Agriculture and Agri Processing Master Plan

Goat Value Chain Analysis

African goat farming in South Africa
Framework document

Rauri Alcock[1] and Marisia Geraci[2]

[1]Mdukatshani Rural Development Programme
P.O. Box 795, Hilton, 3245, South Africa

[2]Heifer Project South Africa
P.O. Box 1770, Hillcrest, 3650

JANUARY 2020

MDUKATSHANI RURAL DEVELOPMENT PROJECT

Goat Agribusiness And Community Animal Health Worker Project

HPSA SOUTHERN AFRICA

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Executive Summary

Livestock farming takes place throughout South Africa with the numbers and species being dependent on production potential, climatic conditions, the concentration of population, the availability and accessibility of inputs and the location of markets. The livestock industry which accounts for more than 40% of the total value of agricultural output is a very important component of the agricultural sector and the national economy. Due to livestock farming being largely natural resource based it occupies approximately 80% of the land available for agriculture. Animal husbandry is the primary income generator in the majority of the rural areas in the country.

According to studies conducted by the Department of Agriculture, the agricultural sector creates the second largest employment multiplier per Rand invested and that an investment of R1 million in the agricultural sector creates twice the number of jobs than in the manufacturing sector.

Nine of the top ten employment generators in the economy are within the agro-processing sector. Meat products represent one of the top ten employment generators in the economy. The livestock sector is a major employer and employment generator with approximately 425,000 direct and indirect employees and a further 2,125,000 people dependent on the livestock industry for their livelihood. Approximately 36,000 farmers employing about 108,000 farm workers farm with cattle and approximately 60,950 workers are employed in sheep farming.

Goats are one of the first domesticated animals in the world and have been in Southern Africa for at least 1 000 years. The way they have been kept and their history among communal farmers is briefly touch on.

The South African goat industry is largely seen through the commercialisation of the Boer goat hybrid although indigenous goats far outnumber it and the amount of commercial farmers. These communal goats have been kept in very fragmented herds across most African homes across the country. They are unproductive in terms of what they could be achieving. Most goats in South Africa are sold informally and invisibly for use in traditional sacrifice for the ancestors. There are smaller markets for meat, milk, fibre and leather but these are undeveloped and exist in small pockets linked to appropriate environmental conditions. The state is not currently supportive of goat production as a commercial industry. The interest has been growing 10 years towards revisiting these indigenous goat herds. Imports from other African countries form the bulk of the visible market sales and the numbers involved often seem very hard to credit.

Although the value chain is under-developed the potential for this market and its related value chain is huge and is growing with more pressure brought on by environmental changes challenging conventional beef farming. South Africa has a huge population of literate young people without jobs and with little hope of urban jobs. Agriculture offers value chain linked business opportunities that would both increase the value of these herds and allow for commercialisation but would also offer opportunities for creating agricultural businesses to push back on imports and eventually lead to exports. Land that supports goat production often has been discarded as worthless to agriculture. These abandoned as well as underutilised bush farms can be turned into successful goat farms.

Recommendations for developing this value chain would include initiating markets in rural towns, doubling current productivity of communal herds, acquiring land for commercial communal goat farmers to expand into and creating an enabling environment in terms of policy and extension. The areas to launch this initiative include goat corridor in KwaZulu Natal (KZN) and the Northern and Eastern Cape as well as Limpopo and Mpumalanga.

This report follows on a number of workshop and meetings held with various stakeholders and interest groups seeking to revive or establish a national goat industry.

1. History of goat farming in South Africa

Goats were probably brought to South Africa over 1000 years ago. They have been described in South Africa since the 1600s, goats Intrinsic physiological characteristics make goats suitable farm animals, and they may commonly have acted as sheep-leaders during prehistoric times, a practice noted amongst the Khoi-khoi during the early part of the 19th century. Acting as sheep-leaders might have required herders to deliberately keep goat numbers low. This habit of herding themselves is well known, they could survive in extremely harsh environments and are among the healthiest and hardiest of domestic animals.

Goats are browsers and are used by modern pastoralists as 'shock troops' for clearing brushy tsetse zones of sub-Saharan Africa. Maasai using both controlled burning and seasonal introduction of goats to reduce brushy habitats in the Mara region of southwestern Kenya in the early twentieth century.

As a result of these habits and hardiness they have always been victim of negative perceptions among Europeans and commercial farmers especially of communal indigenous goat herds. Goat farming has been partially legitimised by the Boer Goat breed as its been the commercial or European goat of farming and is internationally renowned for its size and growth.

The present-day Boer goats appeared in the early 1900's when Eastern Cape ranchers started the selection of a meat type goat. The name is derived from the Dutch word "boer" meaning farmer. The breed was registered in 1959 and performance testing began in the 1970s. Although the exact origin of Boer goats is not clear, it is believed to be the result of a genetic pooling of African indigenous goats, Indians goats, Angora goats, and with some influence of European dairy goats. It resembles Nubian goats but with a much larger frame size. Several researchers agree that the indigenous populations were probably from the Namaqua Khoi-khoi and from southward migrating African tribes.

Goats, sheep and cattle were introduced to South Africa between 400 and 800 AD by migrating tribes and were usually kept in various combinations. To this day, the largest concentrations of goats are found in the areas where these tribes and ethnic groups settled. The introduction of exotic breeds of farm animals from the 17th century onwards led to an erosion of the local breeds – with the notable exception of the meat goat - as goat breeds introduced focused on fibre (Angora) and milk (Saanen, Toggenberg, British Alpine, BDE).

Large numbers of indigenous goats have continued to be farmed across most African populations of the country. These are very mixed in terms of colours, size and hairiness.

2. The current production systems of goats

Large areas of South Africa are only suitable for extensive animal production off natural veld and it makes economic and ecological sense to farm with more than one livestock species. Most of the natural vegetation requires a balanced utilization by a combination of browsers and grazers for sustainability.

As a result, South Africa has a diversity of improved and unimproved indigenous goat breeds that are suited to a wide variety of production environments and systems. The unimproved goats are largely owned by African farmers where goats are used for a variety of purposes (e.g. cultural / religious ceremonies, bartering, etc.). It is accepted that though they are owned very broadly across the country they are not well understood scientifically and are less productive than they could be. These goats, however, remain a largely under-utilized resource with massive potential.

Most of the goats kept in South Africa, are traded as live animals, mainly through informal trade, speculators and, to a lesser extent, formal auctions. Only a small percentage of goats are slaughtered at official abattoirs and this has been decreasing as many are no longer functioning (e.g. Maitland used to slaughter a sizeable number of goats).

Goats are currently widespread throughout the African small holder farming communities in the country. They are kept in small herds next to homesteads and are in herds of 5 to 15 on average.

They are not herded in the classical sense but rather kraaled at night and let out in the mid-mornings to forage on a routine path stretching between two to six kilometres. They are often enticed home with maize or water. They return themselves in the early afternoon and are put in their kraal to sleep at dark.

They have two breeding seasons with kids broadly being born at Christmas and Easter. This is variable based on when the mothers came into heat. This is often following rain and them being in a good condition as a result. They have between one and three kids with some farmers breeding away from twinning as they only survive in very good years. The kids are born in the veld. Or if the farmer noticed a heavily pregnant mother and kept it back from the herd, then it would give birth in the kraal. If it gives birth in the veld, the farmer will go and find the kid and bring it back with the mother, otherwise it will be predated.

Between one and three months most of the kid mortalities happen. These are generally related to weaning stress, lack of milk or exposure to diseases. The most common being coccidiosis and pneumonia. As they grow older, worms, especially tapeworm, become a problem. Once they reach nine months, the females are mated and the males is castrated, sold or kept as a breeding male. These 9-12 months is the highest value goat sold.

Farmers do not generally actively breed but keep enough males around for all the females to get pregnant. Some homesteads don't have males and their goats are serviced by neighbours. A large part of this is because males are either sold or castrated and kept. Where at 3-4 years old and weighing seventy odd kilograms, they are sold for their highest value possible. Farmers keep females for extended periods until they stop being able to bring up kids. These are then either eaten or sold very cheaply. Variations on this include the Northern Cape and Lesotho where they practice transhumance with their animals and use stock posts to sleep at and move again the following day. In the peri-urban villages in Northern South Africa, the farmers release the goats later so as to force them to walk quickly out the villages and croplands and into the bush. The assumption that being allowed to loiter will allow them to eat people's crops.

In many cultures, goats and sheep, where there are sheep, are herded and kept together. As can be seen from the introduction, this practice of goats leading sheep is a very old one. Most homesteads rely on women and schoolchildren to deal with the day by day keeping of goats.

Nguni speakers generally have a common belief in ancestors and link the use of goat slaughter to communicating with these ancestors. This is the biggest market for live goats in South Africa. It is not removed by urbanisation and as the South African goat market cannot provide enough live goats, goats are imported in large numbers of hundreds of thousands from our neighbouring countries where they are often cheaper and poorer communities.

There are few if any examples of goat commercialisation extensively or intensively in South Africa. Where there is commercial farming of goats, it is with Boer goats and these fetch high values for breeding rather than meat or slaughter.

Goats don't naturally form large herds as that they reach a natural limit between 80-120 goats after which the disease and worm load start to implode the herd without reasonably intensive interventions.

Goats seem able to survive in most environments but need browse more than grass with a choice they eat 75 percent bush and trees and 25 percent grasses. Their competitive advantage is the ability to stand on their back legs to get into higher browse areas of up to 2 metres. Exotic breeds do not do this and suffer as a result. Goats can live in grass dominated environments but need to be supplemented in the winters. They also don't like wet or cold and can get increasingly hoof problems if they do not have hard ground or rocks to walk and climb on.

There are two reasons farmers have negative perceptions of goats around. The one being that you cannot keep goats enclosed in any structure and so control is a huge problem. Especially when you have neighbouring farms with crops that can be damaged. This is generally true, that goats prefer to walk fast and long distances rather than standing around eating.

The other negative perception is that they eat everything and are bad for the veld or vegetation. It is true that they are impact feeders and where they find particular things, they enjoy eating they will browse it to death. Also, when they are hunger or nutrient stressed, they will eat poisonous plants and rubbish. They are amazingly resilient at not being easily harmed by these diet habits but in very bad environments, they will eventually die from eating plastic.

The communal goat market is mostly 'on the string' where buyers looking for a goat buys it in the larger neighbourhood.

Known constraints and problems

- They don't travel well
- They don't move well into other areas even if they are geographically close
- They are very susceptible to worms
- When they are stressed, a lot of diseases like heartwater, pneumonia and coccidiosis manifest themselves
- There is not much of a vet value chain around them in terms of vaccines and medicines
- They don't fair well being intensively farmed
- They can be extremely productive, but this is not a natural state in bush environments
- Weaning stress kills kids
- Ticks often cause walking problems
- Household mange from dogs affects goats as do ticks and fleas from the households
- Zoonotic problems like tapeworm cysts manifest themselves and need farmers to look at larger health issues to control things like this. This also goes for mange and fleas.
- Goats seem to suffer from not having wide environments to be able to browse selectively from.
- Stock theft is a problem as goats are portable

Unfortunately, the lack of accurate statistics also complicates matters as it is extremely difficult to identify problems without actual numbers to substantiate losses due to diseases and conditions that could be linked to environmental and other factors. These factors require an integrated approach that would include appropriate stock remedies and changes in management practices (e.g. moving a breeding season to ensure kids are born in less adverse circumstances) and other conditions.

2.1 Goat Numbers

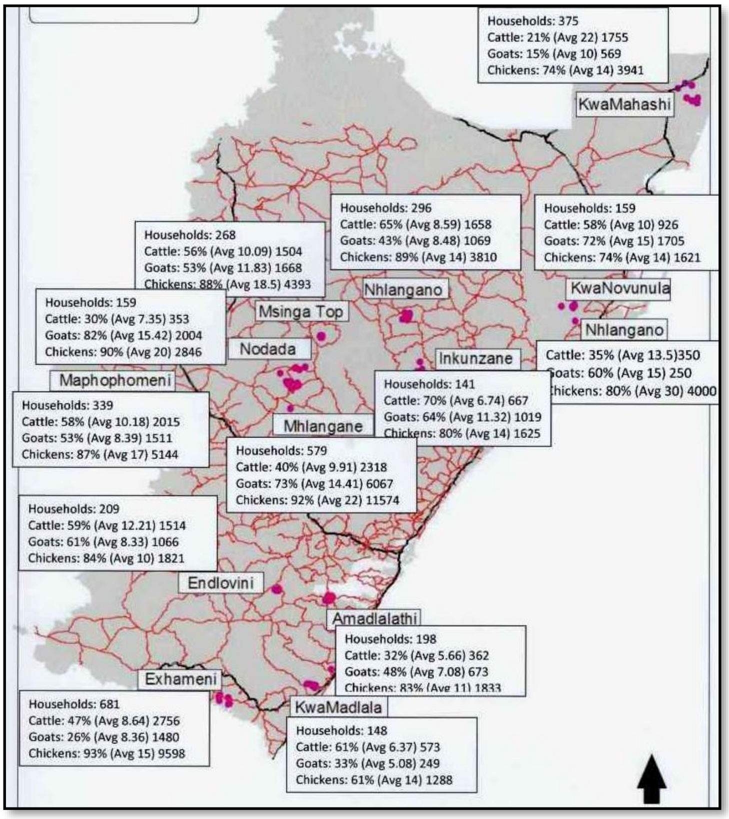
The current population of goats is unknown. There are many estimates out there with the more honest among them stating that they are estimates. Basically, there is no system or process to count goats among African farmers as the Department of Agriculture (DAFF) has never seen them as animals of economic potential or animals with controlled diseases. Without these numbers it is difficult to estimate productivity or interventions that could be introduced to increased productivity or market offtake. This situation, however, is not unique to South Africa. Most of Africa and Asia do not have accurate statistics of communally owned herds.

The table below reflects the problem with these numbers and although the trends are similar across the provinces, the absolute numbers range between 5-8 million. The figures are also separated in the lower table between communal and commercially owned goats. With this also, we would suggest it shows a trend rather than figures to be relied upon in any way. The work in the KZN Goat Agribusiness Project (GAP) would suggest that these figures are lower than what really exists in the communal herd.

The estimated goat numbers (thousands) in South Africa are (with figures estimated for communal areas):
Excludes 21000 dairy goats and 1 million Angora goats

	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpuma-langa	North West	Northern Cape	Western Cape	Total
DAFF - Directorate Agricultural Statistics, 2002	3 201	86	8	952	1 087	106	771	513	253	6 977
Statssa 2016	**2 819**	**131**	**202**	**1 930**	**731**	**337**	**538**	**554**	**182**	**7 800**
DAFF National Livestock Statistics: Newsletter May 2019	2 061	215	25	693	927	80	668	468	209	5 346
Meat Goats commercial Meissner et al., 2013	643	67	11	227	349	25	202	144	62	1 730
Meat Goats – communal Meissner et al., 2013	1 588	165	27	561	861	61	498	355	152	4 268

GAP has been working on collecting information on goat farmers in KZN for the last 7 years. Information is collected from diptank surveys as well as sales records with over 21,000 farmers. There has also been a survey of homes across KZN to get an average of livestock holdings in those areas. The map below shows that between 15-80% of homes own an average of 11 goats per family. With the lowest number of goats being in the far north of KZN and south coastal areas. These averages were also worked out with cattle and chicken ownership and the areas chosen covered most of the biomes of the province.



Working on this information, GAP estimates a figure closer to 2.8 million goats in KZN. This work would suggest that the figures reflected above for other provinces is likely to also be underreported. But it is important as goats become more of a commercial venture that the state wants to support, that these numbers be collected and collated regularly.

As a reference point, a census of sales was done in a relatively small area of 100 dip tanks in KZN for just the month of December 2018 to try and track the amount of informal sales as there is no other data set to describe or to capture this information. The table below shows the huge potential that farmers can get from goat farming. Were this expanded to 100 000 farmers, it would be many billions of Rands worth of money into rural areas. The Red Meat

Producers organisation estimates the non-visible live goat market at R4 billion rand a year.

Number of farmers	Goats sold	Slaughtered	Used	Income	Avg per farmer
5 634	7 249	8 472	4 261	R23 978 400	R4 256

In the discussion around numbers, one has to be cognisant of the huge import market of live goats into South Africa. This is discussed further below in more detail but suffice to say that the estimates are that over one million goats per year are imported on the hoof into the country and mainly into KZN.

2.2 Goat breeds

The issue of goat breeds also takes on the dimension of communal and commercial as most commercial farmers breed one of the registered goat breeds but generally Boer goats and there is much hype about what these breeds can achieve. Communal farmers breed a very broad range of what is called indigenous or unimproved veld goats. An Indigenous Veld Goat Society (IVGS) now exists, and breed auctions are held selling goats that farmers feel represent the breed. The general rule though is that where there is disease, ticks or worms, it is safer farming with local indigenous goats. The Boer goats are noticeably larger, but this comes at a cost of more feed and more management. Many communal farmers breed these exotic goats into their herds with mixed success.

Breed	Description	Use	Range	Limitations
Improved Boer Goat	Large framed Red headed lop eared goat	Quality meat production Genetic material	Savanna, grassland and Nama Karoo biomes - Drier Tick free areas	Susceptible to tick borne diseases and poisonous plants
Kalahari Red	Medium framed Solid red lop eared goat	Quality meat production Genetic material	Savanna and Nama Karoo Biomes	Availability (Limited numbers)
Savannah	Medium framed Solid white lop eared goat	Quality meat production Genetic material	Savannah and Nama Karoo biomes	Availability (Limited numbers)
Improved Veld goat	Medium framed lop-eared goat with a speckled multi coloured coat	Quality meat production Genetic material	Savanna, Grassland Nama Karoo biomes	Depending on the area, a degree of susceptibility to tick borne diseases
Indigenous goats	Medium to small framed	Sacrificial slaughter Meat Social banking Paying fines and debts	Most areas of South Africa with bush and African communities	Extreme cold Grass only habitats Perception of small size
Toggenburg	Medium framed Light brown to grey to brown	Dairy goat	Cool grassland free of diseases	Not heat resistant, need high protein diets, vulnerable to tropical diseases
Saanen	White, medium thin framed	Dairy goat	Cool grassland free of diseases	Not heat resistant, need high protein diets, vulnerable to tropical diseases
Mohair	White to light grey, very curly thick hair, medium framed	Hair used for fibre	Cool grassland free of diseases	Not heat resistant, need high protein diets, vulnerable to tropical diseases

There is some danger in South Africa of losing indigenous gene pools with the push towards commercialisation which often involves larger framed animals. This to some degree is being mitigated with organisations like IVGS but even here this market is trending towards speckled goats which like with the Nguni cattle can lose valuable traits following cosmetic trends. There are some interesting initiatives where farmers have been breeding indigenous breeds towards larger framed and this is of course where the Boer goat came from. In Carnarvon, a feral goat population, called the Tankwa goats, has been isolated and is being studied and could provide genetic alternatives to farmers wanting hardy indigenous goats. Nowhere have farmers or scientists been able to change the feed conversion ratio of goats which means that bigger goats need more food. There are no goats what have developed towards being able to roam further to get this food. If anything, the breeding of larger goats has led to shorter legs and less ability to roam. Inevitably then to feed these larger framed goats means more intensive farming and probably food supplementation.

2.3 Goat markets

2.3.1 Slaughter/sacrifice

Live goats for home slaughter are currently the biggest market for goats in South Africa. These goats are bought at markets, auctions or homes and slaughtered home ceremonies throughout the country as the central part of a ceremony or even to start off a larger ceremony where cattle are being slaughtered.

The biggest market is in Kwa Zulu Natal where most of the goats are imported from Namibia. These are predominantly Boer goats as there is a preference towards lighter colour goats for a range of cultural activities. These cultural activities are seen by the local Nguni population as religious practices based on a belief in ancestors having some control of events and decisions in daily life. As it is poorly understood outside this culture, some examples are provided below.

- KZN had 180 000 human births (in 2018). This would require a total of 540 000 goats.
- KZN had 84 000 deaths. This would need approximately 214 000 goats.
- There were 3500 customary marriages. This would need 42 000 goats
- This excludes traditional fines, coming of age ceremonies, sales for school fees, acquiring a job, passing matric or varsity. This would add another 200 000 goats.
- So although farmers have goats yet we are bringing in 1 million from other provinces and countries

  The KZN herd is estimated at over 2.8 million goats which at their current productivity would add 800,000 more annually at existing low productivity rates of around 30 percent.

  This suggests a minimum of 996 000 goats being slaughtered in KZN per year but the total used by the province is closer to 2 million including fines bride price negotiations and sales for cash.

No official statistics are quoted for goat meat slaughtering and sales in South Africa. There is a perfunctory number but according the RPO representatives the entire goat meat industry is for traditional live sales and stud slaughter.

A further market is for the Muslim festival of Eid al-Adha but no official figures exist for this although farmers including the head of the Boer Goat association claim that most Northern Cape goat farmers survive off gate sales from speculators representing Indians buying exclusively kapatas or castrated rams. A field visit to the Northern Cape got similar responses from commercial farmers as well as communal farmers interviewed around Askham and Kimberly. These goats are sold by the Kg at auctions.

The live goat market is dominated by imports mainly from Namibia but also from other African neighbours. The statistics on these imports lead one to believe that these numbers are being manipulated or misstated. The table below shows the census of goats in Namibia notice the last three years the total numbers are unchanged.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Goats	**1,849,569**	**1,769,055**	**2,110,092**	**2,086,812**	**1,997,172**	**2,043,479**	**2,061,403**	**1,926,429**	**1,926,429**	**1,926,429**
Angora	5,941	4,689	4,291	4,544	3,683	19,995	1,936	1,936	1,936	1,936
Boerbok	973,464	1,047,942	1,096,781	961,251	956,801	964,764	881,689	760,063	760,063	760,063
Other Goats	870,164	716,424	1,009,020	1,121,017	1,036,688	1,058,720	1,177,778	1,164,430	1,164,430	1,164,430
Commercial	*491,511*	*536,847*	*608,313*	*555,192*	*529,131*	*536,067*	*534,335*	*535,446*	*535,446*	*535,446*
Communal	*1,358,058*	*1,232,208*	*1,501,779*	*1,531,620*	*1,468,041*	*1,521,378*	*1,527,068*	*1,390,983*	*1,390,983*	*1,390,983*

Source: Directorate of Veterinary Services, Ministry of Agriculture, Water and Forestry

One looks at the table on numbers marketed or exported to South Africa for the same years which show these 2 million Goats have 1 million sheep and goats sold to South Africa per year. In 2002 the live numbers were close to 1.2 million for two years in a row by 2009 these were down to 300 000 with a small increase in goat numbers. But 'Meatco factories Export Abattoirs "now went from 190 000 animals to 865 000 animals and yet if one looks up Meatco it has no small stock abattoirs.

TABLE 3.3.1: NUMBERS MARKETED

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total marketed	**1,162,912**	**1,374,385**	**1,513,276**	**1,512,711**	**1,230,567**	**1,344,388**	**1,334,780**	**1,374,687**	**1,113,364**	**1,250,602**
RSA - Live	755,363	965,713	1,149,149	1,123,102	756,464	544,643	535,121	457,897	300,536	307,552
Meatco Factories (Export abattoirs)	192,795	254,966	318,713	366,454	435,676	772,422	725,558	856,438	762,647	865,758
Local Butchers	214,754	153,706	45,414	23,155	38,427	27,323	74,101	60,352	50,181	77,292
Market share (%)										
RSA - Live	*65.0*	*70.3*	*75.9*	*74.2*	*61.5*	*40.5*	*40.1*	*33.3*	*27.0*	*24.6*
Meatco Factories	*16.6*	*18.6*	*21.1*	*24.2*	*35.4*	*57.5*	*54.4*	*62.3*	*68.5*	*69.2*
Local Butchers	*18.5*	*11.2*	*3.0*	*1.5*	*3.1*	*2.0*	*5.6*	*4.4*	*4.5*	*6.2*

Source: Meat Board of Namibia, 2010

Imports of Goat Meat to South Africa

According to the Department: Agriculture, Forestry and Fisheries (DAFF) South Africa mainly imports fresh, chilled or frozen goat carcasses; fresh, chilled or frozen goat cuts with bone in; and fresh, chilled or frozen boneless goat meat. During the period of 2007 to 2016, South Africa imported about 6 200 kilograms of chevon per year yielding an average R83 139 per annum.
In 2017, only 1.8 ton of goat meat was imported from Namibia. Up to September 2018, no goat meat was imported into South Africa.

The assumption is that some million goats still enter the country from our neighbours, but the strenuous conditions imposed on goat importers put the industry in a place where it make sense to bleed them through the porous border. SARS seems to be aware of the problem as the article below shows

Namibian export controls

Goats need to be tested for brucellosis and Tuberculosis. The regulations render the export of sheep and goats equally impossible, as it implies 2 500 goats' blood must be drawn every week. Goats have to be held in quarantine in Namibia and South Africa all adding to costs. Lastly goats can only be imported by south African buyers. Namibians cannot fill a truck and come and sell them in South Africa.

SARS on illegal imports

The prevalence of customs fraud, in particular, under-declaration of value and weight and smuggling, is very high in the livestock sector, especially with regard to the trade in livestock from neighbouring countries such as Namibia, Zimbabwe and Lesotho through the country's land border posts. Large numbers of weaner calves, sheep and goats are exported at under-declared values and quantities to South Africa from Namibia.

The content of the trucks is poorly inspected at the border post to verify the correctness of import documentation owing to various reasons which include; insufficient lighting, off-loading and inspection facilities at the border post. Cattle and sheep carcasses are smuggled from Namibia or brought in at under-declared values. Research indicated that SARS officials are not adequately trained with respect to livestock and red meat; and do not have sufficient product knowledge to conduct inspections for verification purposes.

Large sections of the boundary fence between Zimbabwe and South Africa are either damaged or do not exist anymore and are not repaired and/or maintained by the responsible authorities.

FRIDGE Research – Customs Fraud And Illegal Imports Final Report (Phase 1 – 4) dated 31 March 2010

Goat demand in Soweto, in Gauteng, has been estimated at 2 000 goats per week and it is assumed that many of the townships and informal settlements around the country would display a significant demand for live goats. (DAFF, 2012)

This market is also supplemented by goats from the Northern Cape and North West and, between the months of November and May, the Eastern Cape

One of the largest international markets for live goats and goat meat is the Middle East. These countries require millions of kilograms of goat meat for their Ramadan and Haj festivals. The Kalahari Kid Corporation did enter this market, but the issue of regular supply continues to hamper any permanent arrangements.

The table below reflects the return on investment dealing in a live goat market. From GAP's work in this field, it can be demonstrated that communal farmers can easily outcompete Namibian imports and even outcompete Namibian communal farmers in the profit they would get per goat in an extensive farming system. The largest cost item difference is the breeding cost where Namibians buy-in rams on a regular basis as they assume that the South African live goat buyer wants a Boer goat breeding stock which is not the case so this cost can easily be sidestepped. There is an argument that home slaughterers prefer Boer goats for slaughter but beyond totally black indigenous goats, this preference isn't totally real.

Return on Investment for Goat Farmers

A comparison between Msinga, Namibian communal farmers and Namibian commercial farmers

Per Goat	Msinga	Namibia communal	Namibia commercial
Feeding Costs	R40	R45	R55
Vet costs	R50	R30	R30
Herding Costs	0	R50	R0
Breeding Stock	0	R5	R80
Transport (inspection, purchasing supplies and feed, sales)	0	R30	R40
Enclosure	R100	R60	R120
Labour	R100	0	R20
Land	0	0	R30
Water	0	R3	R7.40
Levy Auction	R20	R49	R49
Total Investment	R310	R272	R464
Goat sells for	R1000	R750	R750
Profit	**R690**	**R478**	**R380**
Profit	**69%**	**63%**	**33%**

2.3.2 Meat (Chevon)

The fact that negligible progress has been made in the meat goat sector despite all the interventions over the past two decades is an indication that few of the constraints and challenges identified during initial development initiatives and actions been overcome and that permanent solutions are needed to ensure that similar challenges and constraints do not prevent the sector from becoming a major factor in sustainable animal agriculture in South Africa.

These include:

- Unreliable statistics
- Consumer resistance to goat meat
- Insufficient market research and development
- Communication and collaboration between stakeholders and service providers
- Erosion of facilities at development centers
- Insufficient financial support

The goat meat market is often talked about and hyped, but many interventions have been attempted and failed. It is worth considering these failures as one design a future goat meat market.

Consumer resistance, market research and development, promotion of goat meat

Despite favorable carcass characteristics such as lower fat percentage compared to beef and mutton, as well as favorable meat to bone ratio, per capita consumption of goat meat in South Africa is low compared to other red meat types. While it is preferred by some, there is a high degree of consumer resistance that is unfortunately based on uninformed perceptions that include the following:

- Goat taint - unpleasant odour
- Beef and mutton are more tasty
- Coarse meat fibers
- Goats are only used in traditional ceremonies
- Small-scale farmers see goats as a cultural necessity and a savings mechanism so do not sell easily

The gross value of goat meat production has been about R 3.6 billion for the past ten years but value per year has seen some significant fluctuations for a range of reasons. There was a sharp increase in 2008 to R753, 978, 125 as a result of a high increase in the price per kg. During 2009, however, it decreased by 27% followed by a 30% increase on the 2009 value and an 18% increase during 2011(DAFF, 2012)

South Africa also imports fresh, chilled or frozen carcasses of goats, fresh, chilled or frozen cuts with bone in of goats and fresh, chilled or frozen boneless goat meat. From 2002 to 2011 South Africa imported an average of 4 314 kilograms of goat meat per annum. (DAFF, 2012) This could be sourced locally provided there was a constant and reliable supply.

The formal market is limited to producers that supply mainly Boer goats to abattoirs that sell to supermarkets and butcheries around the country. For some time, ShopRite-Checkers and Spar have marketed goat meat in different ways and Shoprite has attempted to develop consumer awareness around 'Chevon' (meat from goats slaughtered between 10 and 12 months of age) as an upmarket, healthier red meat. This has been done in collaboration with the SA Boer Goat Breeders' Association. Spar has expressed more interest in the value-added cuts and pre-packed, pre-spiced meat. They are also targeting the upper market segments and have expressed eagerness to source and promote value-added goat's meat. (DAFF, 2012)

Only 0.5% of the 1.8 million goats slaughtered annually in SA go through a formal abattoir. While goat meat is widely consumed in SA, very little of it is retailed. This because 99.5% of slaughtering takes place at household level.

Goat's meat has not previously competed with the beef, mutton, pork and poultry when traded in the formal market and it is important to focus on issues that will make more consumers consume goat meat by choice. This would include health benefits in table below as well as information promoting a tender tasty meat that can be prepared in various ways.

A comparison of the chemical composition of goat meat and other meat (per 100g) (Namc, 2007)

SPECIES	ENERGY (KCAL)	FAT (%)	PROTEIN (%)	IRON (MG)	CHOLESTEROL (MG)
Goat	144	3,0	27,1	3,8	67
Beef	288	18,8	27,1	3,0	86
Pork	364	28,2	24,7	1,1	86
Lamb	276	18,87	25,9	1,6	99
Chicken	190	7,4	24,7	1,2	89
Turkey	170	5,0	29,3	1,8	76
Ostrich	142	2,8	26,9	3,2	83
Veal	158	3,2	30,2	4,5	112

Potential of meat from local herds *(Simela, Webb and Bossman, 2011)*

Province	Number of goats (x 1000)	Primary use	10% of herd available for the meat market	Potential value of male castrates 16 kg carcass at R90 per kg retail
Limpopo	1000	Meat	100 000	R144 000 000
North West	771	Meat	77100	R111 024 000
Gauteng	9	Meat, fibre, milk	900	R1 297 200
Mpumalanga	100	Meat	10 000	R14 400 000
KwaZulu Natal	900	Meat, fibre, milk	90 000	R129 600 000
Free State	90	Fibre, Meat	9000	R12 600 000
Northern Cape	513	Fibre, meat	51 300	R73 872 000
Eastern Cape	3200	Fibre, meat	320 000	R460 800 000
Western Cape	256	Milk, meat	25 600	R36 864 000
Total			683 650	R984 457 000

The total potential value at R90 per kg for a 16 kg carcass is almost 1 billion Rand. Assuming that, for every ten goats slaughtered, two jobs could be created, this could result in 136 730 jobs.

Working on the assumption that 80% of the total number are indigenous, that 50% of this number would be females, and that the kid survival rate would be 50% of which 50% could be males with only 50% available for slaughter – either intact or as castrates, one could work on 10% of the total number being available for the meat market. The average carcass weight of 14.7kg for male castrates reported by Simela, Webb and Bosman (2011) is used to estimate the potential income.

In the GAP work, the staff have visited working goat abattoirs and seen some of the successes and challenges of these systems and the opportunities offered by having Mozambique, especially Maputo, so close to the South African border with a great eagerness for goat meat products. However, the price established by the live goat market is such that using these same goats for just meat might make the meat too expensive for the market to stomach. This is described in the table below.

2019 average meat prices from abattoir: Beef: R45/kg; Mutton: R65/kg

An adult goat of 40kg would give 16kg meat (40% dressing percentage)

At mutton prices (R65/kg) you would get R1440 worth of meat from this goat 2020 price for a 40kg live goat: R1040 thus loosing 360 Rand per goat.

This assumes people would spend as much on mutton as on goat meat but there is a perception of goat meat not tasting good.

If it sold at beef prices (R45) you would get R720 for the meat of a goat worth R1400.

In a market like Australia, goat meat is 40% more expensive than mutton: AUS $4 per kg mutton – AUS$7 per kg for goat.

Much is made of the export market and there is indeed demand for goats in the Middle East and Asia. However, South African cruelty laws have already intervened in loading live sheep or goats onto ships. The perception of South Africa being vulnerable to Foot and Mouth outbreaks also creates a problem and prices the goats to an uncompetitive advantage compared to our neighbours. There are no goat abattoirs in South Africa or within 1000 kms of KZN in neighbouring African countries. GAP has had to pay premium prices to get local abattoirs to process goats for education around goat meat texture and taste. In experiments to sell this meat at cost from these butcheries linked to the abattoirs, GAP has had no success.

Export market challenges

The current competitors in the international marketplace are Australia, New Zealand, Brazil, Somalia, India, Pakistan and France. Australians are selling their "feral goat", the Brazilians their "jungle goat", and the New Zealanders have penetrated the Middle East market with a high-value added gas flushed packaging (their competitive advantage).

Brazilian exports are exposed to a rebate-subsidy system to allow them to be competitive on the international market. Australian suppliers are familiar with the Middle East market and similarly have a competitive edge above other suppliers because of the Australian Government rebate system. This system allows the red meat industry of Australia (AUSMEAT), to export red meat products at cost, but all exports are subject to an Australian Dollar rebate of 80 c/kg.

The Argentinean "jungle goat" is also being supplied to the Caribbean. Argentinean goats have been widely accepted in the Middle Eastern markets because of the competitive prices offered. However, they compete with the Indian and Somalian goat in size and price. The Brazilian, Indian and Somalian product is therefore price competitive. Although the French receive a higher price for their goats, they trade on quality and are an alternate supplier to the Middle East. The French and New Zealand products are therefore both of a high quality and high value.

There have been opportunities suggested in Somaliland who currently export to Saudi Arabia for the Hajj and is currently caught in Middle Eastern political wrangles. There have even been government to government discussions around oil for live animals-cattle, goats and sheep. It is unclear where these negotiations and discussions are at.

Before any of these markets can be contemplated, the issue of regular supply needs to be adressed.

2.3.3 Genetics

The demand for South African goat genetic material (Improved Boer goat; Kalahari Red goat; Angora goat) in the United States of America, Australia, New Zealand, the Emirates, some African Countries and Asia continues to grow clearly showing that we have goat resources that are still highly sought after.

In addition, there is a growing local demand for improved veld goats that is adding value to resources in the rural areas. Maintaining sufficient surplus for this market is, however, a challenge in some areas.

2.3.4 Skins and leather

While efforts have been made to promote the processing of goatskins, this is currently limited. In addition, the skins of most goats used for ritual slaughter are cut into strips and distributed. Work done by organisations such as

Umzimvubu goats, Kalahari kid and the KZN Goat Agribusiness Project has, however, shown that correctly processed skins can be used to make a wide variety of traditional and fashion items with a value of up to R1 000 per item. Technologies for small scale tanning and processing have been developed and are readily available.

2.3.5 Fibre

Some indigenous goats have viable quantities of quality cashmere and, while there are export markets and international clients for the raw product, regular supply would be a challenge and it would make more sense to first develop the local market to resolve issues such as collection and marketing- particularly as the logistics of small quantities poses a major challenge.

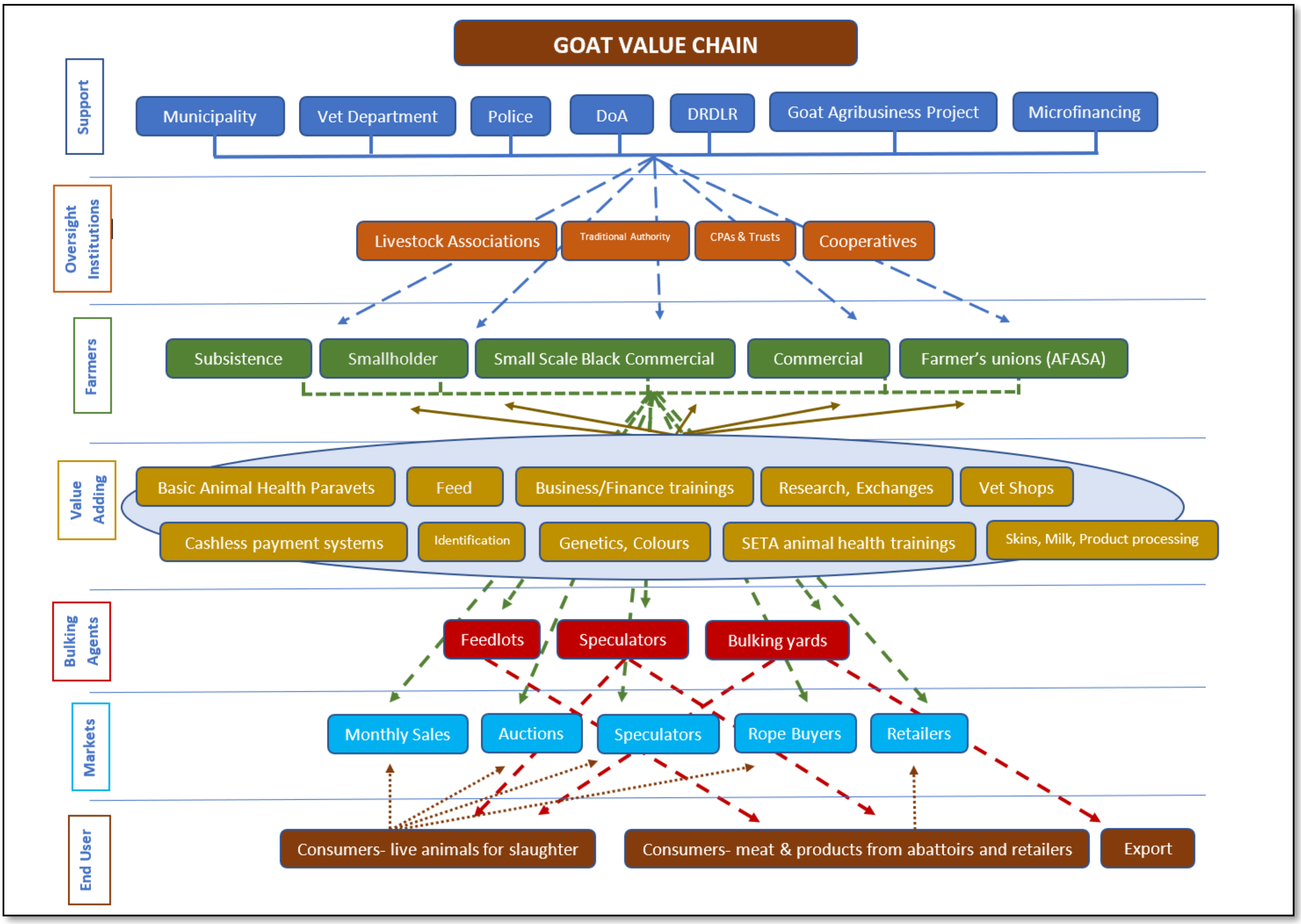
While income can also be generated in the rural areas, this should be seen as an added value to meat goats that have sufficient cashmere to collect. Cottage craft items such as wall hangings, traditional ornaments, shawls, jerseys and floor rugs could be produced for the tourism industry and for export. The value of white cashmere on the international market is R200/kg and brown cashmere R 100/kg.

2.3.6 Milk

Goat milk products are available on the shelves in South Africa. It is for the high value niche market and there is some potential to grow this market. The current breeds of goats that do provide sufficient milk are particularly vulnerable to diseases. They also only produce milk on an imported high protein diet. Some work has been done on crossbreeding local goats with milk goats to get goats that are disease resistant and produce sufficient milk for a dairy. This has had mixed success and to date has not take off anywhere. There are some milk goat herds in higher altitude, high rainfall areas of South Africa but these are generally very intensive factory farms with a large amount of capital investment for mechanisation. Goat milk and its products sell at roughly twice the value of cow’s milk and products.

3. Future value chain in the goat sector for emerging farmers

The goat value chain starts with the breeders, owners and keepers of goats (genetic material) and includes support services, marketing processing and retail – including a wide range of products such as skins, fresh, frozen and processed meat. There have been a number of interventions over the past 20 years – some have had a measure of success but others have even had an opposite affect where hopes were raised and where issues such as regular supply and competitive prices in the active informal market have impacted negatively on sustainability.



3.1 Overarching structure to manage the future goat industry

At the community level representing farmers a dip tank committee has been used in KZN by GAP with relative success. Similar structures would need to be revived or built up from scratch in other provinces that represents an interface between individual farmers and outside groups be they state or commercial. See Appendix 8.

The above suggests a Goat Industry Council that would pull together the stakeholders in this industry to start crafting an enabling environment to extend and expand the commercialisation of community owned goat herds. It would be chaired by a senior enough government official to be able to pull decisions into policy making fora. Although the focus would be on communal farmers, it does draw in the commercial farmer industries as well as the commercial sector. The police and vet are there for regulatory and stock theft oversight. Onderstepoort could start streamlining their veterinary materials for communal farmers, for example, creating a heartwater vaccine for goats. The farmers unions are also represented for the migration of communal farmers into small scale farmers. Goat Agribusiness Project (GAP) represents organisations that would partner with the state to start up these goat value chains and then hand them over to either the state or representative associations. Going forward it would probably be appropriate that RPO and NAMC have a goat specific division that would support African farmers although the levies would not be coming directly from them for a while. Currently the only civil society structures that work apolitically with farmers in KZN is the Livestock Associations based on dip tank committees.

3.2 Productivity

Productivity level	**Description**	**Who**
Training farmers on basic animal health	Have an extension support policy that trains farmers in basic animal health with supporting materials that also travel up the value chain.	GAP, Community Animal Health Workers, DAFF, farmer's groups
Feeding	Supporting farmers in various innovative ways of feeding goats through the winter bottlenecks	Academic institutions, research institutions, research farms, research farmers, GAP
Feed processing	Support the development and acquisition of small-scale low-cost feed processing systems, e.g. hammermills, blockmakers Set up microbusiness to sell to farmers	Manufacturers such as Ritlee, Hippo, Haka Youth businesses
Skills	Lessons around scaling herds for commercialization including herd composition Business and finance skills	Youth businesses and farmers, GAP
Tracking numbers	Engage with ARC to get census questions refined around livestock numbers and ownership and linked land ownership and use. Cross reference numbers through high quality spot checks at areas of interest	

3.3 Market

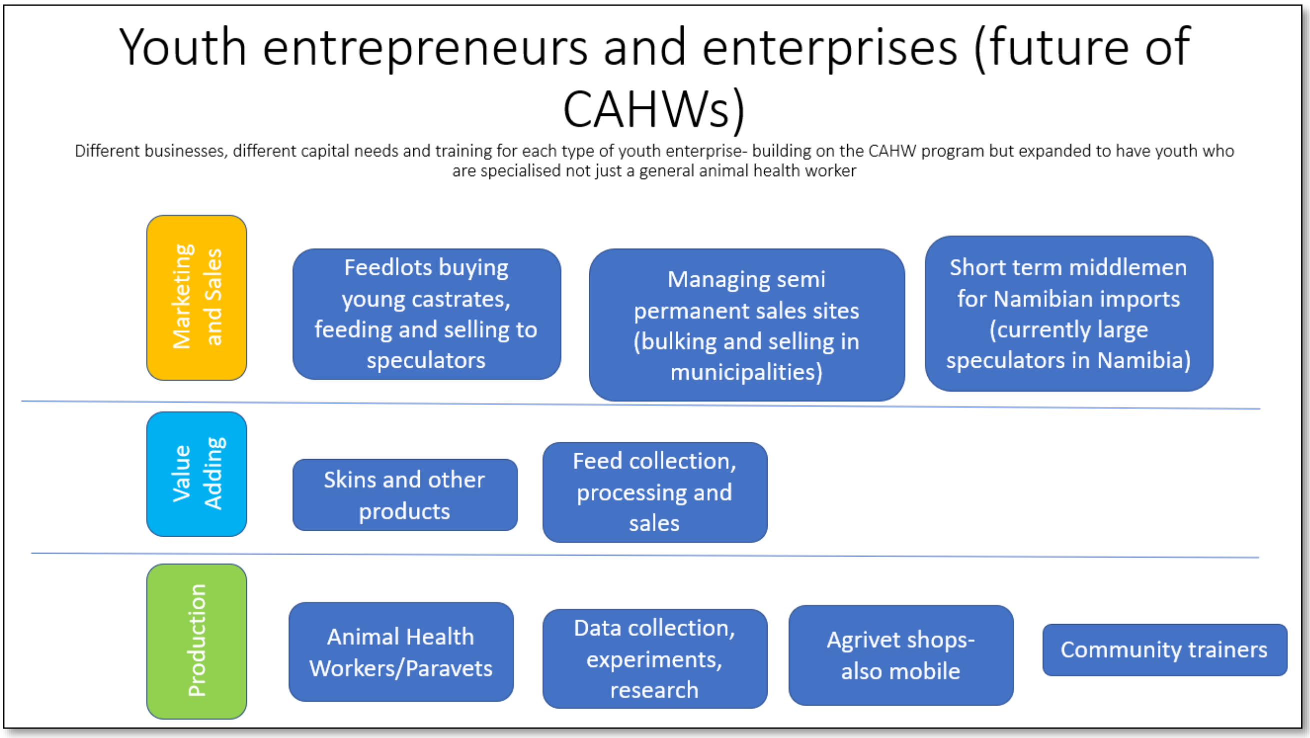
Market level	**Description**	**Who**
Feedlots	Youth entrepreneurs keeping small herds of goats collected in their area. These are dewormed, deticked and tattooed as per regulations. Buys young rams which are the lowest value, castrates them and keeps for several months. Sells to speculators.	Youth entrepreneurs
Bulking Agents, collecting goats	Youth with a bakkie collecting goats and bringing to municipal sales points or auctions or keeping them at home in a small pen and selling directly to speculators. They wouldn't keep them very long-week maximum.	Youth entrepreneurs
Speculators	New and existing vehicle owners who drive into rural areas and buy goats and sell directly to clients for slaughter or to larger urban based sales yards	Youth entrepreneurs plus current buyers/speculators
Auctions	Bi-annual municipal based auctions across the country to establish the pricing of indigenous goats. Should have breeding auctions, slaughter auctions and niche auctions such as just castrates or specific colours.	Livestock associations, local municipality officials, farmers, auctioneers (currently auctioneers are generally white businesses and this needs to radically transform)

Regular sales- monthly and semi-permanent	Monthly sales taking place at urban centres in rural areas. Portable or permanent structure is built in each of these areas and maintained by the municipality. Permanent sites would be identified regardless of the structure and policed by Livestock Association and stock theft unit as well as Animal Welfare agencies	Municipality, Livestock Association, youth entrepreneurs, Stock theft unit, Animal welfare
Imports	In the short term, until local productivity increases and Namibian imports can be decreased, establish youth businesses to import directly from African communal farmers in Namibia thus empower Africans on both sides of the border but also be able to deliver livestock directly to the customers rather than the current system that has to be routed through Durban.	Youth entrepreneurs
Exports	Long term vision once local demand has been met, look at markets such as the IORA, Asia, Arab countries and Maputo as meat	DAFF, Department of Trade and Industry, commercial farmers
Skins	Goat skins is used internationally for shoes and gloves as they are thin and tough. The hair on market has not been extensively tested though it makes more sense than hair on cattle skins which need to be split and thinned with expensive industrial machinery. Set up youth businesses to collect skins, store them properly to preserve the hair and possibly process them post tanning.	Youth entrepreneurs, SETA trainers, farmers, tanning companies
Milk	There is a goat milk industry mainly for high value cheese and milk linked to lactose intolerance or French cuisine. This is a shrinking industry as the milk goat herds have not increased and is currently around 21 000 goats. Possibility to cross with indigenous breeds to increase milk	Value adding processing by commercial farmers whether these are communal or emerging

OPPORTUNITIES FOR MEAT GOATS IN SOUTH AFRICA

Opportunity	Details	Challenges
Breeding material	Ongoing demand for registered breeds as well as the IVG Growing market for hardy unimproved veld goats	Regular supply; reliable genetic information; traceability
Live goat market Import and export	At least half of the goats currently imported from Namibia could be sourced locally Possible export markets of slaughter goats	Regular supply; ID and traceability
Mobile abattoirs	Mobile abattoirs with the capacity to handle a marketable number of animals at a collection facility. Such facilities could also be used in FMD control areas providing a much-needed market for stock owners in such areas	Regular supply; approval from animal health for slaughter in FMD control areas
Goat meat and goat product markets	Fresh and processed goat meat as a regular item in up market and normal retail outlets	Regular supply of slaughter goats Guarantees on health and traceability

	(Woolworths Spar, Pick n Pay, Shoprite Checkers) This would include fresh meat as well as precooked cuts and processed meats	Promotion of goat meat as a tasty alternative to beef and mutton Development of a product range including precooked cuts and processed meats Value chain traceability
Goat product market	A range of cultural and fashion items using hair on and	Regular supply of skins for processing Need to review why past initiatives failed to avoid repetition
Goats to control weeds	Goats could be used in orchards and plantations for weed control	Regular supply of goats Organising such a 'service '



3.4 Health

Health intervention	Description	Who
Basic animal health	A training programme spread over a year with quarterly trainings and proper materials and aids and AgriSETA accreditation. A network of appropriately packaged medicine kept in conditions that ensure efficacy be rolled to rural towns and centres through agri vet shops and mobile youth sales systems	Youth entrepreneurs, government extensionists, GAP, Agrivet shops
Vaccines	Start a development programme for heat tolerant vaccines in proper packaging and cold storage systems for communal farmers	ARC- Onderstepoort
Dipping	Goat dipping systems appropriate for small farmers and small farmer groups built and tested and rolled out. The state vet system registers these dips and oversees maintenance and use.	State vet, Livestock associations, GAP, farmers

Value chain job opportunities for dip tank area				
Service	**Number for the remaining land available**	**Narrative and details**	**Capital**	**Jobs**
Vet shop	Vet shops at 6 centres in the municipality	6 businesses mainly stock and cold chain	100 000 per unit	18 jobs
Feed processing person Hammer mill and blockmaking	20 dip areas	20 at 1 per area hammer mill per area	40 000 per unit	40 jobs
Speculator	10 speculators	Each has 15 – 18 farmers that they servicing – need bakkie and 4 staff	200 000	50 jobs
transporter	3 transporting companies	Each one needs a truck 6 ton double layer transporting system plus loading ramp	400 000	30 jobs
Skins	5 youth businesses	Sewing machine tools	20 000	5 jobs
Abattoir/butcher	4	Added to current 4 butcheries allow for smaller carcases	50 000	8 jobs
Primary animal health	20 youth	Training and vet kit subsidised to start up	50 000	20 jobs
Preparing and grouping stock	20 youth	Tattooing kit and enclosure and feeding equipment – collect feed herd	20 000	40 jobs
Monthly sales	5 portable sales yard	7 gates and pins per group	25 000	10 jobs
Auctions	1 auctioneer	1 auctioneer going around the area holding auctions for prime stock for specific markets	150 000 3 auctions	10 jobs
Research	6 researchers	Researchers carrying out relevant research to small holder farmers; And a platform or exchanges to share research with farmer and other stakeholders	R20 000 per researcher Quarterly exchanges @ R15 000	6 jobs
Training	200 farmers receiving 30 days of training over a year 20 CAHWs training of 30 days of training over year 5 youth receiving training for skins 30 days over a year	Training in basic animal health and improved productivity and business skills	R300 per day per person, 30 days each, 225 people	2 trainers, 90 days of training Plus prep and travel 220 days
Genetics	2 annual auctions for high value breed animals	To get farmers to look at herd composition and sell best animals for high value	R50 000 per auction	10 jobs (collecting and transporting)
cashless	200 cards for sellers	A cashless system like ABSA cards where money can be loaded	R100 per card R20,000 total	1 job administrator
Feedlots	2			
Rope buyers	700	Farmers who are actively selling small amounts that make it worthwhile for a speculator in the area but aren't selling regularly	4000 goats at R1000 average R4,000,000	700
Totals				960

3.5 Land Reform

<table>
<tr><th colspan="5">For a 100 LSU farm and herd</th></tr>
<tr><td>Area</td><td>Cattle land price</td><td>Goats land price</td><td>Cattle</td><td>Goats</td></tr>
<tr><td>Drakensberg grassland</td><td>R3 500 000</td><td>R3 500 000</td><td rowspan="4">Capital outlay R1 000 000

Profit annually R158 000

Return on investment 15.8 percent

5 full time jobs

5 value chain jobs</td><td rowspan="4">Capital outlay R400 000

Profit annually R400 000

Return on investment 100 percent

9 full time jobs

6 value chain jobs</td></tr>
<tr><td>Midlands grass and savannah</td><td>R1 584 000</td><td>R1 161 000</td></tr>
<tr><td>Bush and thicket</td><td>R860 800</td><td>R687 200</td></tr>
<tr><td>Desert</td><td>R3 850 000</td><td>R3 850 000</td></tr>
<tr><td colspan="5"></td></tr>
</table>

An LSU in the above table is a Large stock Unit as defined as below by DAFF.

Animal units are standardised units to enable comparison between small animals or breed with larger animals or breeds on the same scale. Animal units are also linked to a standardised feed intake or nutrient requirement. An AU is essentially a measure of forage demand by a theoretical animal unit that can then be converted according to the relative demands of different animal classes based primarily on metabolic bodyweight.

The large stock unit (LSU) was defined as the equivalent of one head of cattle with a body weight of 450 kg and gaining 500 g per day (Meissner et al., 1983).

This suggests that the 100LSU farm will be bigger in harsher environments and smaller in wetter environments. below is a table showing an example of this proposed farm size in three vegetation types linked to rainfall

Vegetation	Semi-arid grassland	Moist grasslands	Bushveld
Ha/ 100 AU	1250	310	425

The last two columns show how many jobs to what capital outlay and possible income that could be expected from either cattle or goats on such a piece of land.

4. Key Recommendations

Starting points to launch the goat industry

- Start municipal markets in rural towns
- Build productivity focusing on animal health and feed by setting up youth businesses 1 for 150 farmers or households
- Acquire land reform farms either from sellers or underutilised or failed land reform farms and subdivide into 100LSU pieces for small scale commercial farmers

- Have a national extension policy on goats including standard training for farmers and extension staff following a goat master plan.
- Increase productivity in communal herds from the current 30 percent to 60 percent adding a million goats to the market and generating R1.2 billion.

Areas to expand goat productivity

- Currently GAP works in five districts in KZN. The rest of the province would be the first area to expand into.
- Eastern Cape from Port Elizabeth to Kokstad
- Northern Cape especially around Upington, Kuruman and Kimberly
- Limpopo and Mpumalanga especially around the areas bordering the previous TBVC states

Recommendations livestock	
Problem	Solution
It is illegal to sell livestock municipally declared towns although it happens in every single town in South Africa	Government would have to change municipal bylaws to allow livestock to be sold within city limits but at the same time build safeguards to this system to protect the animals from sitting the sun with no food or water for days.
Stock theft is the first or second on the list of problems that farmers blame for productivity losses.	At sales points, there is regular policing to check on legislative livestock marking, check that the documents are in good order and are provided by the Livestock Associations from their areas. The Livestock Association leadership also regularly visit the market and are supported by local law enforcement. All sales happen inside an agreed upon or approved marketing point.
Cash transactions will inevitably lead to armed robberies of various degrees of severity	Support a variety of pilots that incentivise banks to provide rural cashless systems that aren't reliant on smartphones.
Farmers will often be wanting to sell livestock in small quantities as and when need be, but buyers need the regularity and bulk to make the trip worthwhile.	Set up monthly sales points at pensions which are within walking distance of farmers homes and once both the buyers and sellers believe in its regularity, they will start coming. Separately and in support of this, incentivise young people to be a sub step in the value chain where they collect and prepare livestock for sale and these animals are paid for a small commission as they are both healthier and more secure. Set up a digital platform with both SMS and what's app to advise buyers and sellers of each other's activities and thus ensure the continuity.
There is not a well understood or developed layer of commercial African farmer on land reform farms specifically for livestock.	Develop this class of farmer by working with a few self-selecting farmers from each farming area who want to upscale and commercialise their herd or flock. Where necessary find land to expand into. Link these farmers directly to speculators and agree on a productivity system that works within the environmental limits of carrying capacity and parasite loads.
Veterinary support for any scale of extensive livestock is currently not supported in South Africa. This extends from private vets all the way to dosage sizes and packaging.	Support a system of veterinary support steps from a Community Animal Health Worker (CAHW) treating farmers' livestock for a small fee to having a veterinary sales point in every village ensuring that cold chains of medicines and vaccines are supported and checked on by local government staff to supporting veterinary wholesalers supported

	by the vet companies and training materials that support farmers to understand medicines, dosages, antibiotic resistance, etc. Communal support structures that support other livestock than just cattle, e.g. goat dips, chicken vaccinations.
Winter bottlenecks and extended droughts as well as times of feed stress (weaning pregnancy)	Solution: Establish localised feed processing systems using local produce, crop residues and indigenous plants as much as possible to sell supplemental feed options to farmers.
Problem: Most African livestock is not well understood and natural bottlenecks in their productive systems are not written up and disseminated.	Incentivise research around African livestock systems in government funded program like the NRF, ARC and universities and Technikons. Set up useful experiments that answer farmers questions on currently government owned research stations that reflect the reality of farmers' systems and ways of working.
Government staff have no extension policy that talks to either livestock or land reform beneficiaries	Establish a simple curriculum that acknowledges a variety of new realities like a) small scale farmers b) land reform beneficiaries and c) communal stock farming.
Farmers can often not access things individually, but cooperatives often seem to fail.	Pilot other models of cooperative buying, selling and resource use
Farmers often want to commercialise but don't have the multiple skills needed to be effective and efficient at this.	A broad scale training of many interventions spaced out across monthly or bi-weekly morning or afternoon trainings that is incentivised by the state not supporting farmers who aren't following through on getting the list of qualification.
Women and youth are often not assumed to be the target beneficiary of agriculture support, yet the reality is that they are the present most of the time at home and make a majority of decisions around homestead herds. The youth are also literate and interested in learning and making money.	Focus extension efforts on the broad scale around other livestock than cattle. Support localised extension systems that come to the farmers. Create extension systems that rely on setting up small businesses towards self-sufficiency that would give these youth jobs in their own small businesses. If this becomes the hook that all extension is hung onto, it will resolve a lot of problems around sustainability, employment creation and skills loss in rural areas.

GOVERNMENT SUPPORT

Government support is largely in the form of policy and strategy, supportive legislation and the provision of technical advice and support from centers in the Provinces with the resources to provide such services to the broad client base in the vicinity of such centers. This includes extension and training as well as a degree of farming system research and development that is largely dependent on financial resources.

This was dealt with under Section 3.2where some of the key agricultural development centers with the capacity to support were listed. Some of these, however, are no longer as active as they used to be and this should form part of a sector review – Provincial and National structures and capacity.

Policy and strategy

Policy and strategy (of which some are listed in Table 9), while well meant, has also been the victim of financial constraints and needs revision to identify the most important issues that should get priority attention – e.g. accurate statistics – if this strategy is to succeed.

SUPPORTING POLICY AND STRATEGY

Policy/strategy	Published (Year)	Details
Animal Improvement policy	2003	This policy was drafted to support the animal improvement Act and includes interventions for the sustainable use of farm animal genetic resources
National Livestock development strategy	2006	The National goat strategy was incorporated into this document as many of the interventions were generic in nature
Provincial strategies	To be updated by Provinces	Some Provinces have Livestock development strategies (N Cape, KZN) with KZN recently launching a goat development strategy that could be used as a model

Legislation

This document focuses on relevant legislation administered by DAFF in the table above and it should be noted that some of this is under review. Of particular importance is the animal welfare legislation as well as the legislation around animal identification and traceability.

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Acknowledgement to the following for their contribution to this report: Amie Aucramp, Keith Ramsey, Jean Rust, Trevor Dugmore, Stephanuns Malan, Thinus Jonker, Christo de Brauer, Carina Visser

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Appendix 1. - Key industry organisations

Organisation	Details	Function in a revised strategy
Breeders societies	See table 8	
National Agricultural Marketing Council	The National Agricultural Marketing Council was established in terms of the MAP Act No. 47 of 1996, as amended by Act No 59 of 1997 and Act No. 52 of 2001. The NAMC provides strategic advice to the Minister of Agriculture, Forestry and Fisheries on the marketing of agricultural products	Revised market study
South African Meat Industry Company (SAMIC) .	A Section 21 company with a Board of Directors that was established following the expression of the need for an umbrella organisation that would ensure the effectiveness and survival of the South African red meat industry in a deregulated environment	Not sure
Red Meat producers Organisation (RPO)	The Red Meat Producers Association (RPO) is a service organisation that acts as mouthpiece for South African commercial red meat producers. It is an independent producer's organisation that strives to dynamically promote the sustainability and the profitability of the red meat industry in South Africa.	Promotion of a sustainable and profitable red meat industry in South Africa is operational through our bargaining and consultation with government and other organisations in order to further the interests of the red meat producer, locally as well as internationally.
RMRD South Africa		Supportive and relevant research and development inputs including product development and promotion Funding key aspects of the strategy
South African Stud Book and Livestock Improvement Association (SA Stud Book)	Represents all breeders of registered or recorded dairy cattle, beef cattle, sheep, goats, horses, pigs, and ostriches, as well as registered livestock breeders' societies. Stud book registers goats of the following breeds: Angora, Boer goat, British Alpine, Gorno Altai, Indigenous goat, Saanen, Savanna, and Toggenberg	Pedigree stock services
National Emergent Red Meat Producers Organisation (NERPO)	The National Emergent Red Meat Producers' Organisation (NERPO) was established as a voluntary commodity farmer Organization in 1997 to commercialize the developing agricultural sector and ensure meaningful participation of black individuals within the mainstream commercial agribusiness sector, hence ensuring the long term sustainability of the agricultural sector in South Africa.	Member services aligned with the strategy
Agricultural Research Council — Animal Improvement Institute .	Manages (Nat.Milk Recording Scheme and the Small Stock Livestock Performance Scheme. The Milk Recording Scheme benefits farmers by providing them with quantitative and qualitative data regarding the genetic potential of their animals	Management of the National Databank (INTERGIS); production research and development; ART; product research
Vleissentraal Ltd.	A closely held public company established in 1932 as a central cooperative involved with the marketing of livestock and livestock products. During 1996, Vleissentraal restructured into a non-listed private company. Its shareholders consist of 30 agricultural cooperatives	Marketing live goats
BKB	A former cooperative in the process of being transformed into a company. The main activities of BKB focus on livestock fibre production and markets; however, the cooperative is also involved in livestock marketing.	Marketing live goats

Appendix 2 - Stakeholders

Annexure 1 of the NAMC/DAFF/ Com Mark report on the status of the South African Goat Industry has a comprehensive list of industry organizations and stakeholders. Some of these are no longer active but for the purposes of this document, key functionaries that remain active are listed in Tables7 and 8.

It would be in the interests of all concerned to update this annexure – possibly including it in a literature/ sector review that should be one of the key interventions in this development plan. This is particularly important when it comes to marketing and processing as a number of abattoirs that used to slaughter goats have been closed and as the affiliated processors may also have closed down.

BREED SOCIETIES, CLUBS AND INTEREST GROUPS IN THE MEAT GOAT SECTOR

Breed	Society/ Club	Details
Boer goat	**Boer Goat Breeders' Association (BGBA)**	Established in 1959 to improve and protect the interests of the Boer goat farmers and to introduce a uniform breeding policy and selection criteria.
Kalahari red	Currently fall under the BGBA	Amalgamated with the BGBA
Savanna	Currently fall under the BGBA	Amalgamated with the BGBA
Improved veld goat (IVG)	Applied for registration as a breed Society	P O Box 17317 Bainsvlei 9338 South Africa

Kalahari Kid Corporation
Kalahari Kid is a joint initiative between commercial promotors, the Northern Cape Provincial Government and emerging farmers in the Northern Cape. Originally, it was intended to enhance goat production and marketing using the SA Boer goat and other indigenous goats, but supply issues led to a focus on Boer goats. Enhancement includes facilitating improved and intensive goat farming in rural areas and with small scale / emerging farmers. Kalahari Kid had contract growers (farmers who farm with goats, solely for resale to the Kalahari Kid Corporation). Interventions include the **c**ommercialisation of a range of products related to goats (Including goat meat marketed as Kalahari kid/Capretto), job creation from goat breeding and sales as well as spin-off industries and the improvement of rural breeding herds (mainly Boer goats) Kalahari kid is currently selling goat meat to restaurants in Johannesburg and they are looking at entry into supermarket chains once a regular supply can be assured. Current consumers are largely international clientele living in South Africa – including Nigerians, Kenyans, Zambians, and Ghanaians, people from the DRC, Botswana, Zimbabwe, Brazzaville, Portuguese, Greeks and Italians. Local consumer demand for goat meat remains a challenge that needs additional market research and promotion. Live goats are also exported by air to a number of destinations in Africa
Umzimvubu Goats
Umzimvubu Goats - a production and processing facility was established in the town of Mount Ayliff in the Eastern Cape Province. The infrastructure included holding pens, an abattoir, a processing plant, tannery, an administration building, and a restaurant and retail outlet. Craft production units were also established. Over 3 000 breeders in the surrounding area were organized into six regional cooperatives to raise goats under contract with Umzimvubu Goats. It was estimated that a typical producer with 20 goats could sell about 15 kids a year to Umzimvubu Goats (Roets, Madikizela, Mandisi & Mazubane (2010).

Unfortunately, the abattoir and processing plant were over capitalised and could also not run to capacity (40 – 60 goats per day) and soon ran into a sustainability problem. In addition, mistakes in preparing halaal products lost this critically important market

This market added value to indigenous goats and made good use of the multi-colour patterns of the local goats for a range of products including handbags, karosses and gloves. The infrastructure still exists and could be revived – providing attention is given to a regular supply of indigenous goats.

Kgalagadi Dipudi – Cross-border Project - Northern Cape/North West Province

This project included the formation of Goat Interest Groups, and the training and facilitation of these groups by a group of extension officers from the Northern Cape and North West Province and officers of the Northern Cape Office of the Status of Women known as Metswedi (the fountain). There are currently 43 goat interest groups and they have successfully organised themselves into a cooperative known as the Kgalagadi Dipudi Enterprise (KDE).

Boer Goat Farming in North West province

The Ngaka Modiri Molema District Municipality in the Northwest Province of South Africa handed over 103 Boer Goats to beneficiaries of a land reform project near Sannieshof. The 10 beneficiaries of the goat section of the project took delivery of the Boer Goats in March 2009.

Kalahari Red Goat farming by Bakgatla Ba Kgafela Traditional Authority (BBKTA) in North West Province

Developed with a technical advisory service provider by the Bakgatla Ba Kgafela Traditional Authority (BBKTA), representing 350 000 people living in 32 villages, they have developed an economic master plan with commercial goat farming as its central pillar. The aim of the project is to improve the genetic quality of the local herds, which will ultimately result in increased production and greater returns on investment.
The goat project is situated on the 400ha farm Vogelstruisdraai in Dwarsberg, where 70% of the households keep goats. The initial beneficiaries are a group of 33 farmers with a total of 470 goats.
Local supermarket chains have shown interest in stocking meat and the BBKTA is looking into co-operating with the EU-approved abattoir in Rustenburg.

Kwa Zulu Natal Goat Hyper

This is an initiative that is capitalising on the huge demand for predominantly white goats for ceremonial purposes as well as a smaller market for goat meat. Buyers are able to pick out their animal of choice and pay for it on site. The biggest demand is for white goats – predominantly Boer goats that are currently imported from Namibia. As the goats are largely destined for slaughter, the fact that they have little to no resistance to diseases such as *Cowdria* is not important. These goats could be sourced locally but the challenge would be to ensure a regular supply.

Goat Agribusiness Project

A group of agricultural innovators in KwaZulu-Natal have seen the potential in goats to boost food security, stimulate small entrepreneurs and ultimately establish an export industry. Their first task, simply put, is to stop kids dying off through a community-based programme of vaccination and nutrition, and in that way boost production by up to 40%. The hundreds of thousands of goats that are now having to be imported from Namibia to meet demand, will be able to be sourced locally, changing lives across the province and wherever goats are used for meat or ceremonies.

The vision: The KZN Goat Agribusiness Project aims, within five years, to stitch together a value chain that will double indigenous goat production, develop 7 000 women commercial farmers, create 620 youth jobs and 700 microbusinesses, and generate R100 million in extra value from the herds. The partners: The KZN Goat Agribusiness Project is a R70 million initiative that has already developed strong momentum in five districts in the province: Mzinyathi, Thukela, Uthungulu, Zululand and uMkhanyakude.

The partners in the project are Mdukatshani Rural Development Project, HPSA, the Department of Rural Development and Land Reform, the Department of Agriculture and already they are looking for ways of expanding its reach. How does it work? The hubs for the project are individual homesteads where women are in charge of the goat herds, and also more than 100 dips in an area spanning from the Drakensberg berg to Mozambique border. Each dip has a reach of about 300 farmers who are or will be part of the project, and so 30 000 farmers will be brought into the project directly or indirectly. Servicing the needs of these women farmers are 300 youth who have been trained as Community Animal Health Workers; some administering animal health, some organising winter feed and manufacturing protein/energy blocks, some processing hides for leather products. Altogether this will result in 700 microbusinesses across the countryside. To date, there are already 5 000 project members, and growing.
Kwa Zulu Natal Innovation Platform
A more recent development is the Kwa Zulu Natal innovation platform that is a joint venture between Mdukatshani Rural Development Project, Heifer International South Africa (HPSA), The National Department of Rural Development and Land reform and the Kwa Zulu Department of Agriculture and rural development. This initiative is integrating a range of activities, institutions and individuals with one common purpose – the commercialisation of goats as a viable commodity in the Province. This initiative was recently launched at an event that had the support from both Political and Traditional leaders in the Province and benefits including training, marketing of live goats and production inputs such as the making of cost effective licks are already flowing to the owners and keepers of goats in Kwa Zulu Natal. What will be important is to introduce individual animal identification and value train traceability. This is particularly important where animals and animal products are to be sold to markets that require information on the origin and welfare of the animals involved.

Appendix 3- Legislation relevant to the meat goat sector

Act	Purpose
Animal Identification Act, 2002(Act 6 of 2002)	Provides for a national register for Animal Identification (AID) marks that will act as a first line of defence against stock theft, as well as to enhance identification of property and support traceability.
Animal Health Act, 2002 (Act 7 of 2002)	Provides for measures to promote animal health and to control animal diseases; to assign executive authority with regard to certain provisions of this Act to provinces; to regulate the importation and exportation of animals and things; to establish animal health schemes; and to provide for matters connected therewith.
Meat Safety Act, 2000 (Act 40 of 2000)	provision for proper standards of hygiene in the slaughtering of animals for meat for human and animal consumption, the handling, keeping and conveyance of meat and animal products and to prohibit the slaughtering of animals at any place other than an abattoir that complies with prescribed requirements with regard to outlay, structure and fixed equipment and other facilities. This Act also controls the importation of meat by way of a permit system.
Animal Improvement Act, 1998 (Act 62 of 1998)	Provides for the breeding, identification and utilisation of genetically superior animals in order to improve the production and performance of animals in the interest of the Republic; and to provide for matters connected therewith.
Animal Diseases Act, 1984 (Act 35 of 1984)	Provides for managing of animal diseases and parasites, for measures to promote animal health, and for matters connected therewith. This act prevents the movement of animals without authorized health permit.
Fencing Act, 1963 (Act 31 of 1963)	The purpose of the Fencing Act is to consolidate the laws relating to fences and the fencing of farms and other holdings. It regulates the fencing of boundaries of land on which farming operations are carried on.
Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)	Provides for monitoring over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants.
Animals Protection Act, 1962 (Act 71 of 1962)	Provides for the care and protection of animals in South Africa (Currently under review)

Appendix 4 -Development centres with goats and related research facilities

Centre	Biome	Province	Goats	Training/ Research and development potential
Mara	Savanna	Limpopo	Indigenous	Unknown / Uncertain
Towoomba	Savanna	Limpopo	Boer goat	Bush control work
Delftzyl	Savanna	Limpopo	Indigenous	Unknown/ Uncertain
Dundee	Grassland	KZN	Indigenous	Training; Fodder research
Cedara	Grassland	KZN	Indigenous	Meat research?
Dohne	Grassland	EC	Indigenous	Training; genetic material
Glen	Grassland	FS	Unknown	Training
Adelaide	Albany thicket	EC	Indigenous	Genetic material
Grootfontein	Nama Karoo	DAFF / EC	Indigenous Boer goat	AI training Bio bank Meat research?
Potchefstroom	Grassland	NW	Unknown	Training
Canarvon	Nama Karoo	NC	Tankwa goat	Genetic material

Appendix 5 -Proposed first steps, Middleburg 2015 RPO meeting

ELEMENT/ACTIVITY	PARTNERS	TIMEFRAME	COORDINATOR
Establish a National Goat Working Group (NGWG) with a functional secretariat and develop terms of reference, etc.	DAFF, ARC, DTI, DRDLR All role players and stakeholders	Initial meeting at GADI in Feb, 2016	DAFF (incl. GADI) RPO
National goat resource survey including animals, facilities and nucleus herds	DAFF, ARC, DTI, DRDLR, PDA, Universities		NGWG
National goat databank – statistics, genetic and production information and resources stored on the National Livestock Databank (NLDB – INTERGIS)	DAFF, ARC, NAMC, RMRDT, Provincial DoA, Universities		DAFF, NRF, ARC
Develop a National identification and traceability system for goats	DAFF, ARC, Provincial DoA		DAFF
Identify and establish integrated farmer support centres for goat owners, breeders and producers	DAFF, PDA, public-private partnerships		DAFF PDA
Review existing training facilities to develop capacity for specialised goat training — goats as a specialty field	DAFF, PDA, universities, colleges		DAFF GADI NGWG
Establish a National goat producers organisation with a national SA Goat logo	DAFF, ARC, Industry partners, NAMC,		NGWG
Revised programme for the mobilisation of rural goat owners and producers towards commercialisation of goat resources (including indigenous goats)	ARC, DAFF, DTI, DRDLR i, PDA, industry		NGWG
Review of known market surveys — followed by supplementary surveys (where necessary) — at national and provincial level.	DAFF, NAMC, UNIV, PDA, Producer organisations		NAMC DAFF
Development of appropriate market infrastructure — including: Institutions trademarks and certification protocols and trade agreements	NAMC, Producer organisations, DAFF, DTI		NAMC
Product review, research, registration, development and promotion including the promotion of goat meat as a tasty and viable alternative to beef or mutton	SAMIC, ARC, DTI, RMRDT		NGWG
Development of R&D models and nonprescriptive business development models, mentorship programmes, development and case studies	DAFF, ARC Producer organisations financial institutions CASP, Mafisa		DAFF, R&D
Flexible finance packages to suit all levels	Land bank, DAFF, DRDLR, DTI, Industry		DAFF, DRDLR
Develop an integrated research protocol to address key animal health issues in the sector including heart water, parasite tolerance, kid mortalities, etc.	DAFF, ARC – OP, UP-OP,		NGWG
Ongoing communication with associates, authorities	All		NGWG

Appendix 6- Value chain responses for NAMC engagement on goat master plan 2020

I. Inputs segment of the value chain

• What are key inputs in a typical production structure (e.g. land, fertilisers, water, energy, labour and others) of selected commodity value chain? Provide cost shares of each input type in a specific commodity value chain?
• Who are the main players and suppliers of inputs, including resources (e.g. land, water and finance) in the specific commodity value chain?
• Are inputs (e.g. fertilizers, seeds, pesticides, breeding stock, fuel, machines & others) produced locally or imported (provide analysis in volume and Rand value of inputs)?
• What is the transformation progress of inputs suppliers, share of black players in the input supply segment of the value chain?
• What are established distribution channels of agricultural inputs to farmers? What can be done (reforms required) to expand access for new players, particularly black players and rural areas?
• What reforms are needed to address concentration levels and anti-competitive conducts?
• Does South Africa have the potential to produce key inputs locally, that is import substitution? If yes, what are investment requirements? Where can these new inputs production factories be located – districts identification?
• What are horizontal policy, regulation, support mechanisms and institutional reforms required at input level of the value chain

Inputs of goat value chain

Input	Main player	Local/import	Transformation	Current channels to BEEE	Reforms needed	Can we make it ourselves	Where it could be made	Support mechanisms needed
Land	DRDLR Ingonyama Trust	Local	XXX percent of SA is owned by the state	New presidential panel on land policy	Underway	N/A	N/A	Removing tribal identity for farmers, subdividing farms to shape and size relevant to goat farming
Startup herds	60% owned already by African farmers, stud breeders generally Europeans	Local European Namibian	Very fragmented but moving towards African ownership	GAP project, Agricultural colleges, IVG, AFASA	Subsidised African breeder associations, simplify administration and membership	Already being done but should be expanded	High disease and adverse climatic conditions KZN, EC, NC, Limpopo key areas	Capital/financing, holding enclosures and livestock moving infrastructures, veterinary assistance to support moving between areas (deworming, Multivax P)
Feed	Voermol, AFGRI, Meadow Feeds, Molatek	Local and imported (soya comes from outside)	At the shareholding level	State is supporting startups but critical mass is different for this input, CAHWs	Market for feed is controlled by a few international and national companies, these need to be diversified or broken up	Could grow own soya but we have no competitive advantage Instead of exporting all of our maize, we could retain some for	Generally high rainfall areas including the Free State, some of KZN and small part of Mpumalanga	Regulatory framework works against small scale entrants, more control on urea based products wrongly marked for goats, smaller packaging and quantities, distribution to rural towns, products

						animal feeds Use local materials such as acacia pods and process locally where possible		specifically for goats Agrivet shops
Vet Medicines	MSD, Bayer, Virbac, Afrivet, Pfizer	Mainly imports (actives mostly made overseas)	Possibly at the shareholding level	Very difficult because of medicine regulation mechanisms for production For distribution, some existing shops	Market for markets is controlled by a few international and national companies, these need to be diversified or broken up	No, patented and highly regulated market. Want to avoid like other African countries with a market flooded with Chinese knockoffs	N/A	Cold chain support Government oversight at rural shop level Training Support for Agrivet shops in rural areas Smaller packaging Goat specific medicines- packaged and tested
Labour	Farmers	Local	Mainly African owned	Already there	N/A	N/A	N/A	Training support

II. Production segment of the value chain

• What is the production level (in volume and Rand value) of the commodity in the country?

Of 7.8 million goats estimated

30% production communal or 1 280 000 goats a year of 4.3 million goats

60% production commercial 1 038 000 goats of 1.7 million goats

Total production level per year 2 318 000

2.78 billion Rand value produced

• Who are main players in production (i.e. areas of production, farmer numbers and profile) and what are concentration levels in production?

Poorly understood or reported but StatsSA suggests 1.7 million goats owned by commercial assuming mainly European farmers, these could be goats waiting to be sold so it may not be representative breeding goats there are in the country.

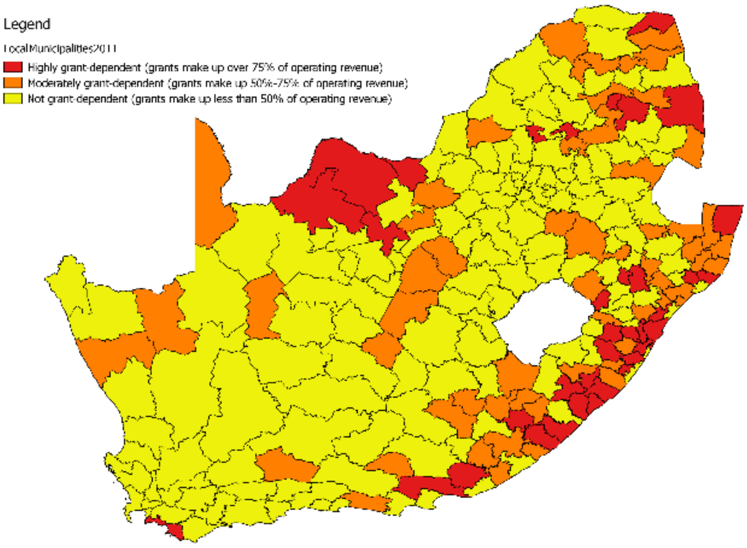
The table below outlines numbers of households owning goats but does not segment between commercial and communal or race.

STATISTICS SOUTH AFRICA 23

Table 3.19: Number of agricultural households grouped by number of goats farmed

Province	1–10		11–100		100+		Total	
	2011	2016	2011	2016	2011	2016	2011	2016
Western Cape	1 188	907	738	704	460	317	2 387	1 928
Eastern Cape	109 953	102 685	39 011	57 959	1 176	1 598	150 140	162 243
Northern Cape	7 563	7 167	5 809	8 492	673	849	14 046	16 508
Free State	2 122	2 707	1 164	1 768	202	227	3 489	4 702
KwaZulu-Natal	101 683	121 518	28 219	53 248	529	457	130 432	175 222
North West	19 979	22 019	7 186	12 736	317	243	27 482	34 998
Gauteng	2 884	4 303	1 408	3 510	303	238	4 596	8 051
Mpumalanga	15 698	23 916	3 117	7 789	99	190	18 915	31 896
Limpopo	64 597	61 714	12 739	17 059	236	188	77 573	78 962
South Africa	**325 670**	**346 937**	**99 396**	**163 265**	**3 998**	**4 307**	**429 065**	**514 509**

Areas of production:
Red areas are grant dependent and also show where most goat herd populations are. No correlation between the two being suggested. KZN, EC, NC, Limpopo and Mpumalanga.



• What is the transformation progress in production (i.e. share of black farmers in total commodity output)?

Many African farmers have goats. Their productivity is very low so their transformation would be in terms of productivity with commercialisation to follow.

Doubling communal productivity will add another 1.2 million goats worth R1.4 billion Rand per year

• Where are the areas with potential for production expansion (districts) and what climate change variability should be considered?

KZN, EC, NC, Limpopo and Mpumalanga. Currently activity in 5 districts in KZN. Expand to other 5 districts. And into two other provinces.

Climate variability should open up farming opportunities in the Karoo. Most of the East coast is expected to become warmer and wetter bringing tropical diseases to which indigenous goats are less vulnerable. Bush encroachment from higher CO_2 levels will provide increased carrying capacity for goats.

• What reforms are required to grow production in an inclusive manner?
Knowledge, increased basic animal health and winter feeding options. Small businesses supporting farmers in situ in animal health and feeding and marketing in rural areas.

• What are horizontal policy, regulation, support mechanism and institutional reforms required at production level of the value chain

Policy reform around the use of animal health workers

Rules around registering animal medicines and feeds

Strengthen civil society structures supporting and maintaining livestock especially around stock theft

III. Value addition / processing segment of the value chain
• What is the share of domestic output of the commodity is processed in the country?

Goats are not processed beyond being slaughtered and consumed at home.
All of the output of the goat commodity are "processed" in the country. There are no exports currently beyond stud boer goats, semen and embryos. But this is very low.

• How much commodity (in volume, Value and share terms) is imported to be processed or consumed locally?

It is poorly understood but research suggests that 50% of the imports are being consumed are imported and then consumed in KZN.

• Who are players in the processing of the commodity? What is the share of each player?
There aren't any goat specific abattoirs.
Informal leather processing is done for traditional ceremonial use.
There is a goat milk industry mainly for high value cheese and milk linked to lactose intolerance or French cuisine. This is a shrinking industry as the milk goat herds have not increased and is currently around 21 000 goats.

There is Indezi River Creamery and Fairview among other smaller cottage industry type processors who process goat milk and produce cheese for the retail market.

From http://southafrica.co.za/supply-and-demand-of-goat-meat-in-south-africa.html

Local cultural demand for the use of goats in South Africa is currently driving (and exceeding) the supply of live goats. Goats for meat are mainly marketed in the informal sector, in the Eastern Cape and KwaZulu-Natal, which is driving the goat industry. The informal live market pays higher prices than the formal mutton and goat abattoirs can offer (e.g. R1 200 vs R700 for the same size/age animal - Nov 2018). The informal goat meat market in South Africa is mostly supplied by (live) indigenous goats as well as some older Angora goats (seasonal).

Commercial Availability of Goat Meat

Surveys by the South African Meat Industry Company (SAMIC) have shown that goats slaughtered in the commercial sector are mainly Boer goats and surplus Angora goats which make up about 0.55% of the goats slaughtered commercially. However, some other observers put the commercial slaughter figure of goats at 5%.

From 2018, all goat carcasses slaughtered in commercial abattoirs should be roller marked in orange and blue. The blue mark is only used for kids (young goats) while the orange mark is used for all goat carcasses, irrespective of age. The Boer Goat Breeders Association feels this new roller mark would help boost the commercial consumption of goat meat in South Africa.

During 2018 a project was launched to test the marketing and commercial sale of Angora meat products in a group of retail stores in the Eastern Cape. The project was not commercially viable due to the seasonal availability of slaughter-age Angora goats. This seasonality causes inconsistent availability. In addition, it appeared that consumers still preferred more expensive (+R10 - R20/kg) lamb or mutton than to goat meat. Yet, some producers have commented (November 2018) that meat inspectors do not always know how to classify goat carcasses.

Western Cape Boer goat producer Pip Nieuwoudt states that there is a growth in the demand for goat meat due to the health benefits of the meat, but due to the good price goats fetch in the informal sector there is an undersupply to restaurants and shops.

• What needs to be done to expand processing / value-addition at domestic?

According to DAFF, South Africa's goat's meat production has demonstrated a downward trend between 1992 and 2005 as opposed to that of the world, which showed an upward trend. There are no official statistics available for total goat's milk production in South Africa.

However, unofficial figures indicate that total annual goat's milk production stands at 1,4 million litre per annum from the estimated 1 500 does in South Africa. Frozen and fresh goat's milk and goat's cheese are sold through health food stores, some supermarkets and home industry stores.

Official statistics reveal that goatskin production stood at 600 metric tons per annum in 2005 and has averaged at slightly more than 700 metric tons per annum over the past 15 years. Skins from traditional slaughtering in the rural areas are normally thrown away and not marketed.

Processing as defined above- live slaughter market

- More localised markets with local rather than imported goats sold

Leather

- Awareness campaign on the value in goat skins
- Training in skin storage
- Processing of hair on goat skins initiated
- Investigate hairless goat skin market beyond shoes
- Set up home industries for leather products

Milk

- Cross milk goats with indigenous to get hardy breeds that would survive in rural areas
- Processing protein feeds for milk production
- Awareness on the benefits of goat milk
- Milk processing for preservation

Meat for retail

- Price parity for live versus meat animals- one option is to look at cull females that have reached the end of their productive life
- Subsidise abattoirs that will process goats so that goat meat can be introduced in the value chain
- Awareness on the benefits of goat meat

• Are tariffs levels of processed and unprocessed goods for this commodity at an ideal level to incentivise local processors? Investments attraction?

There are soft tariffs based on veterinary requirements to slow the import of red meat through Namibian borders. It is unknown what tariff systems exist on our northern border. Little processing is done with goats currently and very few processors exist. The challenge is productivity levels.

IV. Market segment of the value chain

• How much of the commodity output is consumed in the domestic market (in volume and Rand value) and who are players in domestic marketing?

All output is consumed in the domestic market

RPO, Boer goat society, Auctioneers play a role in marketing

• How much of the commodity output is exported (in volume and Rand Value) and who are players in the exporting chain? What is the share of each player in exporting?

None is currently exported though the literature gives mixed answers and statistics.

• How much of the commodity output is imported (in volumes and Rand value) and who are players in the importing chain? What is the share of each player in importing?

Namibian speculators, transport companies, resting yards in South Africa, buying agents in central locations such as Gauteng and Durban. There are currently around 1 million imported into the country annually.

• Where are new markets (domestic and internationally) potential to absorb additional production output?

Arab countries, China and other African countries, Indian Ocean Rim region (IORA)

Domestic potential- demand currently outweighs production so domestic markets already exist and could take in increased production

• What needs to be done to ensure equal playing fields between domestic produce and imported goods?

Increase production domestically through basic animal health interventions and winter feed bottlenecks.

• What market reforms are required to address concentration levels, if any? And to expand market access for new players in the value chain, in particular black players?

Make these more transparent. Look at import rules that restrict free trade and smaller players getting in.

Appendix 7- Research, extension and training recommendations from working group of Red Meat Research & Development SA

This should be seen as a shared responsibility – with Government and Industry collaborating to provide an integrated service to the sector.

The long-term success of any livestock-based intervention depends on effective evaluation, extension and training. The overall success of developing production and processing business in goat products, will largely depend on effective research support and technology transfer. Development of innovative new products is essential in capturing niche markets which could give goat producers and processors a competitive advantage.

The lack of collaboration and coordination among research institutions and facilities is a critical factor and what is needed is an effective communication strategy that takes the available information and support to the client. This may require an integrated technology transfer strategy – to link those that have the know-how with target groups and communities.

Key research areas

The following key areas of research were identified during the first goat development initiative and, as these have remained fairly constant, they have been included for consideration (not in any order of priority).

- Animal Identification and recording (Statistics)
- Reproductive Physiology
- Breeding and Genetics
- Leather Processing
- Meat
- Nutrition
- Fibre
- Health
- Management and Production
- Food Safety and Security

General:

- Integrating genetic improvement and environmental development
- Development of minimum recording system for the genetic improvement of goats
- Quantifying of breeding objectives for different production systems
- The role and application of information technology (recording, parentage identification, weighing of animals etc.)
- Improvement of production traits on a national basis

Production and improvement studies:

- The genetic potential of goats in South Africa (including progeny testing, growth potential, average daily gain, feed conversion, milk and meat production, etc.).
- Building a database from which relevant genetic parameters can be predicted for the development of scientifically based breeding plans – This can be achieved through assisting breeders to subscribe to the National Performance Testing Scheme and to help them with the collection of the required data.
- Selection and identification of superior goats (male and female) (semen analysis, ovulation rate, pregnancy rates, number of offspring, etc.)
- The development of selection criteria for resistance of animals to internal and external parasites to establish genetic pools of animals which are resistant to parasites
- Improving kid survival and mothering ability of Boer Goats

- Genetic parameters for the occurrence of multiple teats in Boer goats
- Semen and embryo collection and transfer in goats – and its application in the developing sector.
- Exportation of semen and embryos from animals in nucleus herds to generate income for research projects.

Nutrition:

- Determining the nutritional requirements of indigenous vs commercial breeds.
- Determining the qualitative and quantitative intake of forages by goats for the development of a supplementation program for different biomes

Meat:

- Carcass traits of Boer goats and correlation with growth and reproduction traits
- Cross breeding potential with other goat breeds (terminal crossbreeding)
- Parameters and methods to improve carcass and meat characteristics of goats – i.e. Ultrasonic scanning of longisumus dorsi area, body conformation etc.

Leather:

- Social research into the use of Goat skins.
- IKS in the design and tanning methods.
- Development of commercial tanning methods for SMME and SME level tanneries.
- Genetic parameters for leather quality

Cashmere Goats

- Establishment of genetic parameters for cashmere producing goats with special reference to cashmere quantity and quality traits.
- Further develop and extend breeding programme to improve cashmere yield and quality and number of farmers and upgraded goats

6. PROPOSED INTERVENTIONS IN RESEARCH

Taking the key challenges and opportunities into consideration and aligning these with interventions in past strategies, it would appear as though the key elements still exist. All that is needed is to identify those that can be achieved over a short period and those that will require long term planning to ensure sustainability and relevance. These would include (not in terms of importance):

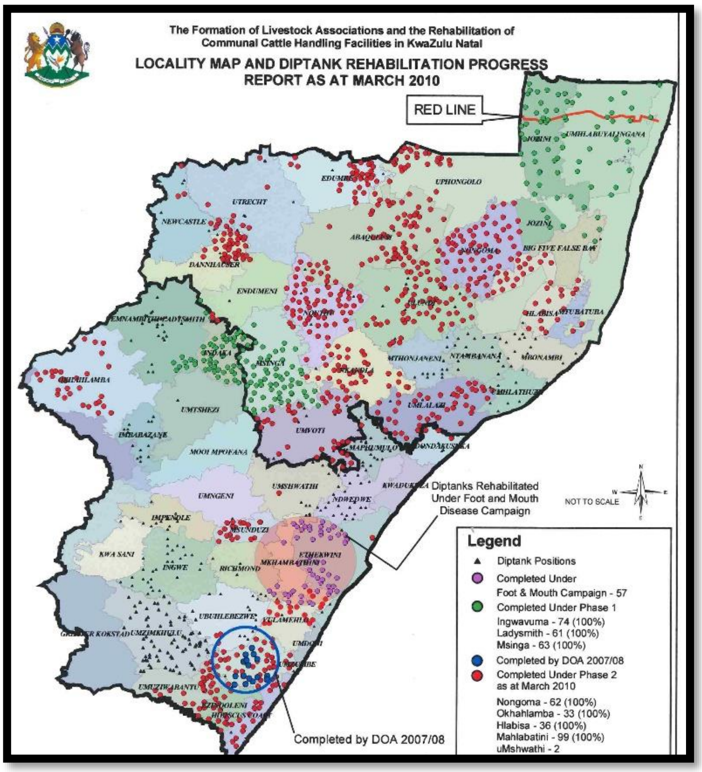
- National goat databank
- Improvement of the support base (Goat working group, Goat producers organisation, Government and Industry support)
- National goat census / Statistics, resources, etc.
- Institutional interventions – including the revival of relevant centres (farmer support centres)
- Breeding and improvement – including terminal crossbreeding for meat and the breeding of heartwater and parasite resistant animals in breeds susceptible to these problems (e.g. SA Boer goat)
- Market development – including a possible roll out of mobile abattoirs, product research and promotion
- Animal health issues – including extending the KZN goat initiative and community animal health worker program to other Provinces
- Food safety and quality assurance
- Client – orientated research, extension and training

Appendix 8- Dip tanks- A Community Building Block

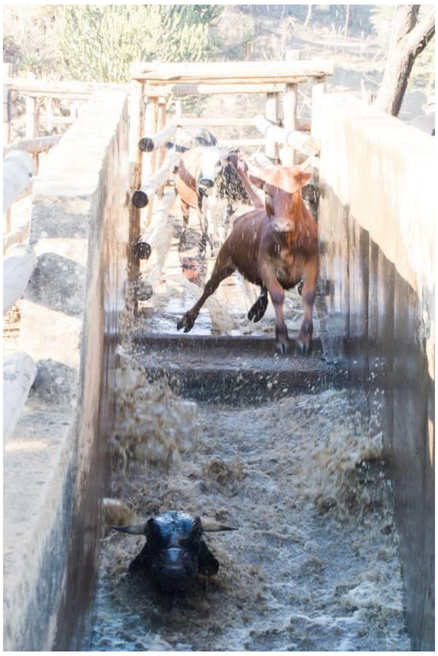
The structure

A cattle dip tank is a pool of water with railings on the side to force cattle into swimming through this pool which is mixed with an insecticide. This kills all the ticks, and other external parasites, on them.

These dips were built by the government to support stock farmers and are widely scattered around the province especially in the previous homelands.



Here are the dip tanks shown with coloured dots overlaid on the map of KZN illustrating the spread of dips throughout the province. There are over 1600 in KZN.



The institution

Each local municipality has a livestock association. This has an Executive Committee representing it and making decisions and linking to the Veterinary sub department inside the Department of Agriculture.

The livestock association meets once a month with representatives from each dip tank in the area (usually between 60 -80 diptanks) they talk about livestock related issues and receive free insecticide for their diptanks from the government.

The diptanks are represented by two members per diptank.

The dipping takes place monthly in summer and quarterly in winter.

Each member pays a nominal fee to be a member and be able to bring their livestock to be dipped.

GAP works with livestock associations to train their members in livestock production and health and the use of CAHW.

Centre points for all livestock owners

Diptanks are a gathering point of cattle owners who already have regular meetings, annual elections, and are recognised by the state institutions and political powers. They are geographically neutral and cover the whole province of KZN.

The people bringing cattle to dips are often youngsters.

As anchor points for censuses

The GAP project use dip tanks as anchors for our working areas and communities.

As the dip tanks override political and social boundaries they give a truly random slice of the community that we work with.

GAP conducts livestock censuses using the dip tank feeding areas as outer boundaries that we GPS and thus are able to judge area as well as be specific about the size of a community.

The whole community inside the GPS area is interviewed and not just livestock owners.

As a training venue

GAP uses the dip tanks days to train farmers in basic animal health and livestock management principles.

CAHWs also get to talk about their work and show of their knowledge to the farmers -their future clients.

Transformation

Women have never been part of dip tank committees as they are not traditionally the owners of cattle and dip tanks were only ever for cattle and cattle owners.

Over time we will be ensuring that the institution represents owners of different livestock types but also offers services for these different types, such as goats

We are also working to get these women and youth represented on the management structure of livestock associations so as to better lobby for their interests.

The future

In the future dip tanks will also cater for different types of livestock and include both the youth and women its daily activities and management. Look at expanding the model to other provinces.

Introducing goat dips at the cattle dips. Partnership with government to get goat dipping materials at these dips. Smaller goat dips for individuals will be piloted.