profile is convex. They have well-developed horns and drooping ears (ARC, 1999).

Nguni goats come from Swaziland and Zululand. Their horns are twisted and their ears are flabby, and of medium length. These goats are a cross between the Small East African and the lop-eared types. They may be any colour. The Damara, or Herero goats of Namibia tend to have medium length horns, with a straight or convex profile, and long wide drooping ears. The coat is short and usually white, red and white or brown and white. They can also be red or grey (ARC, 1999).

“Indigenous goat” is the collective term used for all varieties of South African goat breeds. Specific breed names are usually given according to the geographical area in which they occur, or names of breeds and types are taken over from the nations or tribes that own them (Maree and Plug, 1993). According to Campbell (1995), the indigenous goats of South Africa can be classed into; speckled goats, Loskop South indigenous goats, KwaZulu-Natal, Nguni goats and the Delftzijs goats. However, this classification system does not accommodate the thousands of indigenous goats found outside these specific locations throughout South Africa.

The indigenous goats of South Africa vary in horn and coat type, colour, ear length and size. They are mostly of medium size. Environmental extremes are mainly responsible for the variation in size between goat types. It is possible to find different variations in the same region and even in the same flock (Maree and Plug, 1993). These goats have never been subjected to any selection other than survival in nature. They have never received special care, and the management practices involve being milked (by some cultures) and kraaled at night. The goats are kept in the kraals usually until very late the next morning. They are known to be extremely hardy, have survived centuries of periodic droughts and harsh temperature extremes. They also have the reputation of being resistant to the majority of tropical diseases and parasites (Maree and Plug, 1993).

The origins of the “Boer goat” are somewhat vague, and are most probably rooted in the animals as kept by the Namaqua Hottentots and migrating tribes of the “Southern Bantu” people (Campbell, 1984). As stock farmers became more settled and began selecting animals adapted to the distinct characteristics of the Eastern Cape (1800 to 1820), the common Boer or farm goat evolved, which was described as compact, well proportioned and short-haired (Van Rensburg, 1938). In Swellendam, the existing, common, short-haired goats were reported to total approximately 68 000 in 1840 and 94 000 in 1843 (Uys, 1988). These animals were mainly used for meat and skins. Three types were recognized in the original unimproved Boer goat population, namely a) a common goat with short hair, usually white with brown spots, b) a larger long-haired type and c) a multi-coloured polled type with evidence of exotic dairy blood. From these, the farmers in the Eastern Cape Province selected for improved meat conformation, which led to the development of the Improved Boer Goat (Veredelde

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Boerbok). These animals are renowned for their hardiness and good meat producing capabilities (ARC, 1999).

Adopting a rigid breeding policy, which included strict selection criteria, developed the Improved Boer goat. This produced a goat with excellent characteristics such as rapid growth, early maturity, sound legs and feet, heavy muscling, high fertility, good mothering ability, good milk production and the ability to produce, while living off the veld (ARC, 1999). The Improved Boer goat is selected to be uniform in colour. The goat has to be white with red marks on the head and shoulders. Marks on the back and tail are allowed to a certain extent. A pigmented skin is preferred, particularly in body areas having no hair cover. This pigmentation makes the skin less susceptible to skin diseases and skin cancer. The skin should be loose and pliable and the hair should be fairly short and smooth with a good gloss. In winter a little down is acceptable. The horns are prominent and the ears broad and drooping. A roman nose is also desired. Castrates have been known to reach 100kg live weight without supplementary feeding.

The Savanna goat is an indigenous, white, registered breed similar to the Boer goat. Savanna goats were bred from a mixture of coloured indigenous does and a white buck. Since its inception, the nucleus flock of this stud, consisting of about one hundred stud does, has been bred as a closed stud. Selection was aimed at breeding a white, heat- and parasite-resistant, functionally efficient, meat goat. These animals have been selected for totally black, well-pigmented skins, high fertility, and heat and drought tolerance (Campbell, 1995). They were kept in a savannah-type camp, close to the Vaal River in the Northern Cape Province, and had to survive under extremely unfavourable conditions. As a result of this, natural selection played a big role in the development of these fertile, easy-care animals. They have thick, pliable skins with short, white hair. These animals also have excellent muscular development, good bones, strong legs, hooves and pasterns.

The Kalahari Red breed was selected from red and red-and-white indigenous African goats and have been selected and bred as a separate breed for the past 25 years. They are known for their hardiness, colour, size and mothering abilities. The Kalahari Reds were bred with an emphasis on carcass mass and growth rate. The bucks have

an average weight of 115 kg and females may reach 75kg live weight (Albian Red information leaflet).

### **Exotic goats in South Africa**

Although the objective of this thesis is to concentrate on the indigenous goat industry, it is important to mention the exotic breeds found in South Africa, their origins and their uses, as they may be useful in improving the production potential of indigenous goats. Several milk goat breeds are found in South Africa. These include the Saanen, that originates in Switzerland and that was imported into South Africa in the early 1900's. This goat is white in colour. According to the S.A. Studbook (<http://studbook.co.za/milch>) there are currently 432 registered Saanen does and 120 registered Saanen buck in South Africa. The Toggenburg, also originating in Switzerland, may vary in colour from fawn to dark chocolate with white markings. There are currently 21 Toggenburg does and 8 Toggenburg buck registered with the S.A. Studbook (<http://studbook.co.za/milch>). Finally, the British Alpine, from the British Isles, has a black body with white markings. No data is available regarding the number of registered animals in South Africa although excellent examples of this breed can be seen in Middelpoos in the Northern Cape and in Bonnievale in the Western Cape.

Angora goats, known for their production of long, white, and slightly curly, luxurious mohair fibre, were first imported into South Africa via India by Colonel John Henderson, a former British officer, in 1838 (Uys, 1988). The Sultan of Turkey had placed an embargo on the export of Angoras from Turkey at that time, and so it was that the next Angora imports occurred only 15 years later. During that time the original Angora buck and its mother were crossed with the existing, common, short-haired goats of South Africa, and the progeny of these crosses formed the basis of the Angora Goat industry in South Africa (It is interesting to note that such crosses are avoided at all costs today, because such crosses create an animal that carries a fibre known as cashgora, that cannot be used either as a mohair or as a cashmere and has little commercial value). By 1880 it was reported that there were between 2 million and 2 and a quarter million Angora goats in the Cape Colony (Uys, 1988).

Several cashmere goat breeds have recently made their appearance in South Africa. These include the Gorno Altai from Russia and the Saffer from Australia. In 1992 a Gorno Altai goat herd was established at the Rondebult research farm of Sentrachem just outside Pretoria. The idea was initiated by a similar project in Scotland where the Scottish School of Agriculture in Edinburgh decided to establish a cashmere industry in the United Kingdom. Embryos were obtained from the College flock by Edinburgh Genetics and implanted into 300 Boer goat receptor does in South Africa. The first Gorno Altai kids were born in September 1992. The herd remained in quarantine until 1996 after which the animals were sold at auction to, mainly, commercial farmers. The total number of these animals in the country currently is not known, but it can be assumed that few remain, due to the inability to start a formal cashmere industry over the last 6 years. Gorno Altai goats are born black and become lighter with age. They produce around 600g of brownish cashmere that is known in the trade as Afghanistan brown. This Siberian goat yields fibres with an average thickness of 17.2 microns and a length of 79 mm. The Gorno Altai is considered to be a very hardy breed. The breed is registered with Studbook. The Saffer goat from Australia is also registered with studbook and can be found in limited quantities in South Africa.

### 2.3 Existing institutions for utilisation by goat industry

There are several institutions which are capable of supplying services to the current Goat Industry, although their current emphasis on this sector is limited. They are listed in Appendix 1, giving their role and contact details. They include:

- Production-Oriented Institutions
- Marketing-Oriented Institutions
- Processing-oriented Institutions
- Research-oriented Institutions
- Extension-oriented Institutions

A number of marketing channels are available for the marketing of livestock in general and goats in specific. Currently, the most well-known market for goats in South Africa



is the live goat market in KwaZulu-Natal. Live goats may be traded by one or a combination of the transactions listed below. Eventually, the goats are kept at a central point in KwaZulu-Natal from where they are purchased directly by consumers.

- **Live Auctions:** Live auctions are arranged at regular times at strategic points. Producers bring livestock to auction pens where transactions take place between buyers and sellers. Auctions are arranged by marketing agents on a commission basis.
- **Carcass auctions:** Carcass auctions are held at a few abattoirs. Buyers and sellers meet through the intervention of marketing agents.
- **Out-of-hand sales:** Buyers buy directly from producers. No commissions are charged for these kinds of transactions.
- **Transactions by means of liaison services:** Agents bring buyers in touch with sellers on a commission basis, but do not handle money in the process – only facilitating the transaction.
- **Speculators:** Livestock are purchased by speculators who take ownership and sell animals at a profit. This industry possibly accounts for 80% or more of the goat trade in South Africa.

## 2.4 Current goat population available for utilization

### **Boer and Angora goats in the commercial farming sector**

Statistics with respect to goats are very limited. The study analysed the different statistical sources, and noted that differences in figures occur. The National Department of Agriculture, Central Statistics Service, and the Mohair Board (1996) have information with respect to goat numbers. The National Department of Agriculture's figures are, according to specialists involved in the goat industry, the most reliable source (1996).

Angora goat numbers are currently included in the national goat census. This breed has, however, been separated from the rest of the goat population for the period 1972 to 1987. The total goat population in the commercial farming sector is shown in Table 2.1 below. Statistics separating the commercial farming sector from the non-commercialised sector following 1996 are not available (Before 1994 they were reported separately).

**Table 2.1 Total goat numbers, including Angora goats, commercial farming sector**

PROVINCE	1960	1990	1995	1996
Western Cape	295 000	322 785	261 856	258 059
Northern Cape	438 000	532 729	432 481	446 925
Free State	74 000	70 461	62 097	65 308
Eastern Cape	1 226 000	1 629 790	1 319 010	1 320 117
KwaZulu-Natal	196 000	110 689	113 198	114 495
Mpumalanga	139 000	43 287	33 443	33 785
Limpopo	66 000	50 471	50 636	54 742
Gauteng	16 000	10 131	12 393	11 898
North West	62 000	71 367	83 681	99 016

(Source: Directorate: Agricultural Statistics, 1996)

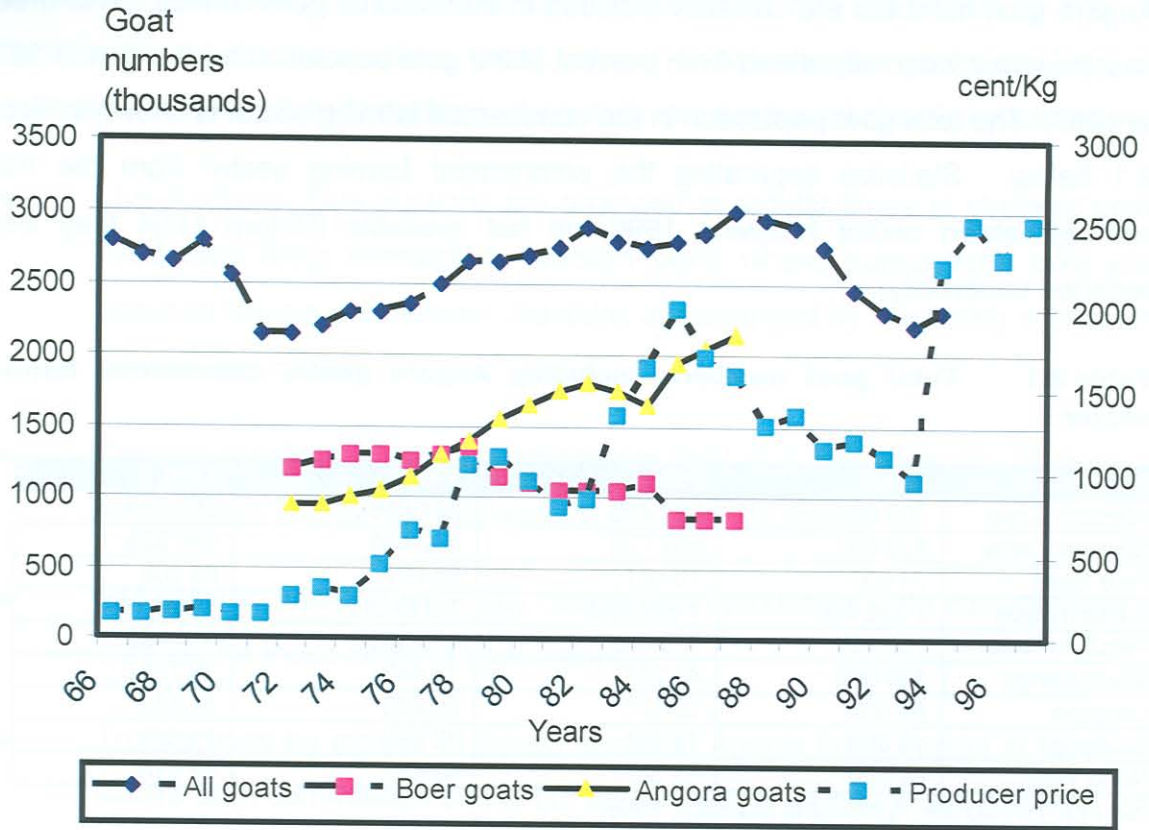
Attempts were made to exclude Angora numbers from the total goat census, but due to unreliable statistics it was not possible. Most of the Angora population is found in the Eastern Cape Province. An indication of the distribution of Angora goats, based on the mohair production, which is available on a district level, is shown in Table 2.2.

**Table 2.2 Distribution of Angora goats based on mohair production**

PROVINCE	PERCENTAGE (%)
Eastern Cape	72
Western Cape	27
Northern Cape	1

(Source: Mohair Board, 1996)

It would appear that mohair prices have a definite influence on the goat numbers in South Africa. Angora and other goat numbers are reported separately for the period 1972 to 1987 in the national statistics of the National Department of Agriculture. These figures were analysed to determine the influence of mohair prices on goat numbers. The results are shown graphically in Figure 2.1.



**Figure 2.1 Goat numbers according to breed and mohair price (Source: Directorate Agricultural Statistics, 1996)**

The information illustrated in Figure 2.1 covers the period 1966 to 1997. The total goat population in South Africa fluctuated, thus there is not a distinct increasing or decreasing trend in total goat numbers. However, the total goat population tends to follow the price for mohair. Angora numbers are shown separately for the period 1972 to 1987 and they show an increase during increasing mohair prices. The Boer goat population tends to decrease with an increase in Angora numbers. This may indicate that producers that already possess goat infrastructure (fences etc.) may switch between Boer goats and Angora goats as commodity prices dictate. Furthermore, they would be able to make such switches much more easily than producers who have other animal species (such as cattle or sheep). This phenomenon (of decreasing Boer goat numbers with increasing mohair prices) will thus only apply to mohair producing areas (There is no reason to believe that goat numbers in other production regions are influenced by mohair prices).

Table 2.1 indicates that goat numbers in all the provinces with the exception of the Eastern Cape, Northern Cape and North West Province, show a slight average decrease in goat numbers. Total goat numbers in the commercial sector decreased at an average rate of 0.1 per cent per annum. The percentage breakdown of goats according to province is shown in Table 2.3 below.

**Table 2.3 Distribution of goats per province, commercial farming sector**

PROVINCE	1996 Percentage (%)
Eastern Cape	55
Northern Cape	19
Western Cape	11
KwaZulu-Natal	5
North West Province	4
Free State	3
Limpopo	2
Mpumalanga	1
Gauteng	1

(Source: Directorate: Agricultural Statistics, 1996)

The Eastern Cape is the major goat area in the commercial farming sector as 55 per cent of all goats are found here. Limpopo and Western Provinces represent respectively 19 and 11 per cent of the total population. The remaining provinces represent less than 10 per cent each.

### **Goat population in the non-commercialised agricultural sector**

The majority of the South African goat population is found in the non-commercialised agricultural sector. Unfortunately, limited statistics are available for these areas (figures are only available at provincial level). The majority of these goats are of the indigenous type, although schemes exist for the upgrading of indigenous goats (Mara Agricultural Development Institute, Potchefstroom Agricultural Development Institute and others). No formal farming practices occur and goats are mainly kept on communal grazing. The goat numbers in the non-commercialised agricultural sector up to 1996 are shown in Table 2.4. Statistics separating the commercial farming sector from the non-commercialised sector following 1996 are not available.

**Table 2.4 Goat numbers in the non-commercialised agricultural sector (mainly the former homelands), 1994 to 1996**

PROVINCE	1994	1995	1996	AVERAGE ANNUAL GROWTH
	Numbers ('000)			
Eastern Cape	1 862	1 899	1 901	2.6
Northern Cape	-	-	-	
Western Cape	-	-	-	
KwaZulu-Natal	710	710	719	0.6
North West Province	505	531	629	11.5
Free State	10	9	10	(0.8)
Limpopo	909	890	962	2.9
Mpumalanga	55	47	48	(6.5)
Gauteng				
Total	4 051	4 087	4 268	2.6

(Source: Directorate: Agricultural Statistics, 1996)

The total goat numbers amount to 4.3 million in the non-commercialised agricultural sector up to 1996. Goat numbers increased at a rate of 2.6 percent per annum over the period 1994 to 1996. The largest gain in goat numbers was experienced in the North West Province, with an annual increase of 11.5 percent. The percentage breakdown of goat numbers according to province for the non-commercialised agricultural sector is shown in Table 2.5.

**Table 2.5 Distribution of goats per province, non-commercialised agricultural sector (mainly former homelands), 1994 to 1996**

PROVINCE	1994	1995	1996
	PERCENTAGE (%)		
Eastern Cape	46	46	45
Northern Cape	-	-	-
Western Cape	-	-	-
KwaZulu-Natal	18	17	17
North West Province	12	13	15
Free State	-	-	-
Limpopo	22	22	23
Mpumalanga	1	1	1
Gauteng	-	-	-

(Source: Directorate: Agricultural Statistics, 1996)

### Total South African goat population

The total goat population in South Africa, including Angora goats, and representing both the commercial agricultural sector and the non-commercialised agricultural sector is shown in Table 2.6.

The total goat population in South Africa, including Angora goats, was 6.7 million in 1996. The goat population increased at an average rate of 2.1 percent for the period

1994 to 1996. From 2001 to 2003 statistics for the total goat population are available, however these are not separated into commercial and non-commercialised farmers (as mentioned previously). Over the decade from 1994 until 2003 there has been an average increase in goat numbers at a rate of 0.88 percent. Approximately 50 percent of the total goat population in South Africa is found in the Eastern Cape, followed by 15 percent in Limpopo, 12 percent in KwaZulu-Natal and 11 percent in the North West Province.

An estimate of the total goat population, excluding Angora goats in 1996 (projected to be 1.4 million), is shown in Table 2.7.

**Table 2.6 Total goat population, including Angoras, South Africa**

PROVINCE	1994	1995	1996	2001	2002	2003	AVERAGE ANNUAL GROWTH (%)
	NUMBERS ('000)						
Western Cape	251	262	258	260	255	243	-0.60
Northern Cape	448	432	447	500	513	495	2.17
Free State	76	71	75	76	78	71	-1.19
Eastern Cape	3 156	3 218	3 221	3 200	3 082	3 022	-0.85
KwaZulu-Natal	823	824	833	963	952	928	2.63
Mpumalanga	93	81	82	100	106	103	2.69
Limpopo	960	940	1 017	1 057	1 087	1 049	1.88
Gauteng	11	13	14	10	8	8	-4.54
North West	585	615	728	760	771	762	5.64
Total	6 404	6 457	6 674	6 926	6 852	6 681	0.88

(Source: Directorate: Agricultural Statistics, 1996; 2003)

The goat population, excluding Angora goats, in the commercial farming sector and the non-commercialised agricultural sector in the Republic of South Africa, was 5.3 million in 1996. Of this number approximately 4.3 million were found in the non-commercialised agricultural sector. Thus, indigenous goats, which are mainly present in the non-commercialised agricultural sector, represent an important contributor towards the total goat population as it represents approximately 81 percent of the total goat population in South Africa. The Limpopo Province bushveld and the Northern Cape cattle production areas offer enormous potential with respect to goat farming. These areas, which consist of bushveld, offer excellent grazing potential for goats, and if these areas could be used for goat production, the goat numbers could increase

substantially. Likewise, if these areas are utilised optimally for goat production, red meat production could increase considerably.

**Table 2.7 Total estimate and summary of goat numbers in South Africa, excluding Angora Goats, 1996**

PROVINCE	COMMERCIAL SECTOR	NON-COMMERCIALISED AGRICULTURAL SECTOR	TOTAL	NON-COMMERCIALISED SECTOR AS A PERCENTAGE OF TOTAL (%)
	Numbers ('000)			
Eastern Cape	1 320	1 901	3 221	59
Northern Cape	447	-	447	0
Western Cape	258	-	258	0
KwaZulu-Natal	114	719	833	86
North West	99	629	728	86
Free State	65	10	75	13
Limpopo	55	962	1 017	95
Mpumalanga	34	48	82	59
Gauteng	14	-	14	0
Total	2 406	4 268	6 674	64
Less Angora goats	1 400	-	1 400	-
Goats	1 006	4 268	5 274	81

(Source: Directorate: Agricultural Statistics, 1996)

### Milk goats

Milk goat population figures for 1995 to 1997 are shown in Table 2.8.

**Table 2.8 Registered milk goat numbers, South Africa, 1997**

DISTRICT	DOES	BUCK
	NUMBERS	
De Doorns	59	5
Paarl	314	31
Upington	97	35
Bloemfontein	35	27
De Aar	157	81
Stutterheim	13	12
Pretoria	16	9
Modderivier	87	29
Standerton	3	0
Springbok	28	3
Zeerest	10	3
Lichtenburg	18	2
Total	837	237

(Source: Milk Goat Breeders' Society, 1997)

In 2002 the total number of registered Milch goat does was 453 and the number of registered buck was 128 (<http://studbook.co.za/milch>).

## Cashmere goats

Cashmere production by commercial and small scale farmers using indigenous and imported cashmere producing goats, is becoming a reality in South Africa. Started in the early 1990's by a commercial feed manufacturer, Rumevite, the cashmere industry is continuing to develop. Rumevite established a Gorno Altai goat herd at the Rondebult Research Farm of Sentrachem. Embryos were obtained from the top Gorno Altai herd of the Scottish Agricultural College and implanted into 300 Boer goat receptor does in South Africa. The main objectives of this venture were to:

- Establish and promote a cashmere industry in South Africa
- Provide Gorno Altai breeding stock to farmers
- Establish a viable industry, focussing on the small farmer sector
- Establish a cashmere-oriented cottage industry in the rural sector
- Increase the cashmere production of the indigenous goats through selection and cross-breeding

The Gorno Altai kids were raised and offered for sale at a public auction during March 1997. The average price of the does was R 2 500 and the buck sold for an average price of R 2 000. The herd was acquired by 26 commercial farmers who will, in all likelihood, be the main proponents in establishing a formal market and infrastructure for cashmere in South Africa. In itself, this should help the process of assisting small holder farmers to join the cashmere industry, if not with Gorno Altai goats, with other indigenous goat breeds. The ARC-Animal Nutrition and Products Institute also received a donation of 22 animals.

The Gorno Altai goats, are however, only a small aspect of the entire South African cashmere industry development. Because goat keeping is practised widely by the smallholder farmers, the possibilities for producing cashmere from indigenous goat species were also being investigated. At present though, the South African goat population cannot yet be classified as cashmere goats, due to low yields and short fibre length. Unfortunately, the current numbers of cashmere goats is unknown.



## 2.5 Present utilisation of goat products

### Live goats

Virtually all the goats, excluding Angoras, produced in South Africa are marketed live. Only a very small percentage of goats are slaughtered at official abattoirs. The main buyers of goats are Blacks and Indians. It is estimated that 80 percent of goats traded in KwaZulu-Natal are consumed by Blacks and the rest by Indians and other consumers. However, because Indians are involved in the goat trade, Indians are often perceived as the main consumers of goats. The live goat market is characterised by peak demand periods during Easter, December, and the winter months. The seasonal increases in demand are related to the consumption of goats during festivals and ceremonies by Blacks and Indians. Based on past sales figures reported by traders of live goats, goats sold according to months, as a percentage of annual sales, are as follows:

- December 17%
- April 14%
- Rest of year 69%

Sales for the rest of the year represent 7 percent per month. Sales increase to 17 percent in December and 14 percent for April. Seasonal demand has weakened during the past number of years according to goat merchants, with the reductions attributed to deteriorating economic circumstances of their clientele.

Accurate figures to indicate the size of the market in KwaZulu-Natal could not be obtained, but it is estimated that approximately 10 000 to 12 000 live goats are sold, on average, per month in this province. Goat speculators are the main traders in live goats. Auctions in the producing areas have become less important. According to traders in live goats, the demand has diminished for live goats during the past number of years. A major goat speculator reported that he is selling 25 percent less than the previous year. There is general consensus that goats shipped into KwaZulu-Natal have to be sold within two weeks to avoid mortality losses due to disease. Moreover,

goats shipped from Namibia suffer much stress and should reportedly be sold within a week of arrival to avoid losses.

### Goat meat

Relatively small quantities of meat-type goats are slaughtered by abattoirs in South Africa. Unfortunately, official statistics on goat slaughter at abattoirs include Angora goats and it is projected that most of the goats slaughtered are Angora goats. The number of goats slaughtered is shown in Table 2.9.

**Table 2.9 Goats numbers slaughtered according to abattoir, 1980 to 1997**

Abattoir	City Deep	Chamdor	Benoni	Springs	Maitland	Cato Ridge	Port Elizabeth	East London	Bloemfontein	Kimberley	Total
<b>Year</b>	<b>Number of carcasses</b>										
1980	7 105	1 598	468	312	22 390	51 803	30 239	191	287	462	114 855
1981	4 083	758	360	112	14 436	43 700	41 224	242	148	470	105 533
1982	3 824	482	321	110	8 948	28 715	41 822	141	195	146	84 704
1983	3 311	368	145	67	6 466	13 456	26 251	239	90	85	50 478
1984	138	495	0	28	7 598	8 003	5 055	27	80	411	21 835
1985	0	49	0	0	12 736	11 159	3 015	48	0	336	27 343
1986	3 286	1 302	149	0	21 595	36 894	20 317	232	63	1 679	85 517
1987	4 801	1 863	0	61	37 617	85 301	53 620	1 446	204	844	185 757
1988	8 577	2 722	0	646	64 636	136 333	101 331	6 030	748	1 634	322 657
1989	4 306	1 637	0	299	53 714	108 229	97 817	3 583	522	896	271 003
1990	2 757	774	0	15	45 544	81 706	96 563	1 525	733	824	230 576
1991	889	318	0	180	25 824	40 701	64 939	1 795	406	452	135 504
1992	677	240	0	172	11 481	18 543	49 150	592	385	132	81 372
1993	638	188	0	45	16 554	22 770	66 874	1 015	152	225	108 461
1994	595	106	0	7	6 891	6 736	20 095	137	50	41	35 258
1995	161	9	0	9	2 467	3 041	12 290	171	108	3	18 259
1996	284	9	0	7	2 992	2 873	27 000	261	479	16	34 421
1997	103	11	0	0	4 852	3 119	21 141	96	1 257	0	30 579

(Source: SAMIC, 1998)

No trend with respect to goats slaughtered is evident from the information in the table.

Yet, separate analysis indicates that goat slaughtering is negatively correlated to the mohair price. It is assumed that Angora goats are included in the figures for Port Elizabeth and Maitland abattoirs.

Maitland abattoir is a subsidiary of Vleissentraal. Recent information shows that from March 2001 until April 2002 only 1562 goats were slaughtered at this abattoir. The numbers of goats slaughtered on a monthly basis over this period as well as the price paid for the carcasses are shown in Table 2.10 below.

**Table 2.10** Number of goats slaughtered and average price paid at Maitland abattoir

MONTH	NUMBER	AVERAGE PRICE (CENT/KG)
March 2001	47	919
April 2001	21	1031
May 2001	37	1003
June 2001	24	1171
July 2001	89	1084
August 2001	250	1018
September 2001	4	1115
October 2001	51	1127
November 2001	58	1161
December 2001	15	1196
January 2002	31	1163
February 2002	528	992
March 2002	298	941
April 2002	109	1153

(Source: S. du Plessis - Personal communication – 2003)

SAMIC provided data of goat sales at abattoirs on their records for this study. According to these records, 2829 goats were offered for slaughter in 2000, 1783 goats were offered in 2001, and 966 were offered (up until April), in 2002.

### Goat milk and goat milk products

Official statistics are not available for total goat milk production in South Africa. However, approximately 245 registered does and 39 unregistered does were in milk for longer than 240 days and are thus eligible to take part in the South African National Dairy Animal Improvement Scheme (Annual report, 2001). The registered does produced an average of 1 032 kg of milk per lactation and the unregistered does produced an average of 973 kg of milk in a 240 – 300 day lactation (Annual Report, 2001). Thus, official statistics estimate a production of approximately 290 787 kg of goat milk per lactation. However, the milk quality and production of more animals are recorded, but because they have lactation periods shorter than 240 days their data are not used in the Dairy Animal Improvement Scheme. Approximately 535 animals are involved in the scheme nationally (Graham Hallowell – personal communication, 2002).

The total goat milk production for the estimated 1 500 does in South Africa is projected at 1 350 000 litres per annum. Of this total amount Fairview produces approximately 550 000 litres, Stillerust approximately 210 000 litres, Andanté Farm approximately 99

000 litres (this farm ceased operation in 2003), Middelpos Bokmelkery 120 000 litres, TT dairies a further 40 000 litres, with the smaller operators making up the rest.

Frozen and fresh goat milk is sold through health food stores, some supermarkets and home industry stores. Goat cheese production includes Fairview as the main goat cheese producer in South Africa, with total production estimated at 40 000 kg per annum. They produce Gotino, Rabiola, Chevin, Camembert, Caprino Romano, and St Martin. Lamontanara in Bonnievale produces mainly Caprino Romano goat cheese, Gouda, Feta, and Danish Feta, the quantities of which are not known. Tantinki Farm produces several milk products including Feta, St Maure, Soap, Haloumi, Chevin, Marinated Chevin balls, Gouda and Genito. Middelpos produces mainly flavoured Gouda.

Goat milk powder is produced in South Africa by Chevita SA (Pty) Ltd., Klappmuts. The powder is marketed in South Africa under the brand name ALPI. The quantities of ALPI produced could not be obtained (It has been recorded that the production of this product was ceased in 2003 due to health concerns).

### **Cashmere**

The cashmere industry in South Africa is new and a local market is non-existent.

### **Skins and leather**

Most of the goats marketed in the informal trade (for traditional use) are slaughtered in remote areas by the end user. Accordingly, the skins are normally thrown away and not marketed. In some cases though, skins are collected in the rural areas and sold to skin and hide agents, who export the skins as wet blues in pickling solution or in their dried form (See Leather Processors above).

## **2.6 Present imports and exports**

### **Live goat imports**

Live goats are imported from Namibia on a regular basis. The number of goats imported is shown in Table 2.11. Live goat imports increased at a rate of 8.6 percent per year.

**Table 2.11 Number of live goats imported from Namibia to South Africa, 1993 to 1997.**

Year	Number of live goats
1993	131 068
1994	199 025
1995	180 895
1996	162 647
1997	182 118
Average growth per annum (%)	8.6

(Source: Smuts, 1998b)

According to the data set of Customs and Excise (2002) 153 720 live goats (all breeds) were imported in total in 1999 (thus from various source countries). Statistics for 1994 to 1998 and 2000 to 2004 are however, incomplete.

Very few, if any, milk goats are imported although milk goat genetic material has been acquired by some milk goat producers over the last few years. Data related to these imports do not exist. Live cashmere goats (the Saffer from Australia) and, of course, the Gorno Altai embryos in the early nineties, have been imported. Statistics regarding these numbers are however, also not available.

### **Milk imports**

Goat milk powder and canned milk are imported into South Africa mainly as a substitute dairy product for consumers with allergic conditions and for use by children. The importers are RMT Agencies. RMT import the product known as Meyenburg. The following quantities are imported annually:

Powder        23 040 kg

Canned        13 824 litres

The powder milk must be diluted with water in a 1:8 ratio, with the result that the quantity of powder imported is the equivalent of 184 320 litres of milk. A limited amount of goat milk products are also imported by New Zealand Milk Products of Johannesburg. New Zealand Milk distributes it under the Bates brand name.

### **Live goat exports**

Boer goats are very adaptable and are the most sought after goat breed in the world (Personal communication with goat farmers, animal scientists, officials and enthusiasts

from Australia, the USA, China, and the UK: 1993 – 2004). Since the early 1990's, the South African Enobled Boer Goat has been introduced across the world. The demand for this animal is growing annually, limited only by the numbers of animals available for export, available quarantine infrastructure and the occurrence of diseases such as Foot-and-Mouth disease which closed South Africa to the export market for some years. It is believed that the Boer goat will have a significant effect on the quantity and quality of goat meat produced in the world because of its outstanding conformation and muscling.

Boer goat exports were stopped due to the Foot-and-Mouth disease outbreak of 2000. However, prior to that less than 1 000 Boer goats were exported live. Goats were mainly exported to Malaysia, Thailand, and China for breeding purposes. The quarantine facilities mentioned in Appendix 1 were involved in these exports. In 2002 and 2003 some Boer Goat exports were undertaken to Uganda and the Middle East.

Statistics regarding goat exports (all breeds) are shown in Table 2.12 below.

**Table 2.12 Number of live goats exported from South Africa, 1994 to 2000.**

Year	Number of live goats
1994	2 027
1995	670
1996	2 445
1997	195
1998	1 127
1999	10 983
2000	645

(Source: Customs and Excise Database, 2002)

### Genetic material exports

Goat embryo export has been more widely practised in South Africa, with indications that this trade will increase considerably in the future. The quantities of embryos exported since 1995 are shown in Table 2.13. Data up to the present are not available.

Wool

R 586 million

Mohair

R 111 million

**Table 2.13** Number of Boer goat embryos exported, 1995 to 1997

	1995	1996	1997	Average growth (%)
Boer goat embryos exported	269	969	3699	271

(Source: Customs and Excise Database, 2002)

Goat embryos were mainly exported to Australia, Canada and China. A recent visit (2002) to China has shown a potential market for approximately 100 000 Boer goat embryos, at US \$ 100 per embryo. In 1997 the total export value of goat embryos was approximately R 9.2 million. Today, the potential Boer goat embryo market in China alone is worth a potential R 100 million, with interest from Australia, New Zealand, Canada and the United States being similarly strong. The export of these indigenous resources is a contentious issue which is being debated in several industry circles (China, for example, has an embargo on the export of any of their cashmere goat genetics and it is open to question whether South Africa should follow their example; Roets, 2004).

### Other products exported

No goat meat or goat meat products, goat milk or goat milk products, cashmere or cashmere products, or leather products (except goat meat in 2003 as a result of this study) are currently exported from South Africa.

## 2.7 Estimates of potential goat production

The actual gross value of the goat industry in South Africa is not known due to limited statistics. Using an estimate of potential goat production in South Africa based on goat population and reproduction norms, the estimated gross value of goat production in South Africa was determined by attaching alternative values to the production figures. The values chosen (R 100, R 150, and R 200) are conservative figures (Currently, July 2004, goats sold live are obtaining R 15 per kilogram, thus approximately R450 for a 30kg animal). However, to illustrate the potential value of goat production in South Africa the results using conservative figures are shown in Tables 2.14 through 2.16.

Live goat exports

Boer goats are very adaptable and are the most sought after goat breed in the world (Personal communication with goat farmers, animal scientists, officials and exhibitors)

**Table 2.14 Estimation of gross value of animals produced at a value of R 200 per goat.**

Reproduction norms: Commercial farming sector	160%	140%	120%	100%	80%
Reproduction norms: Non-commercialised farming sector	R million				
100%	1 174	1 133	1 094	1 054	1 014
80%	1 003	963	923	883	843
60%	832	792	752	712	672
40%	661	621	581	541	501
20%	491	451	411	371	331
10%	405	365	325	285	245

**Table 2.15 Estimation of gross value of animals produced at a value of R 150 per goat.**

Reproduction norms: Commercial farming sector	160%	140%	120%	100%	80%
Reproduction norms: Non-commercialised farming sector	R million				
100%	880	850	820	790	760
80%	752	722	692	662	632
60%	624	594	564	534	504
40%	496	466	436	406	376
20%	368	338	308	278	248
10%	304	274	244	214	184

**Table 2.16 Estimation of gross value of animals produced at a value of R 100 per goat.**

Reproduction norms: Commercial farming sector	160%	140%	120%	100%	80%
Reproduction norms: Non-commercialised farming sector	R million				
100%	587	567	547	527	507
80%	501	481	461	441	421
60%	416	396	376	356	336
40%	331	311	291	271	251
20%	245	225	205	185	165
10%	202	183	163	142	123

The gross income of goat production from live sales could range from R 1 174 million for an optimistic scenario to R 123 million for the most pessimistic scenario. In comparison, the gross value for other commodities during 1996/1997 was (National Department of Agriculture, 1996):

Wool R 586 million

Mohair R 111 million



Ostrich products R 305 million

It can be stated that although a substantial number of goats can be found in South Africa, this resource is grossly under-utilised, especially those animals that can be found in the non-commercialised sector. A conservative calculation of the total potential income from the goat industry including live goat sales, raw cashmere, raw skin sales and embryo sales, could be as follows (if an off-take of approximately 30% is used):

Goat production, 1.8 million @ R 150/live goat	R 278 million
Skins, 1.8 million @ R 5/skin	R 9 million
Cashmere, 84 tons @ R 65/kg	R 5.5 million
Embryos 100 000 @ R 900/embryo	R 90 million
Milk, 1.35 million litres @ R 2.50/litre	R 3.4 million
<b>TOTAL</b>	<b>R 385.9 million</b>

This value does not even take the income earning potential of value-adding into consideration (the increase in value due to value-adding will be shown in Chapters 5, 6, 7 and 8).

## 2.8 Discussion and Conclusions

This chapter has provided an overview of the industry, its institutions, the current goat types, uses and products, and the current national and international marketing statistics and marketing channels. Production, marketing, research and extension institutions and infrastructure, although available, are not used to promote the commercialisation of South Africa's goats, and processing infrastructure is sorely lacking. Even the embryo and live goat export industry have limited quarantine and embryo facilities even though the market is potentially enormous (albeit debatable whether export should be allowed).

Some entrepreneurs have done well in value-adding businesses (specifically milk) despite a lack of marketing support, research and extension institutions that are not

geared to service their real-world needs, and lack of processing and marketing infrastructure. But, the fact that so few (and then only White farmers) have emerged only emphasises the difficulties that non-commercialised farmers face in entering this industry. However, these businesses are viable despite their relatively small size and the high costs of marketing and distribution. Furthermore, these industries have realised that their products are niche oriented and have taken advantage of that fact by marketing almost exclusively to the high end of the market spectrum.

Vertical co-ordination (defined in Chapter 9) in the goat industry is non-existent. A modern move in animal agriculture has been the shift away from disjointed meat marketing systems to more vertically co-ordinated and vertically integrated production and processing chains (More about this in Chapter 9). Other agricultural industries are also making this institutional shift (Engelbart, Frank and Rijswijk, 2001). Where livestock industries have made this shift, the benefits have been obvious (SAMIC, 2002); where not, industries are stagnating. The beef industry, for example, blames the extensive nature of beef production for the stagnation of consumption in developed countries. However, it is more likely the lack of vertical co-ordination which has caused greater competition from other meat types. Of course, the BSE and Foot-and-mouth disease outbreaks have not helped growth in the beef sector at all either. Despite these challenges, the process of technical and institutional innovation has been particularly slow in the red meat industry. International red meat trade has only risen 2 percent annually, and in South Africa red meat trade has, in fact, declined from 45 percent of the full meat stable in the 1990's to 30 percent of the full meat stable in 2001. This has been mainly due to the vertical integration of the pork and poultry industries that has reduced the relative price of these products. It is also because developed countries are becoming more stringent regarding traceability and labelling requirements, and without vertical co-ordination or vertical integration this process is difficult to manage. What should be remembered is that it is not merely the issue of safe food which traceability wishes to address (although this would seem to be the most obvious reason). The issue here is consumer satisfaction. Even the potted plant and flower industry has realised the importance of vertical integration to satisfy the demands of the modern homemaker (Engelbart et al., 2001).

It can also be debated whether the speculator industry, where most of the movement of live goats reside, is exploitive of the lack of infrastructure, communications and market access of the non-commercialised sector. Systems or institutions need to be created to bring the non-commercialised farmer out of this vacuum and into the formal market process. Furthermore, consumer awareness and education campaigns were also a need expressed by many producers who lack the resources to accomplish this task on a national level.

The first sub-problem addressed by this thesis asks, "If commercialisation were to occur, can the current South African goat industry be mobilised to ensure the consistency of supply demanded by the national and global market place? What does the current industry look like?" Hypothesis 1 thus assumes that the South African goat industry currently has the capacity to mobilise to meet global market demands or trends. This hypothesis is correct if one studies the various production scenarios demonstrated in section 2.7 of this chapter. The potential industry could be worth an estimated R 386 million (using conservative figures). It is clear that the goat resource-base, as well as the existence of several institutions that are interested in goat production (Appendix 1), creates an ideal environment for the commercialisation of the goat industry. However, institutional innovation is required. One can debate whether new institutional arrangements should be created or whether existing institutional arrangements should be transformed (it is clear that they are all under-performing in this sector). More market-oriented, well-organised institutions, which could assist in vertical co-ordination or vertical integration, value-addition, relevant research, national and international marketing and the general mobilisation of the industry are required.

At this point a different question emerges.... If the current goat industry is large enough and has several organisations which could have assisted with the commercialisation of this industry, why has this not occurred until now? This question is addressed in the next chapter.