

# CHAPTER 9: INSTITUTIONAL INNOVATION TO COMMERCIALISE THE INDIGENOUS GOAT INDUSTRY

## 9.1 Introduction

To move goats from non-commercialised farmers in deep rural areas to discerning international consumers bent on quality and safety requires specialisation at various steps along a pathway (as suggested for vertical integration by Coase, 2000) and is influenced by the property rights associated with the inputs required by that pathway (as suggested for vertical integration by Furubotn and Richter, 2003). This concerns the flow of real goods over time and the exchanges of those goods between the different parties owning them. The productivity of such a system will depend on the costs of the exchanges along that pathway, and these are influenced by the institutions (the laws, the politics, the social constructs and the cultural norms) of the country (as suggested by Adam Smith: as quoted by Coase, 2000), the institutional arrangements between the various resource-owners along the pathway and the willingness of all parties to transact. These relationships are governed by contracts (whether formal or informal) which aim to reduce the transaction costs associated with obtaining the inputs to the flow of goods on a consistent and reliable basis to the extent that profit (residual) is maximised for all or some of the parties involved. The organisation of the firm and the institutional arrangements which may provide the most benefits to the parties associated with the commercialisation of indigenous goats will be described in this chapter.

Since form follows function, the critical factors in the process from goat production, through processing or manufacturing of goat products and finally the marketing and sale of those products need first to be determined, and then the various role-players (or asset owners) along the pathway can be identified and the best relationship between them devised. Sections 9.2, 9.3 and 9.4 of this chapter will therefore follow the process: identification of factors critical to the process, identification of role-players

required for the process, and determination of the institutional arrangements governing the relationships between the role-players.

## 9.2 Identification of critical issues within a consumer friendly goat production and marketing chain

Globalisation has brought with it new demands by retailers (following from direct pressure from consumers and consumer groups) for traceability, quality and consistency of supply. A consumer wishes to find the product he/she requires now (regularity of stocking), on the shelf where he/she found it previously, equal in appearance to the previous purchase (branded), equal in quality to the previous purchase (consistency), at an acceptable price and feel satisfied that he/she can trust its safety for consumption. If proved unsafe, the consumer would wish to have some form of recourse, which is enabled through the mechanism of traceability back to source. Thus, the design of a product value-adding chain must start with the requirements of the final consumer in mind and every attempt must be made by the rest of the chain to deliver on those needs (whether on price, quality, consistency and so on).

These requirements have become all the more important in the livestock products market following the sanitary breaches of the 90's regarding *Salmonella* poisoning, and the fatal consequences of the Bovine Spongiform Encephalopathy or BSE (Mad Cow Disease) outbreak. To reduce the risk of microbiological contamination during food processing, systems such as HACCP (Hazard Analysis Critical Control Point) were introduced into several food processing systems such as abattoirs, milk bottling plants, cheese processing factories etc. in the 90's (where HACCP was essentially used as a method to trace processed products back to processing firms as it was assumed that the problems originated at this point). However, the BSE outbreak led to a call for traceability back to origin (i.e. the producer), since BSE has been directly linked to the use of animal by-products (specifically carcass meal) in animal rations. This further strengthened the consumer preference for "natural" and "organic" labelled farm produce which, in itself, requires stringent labelling, record-keeping and monitoring, since certification is required and a premium is paid for such products.

These demands have led to the increased occurrence of vertical co-ordination and vertical integration in agricultural food and non-food product markets and has become a norm in many industries around the globe (some examples include: the pork industry in the United States (Martinez et al. 1997), the tomato, chilli and potato industry in India (Singh, 2002), the sugar beet industry in Slovakia (Gow et al., 2000), the pot plant industry in the Netherlands (Engelbart et al. 2001) and the poultry and swine industry in South Africa (SAMIC, 2002)) and are being developed in both developed and developing situations. Vertical integration occurs when a firm combines or collaborates with another that owns different assets to its own and undertakes activities unlike its own, whether up-stream or down-stream of its own activities, within the sequence required in moving a product from the producer to the consumer (Rehber, 1998). This would be the case in the commercialisation of indigenous goats since although it can be argued that the production and marketing of goats could be undertaken by a single firm, it should be realised that a huge amount of technology and information transfer, capacity building and capital would be required to produce a firm of large enough scope to successfully enter the national and international market due to the requirements for consistency of supply of large quantities of product to penetrate these markets, quality of product and legislative requirements. Furthermore, the creation of such a firm would invariably exclude the thousands of non-commercialised farmers, all over South Africa, whom this endeavour is attempting to empower since this type of integration is an expensive exercise and a single firm would not be able to have ownership of all the resources (expertise, raw materials etc.) which are necessary to move the product to the market. Thus, specialisation by different role-players at various steps of a supply chain or vertical chain becomes necessary (Coase, 2000) and these role-players would invariably be positioned in different firms. However, co-ordination of activities in the supply chain becomes critical. Finding the correct co-ordination mechanism or governance structure which would ensure that consumer requirements are met is therefore needed.

The terms vertical coordination, vertical integration and contract production are often used interchangeably (Cramer and Jensen, 1988) to describe the relationships between role-players within a production or supply and marketing chain. However, vertical integration is the more binding of the three, where the boundaries of the firm

are more inclusive of the different role-players. With vertical co-ordination and contract production, the firms are more clearly separate from one another. Vertical integration increases the efficiency and effectiveness of logistical operations with which a group of firms can deliver healthy, safe and desirable products to the consumer, but strategic alliances also ensure possibilities of strong market position due to critical mass (Downey, 1996). Of particular importance here may be the governance structures and enforcement systems required, especially if there is to be a shared brand name (Raynaud, 1999). Thus, vertical co-ordination creates the need to define the activities of, and relationships between, the role-players in the agricultural production and marketing (or value-delivery) chain. The relationships are defined by the ownership, activities and functions of the respective firms involved in the chain and their respective aims (whether political, but mostly economical). Coase (2000) argues that the costs of these transactions (or relationships) will affect the overall efficiency (and thus profitability and viability), level of co-ordination and integration of the value-addition chain.

Knowing that certain requirements of the consumer and retail market need to be met, and understanding the current exploitive and information-poor situation in which non-commercialised farmers reside, the following activities become critical to the achievement of a consumer-friendly production and marketing process which is inclusive for non-commercialised farmers:

#### **Indigenous goats suitable for processing**

Historically, indigenous goats were primarily utilised for traditional and religious purposes and emphasis was not placed on maximising the commercial potential of the animals. The quality required by the traditional and religious markets is based mainly on colour patterns and size; larger animals often being preferred, and, depending on the ceremony, male or female goats may be required (Chapter 3). In the process of changing the indigenous goat into a consumer product, and in order for the non-commercialised farmer to survive in the modern competitive market, he/she needs to be assisted to understand the importance of age, body conformation score, weight, accurate record keeping and animal identification (As described in Chapter 5).

In practical terms, farmers must be taught how to weigh the goats, must be shown how to use a scale (and must be provided access to a weighing scale on a continuous basis) (weights under 35 kg being preferred), must learn how to tell the age of a goat (goats less than 18 months old being preferred), be able to judge the body condition score of an animal (body condition scores of 3 or 4 being preferred), must begin an accurate record keeping system for his/her herd, and must apply ear tattoos and ear tags to each of his/her goats. This new knowledge will ensure that the product meets the required product quality specifications. These specifications are simple and will assist the farmers to attain the requirements under their current circumstances and with their current goat resource.

An obvious omission here is any discussion of superiority of, or preference for, specific breeds. This is based on the results of the market surveys (Chapters 4 and 5), and knowledge of the goat resource in general (Chapter 2). From the surveys it becomes clear that the consumer requires tasty, safe, nutritious products. The consumer is less inclined to demand particular breeds (Unless the breed is specifically being promoted as has been the case recently with the Hereford cattle breed). Furthermore, with the emphasis on value-adding via reconstituted meat products (such as salami, cabanossi and sausages), the importance of size of the carcass is reduced. With these products the entire carcass is de-boned and the meat ground. It is felt that as the industry develops non-commercialised farmers will intuitively seek faster growing and more fertile breeds which can produce multiple offspring in a shorter period of time (personal communication with non-commercialised farmers who attributed faster growth rates to improved breeds introduced to them, 2004). For the interim however, emphasis need only be placed on the provision of young, healthy goats into the marketing chain.

#### **Collective action**

Most non-commercialised farmers have small herds varying in size from 10 or 20 animals (Eastern Cape), although herds as large as 300 animals can be found in the Northern Cape. Small herd sizes increases the transaction costs for the individual farmer since the effort asserted to sell one animal is invariably the same as the cost to sell 100. Furthermore, specialised inputs that may be required can be prohibitively expensive. For example: medicines and ear tags (small pack sizes cost more),

management tools (dosing guns, ear tattoo machines, ear tag applicators are expensive), transport facilities, and holding pens. Also, herd structures are often incorrect. Only one buck is needed for every 40 does. Most farmers have their own buck and does, but the bucks are largely unproductive whilst utilising expensive resources (feed, management time, medicines etc.). These obstacles can be overcome through the collective action of goat farmer co-operatives. Each farmer becomes a member of the co-operative, and receives a membership number. Through these co-operative groups costs of medicines and ear tags can be reduced when bought in bulk, and management equipment and marketing infrastructure can be shared. Group formation also ensures that those farmers who are interested in becoming commercial goat farmers are identifiable, and can receive targeted support. This support may include the provision of marketing infrastructure, transport assistance, training and technology transfer and financial services. Co-operatives can reduce the cost of registering brands (tattoos in the case of goats and sheep), by registering a single brand for the co-operative (This change in legislation was brought about as a result of this work through discussions with Mr Keith Ramsay, Registrar of Livestock Brands, 2003). Although the co-operative brand then appears as an ear tattoo on each goat, the ear tag can include the membership number of the member farmer, and the animal number. This will assist in complying with the traceability requirements of the retail and international markets. To establish a consistent supply of raw product, farmer groups can plan and define their production and delivery capabilities together, and provide this information to the next link in the chain (the transporters or the processors). Consistency of supply is thus achieved by a group where different owners can present their animals for sale at different times, but the supply generated by their group activity is consistent. This will create the critical mass required to supply the market chain consistently.

Holloway et al. (2000) describes similar farmer cooperatives that were formed in East Africa to reduce the transaction costs associated with input purchasing and output marketing in small-scale fluid milk production. The formation of the cooperatives also led to access to higher quality information (higher in quality than the available extension services) and collateralised loans to producers. Another positive point here is that cooperatives that were established for specific purposes (i.e. in the cases

illustrated by Holloway (2000) for fluid milk production) were also better managed and exhibited lower levels of moral hazard (i.e. shirking and financial irregularities) than more general cooperatives.

A natural future outcome of the formation of farmer cooperatives will be the targeted supply of research interventions which can assist non-commercialised farmers realise improved rates of return from their goat herds. Technologies such as improved feeding practices, the use of artificial insemination and increased use of pharmaceuticals are obvious researchable subjects as the industry develops. The identification of dedicated non-commercialised goat farmers through the formation of cooperatives creates a perfect target for participatory research projects in the future.

#### **Targeted and specific technology and information transfer**

In South Africa extension services are plagued with limited resources, means of transport, and appropriate skills. In the current scenario the situation is further exacerbated because goats are not known as a potentially commercialisable livestock species, and historically little attention has been given to their production and care (Chapter 2 and 3). In fact, extension services often include goats in the treatment campaigns of other species such as sheep scab and cattle dipping campaigns in the Eastern Cape. The information surrounding the new market possibilities of goats, and the methods required to achieve production to this standard is thus new to the extension officer. Thus, the provision of specific technology and information to the non-commercialised goat farmer may not necessarily lie in the hands of the current extension services unless training in these specifics are initiated (Thus requiring a new departmental arrangement or policy). The formation of goat cooperatives also reduces the propensity of training large masses of people who are, in essence, not really interested in goat farming *per se*. The goat cooperatives become a vehicle through which specific market and product information can be relayed to a vertically linked and interested audience.

#### **Collection and transport of goats**

Although the assumption here is that goats should be marketed live by the non-commercialised farmers, it needs to be understood that in South Africa, these farmers

face peculiar challenges in dealing with transport issues based on two factors. The first is the large size of South Africa, and the large distances from deep rural areas to current processing infrastructure (which are generally located near to urban centres – the rural areas having been left out of infrastructure development policies since they fell within the former “homelands”), and secondly, the poor state of infrastructure (roads and railways) in these former “homelands”. Further exacerbating the problem is these farmers’ limited resources to procure their own means of transport, or to construct holding facilities which could reduce transaction costs if they could provide bulk buying facilities to their buyers. This is further constrained by lack of ownership of land, thus, permission and buy-in first needs to be obtained from tribal leaders before such facilities can be constructed – the ownership and maintenance of these structures then become controversial.

The provision of collection and transport facilities is crucial to the success of the marketing chain. Currently, marketing of small numbers of goats are done through mobile pens constructed at road intersections. Correctly designed holding facilities, and loading and weighing infrastructure are also important for final product quality (bruising and stress-related quality effects).

### **Processing**

In an attempt to move the goat industry from a commodity (live animals) into a consumer product, processing or value-adding becomes a necessity. Value-addition by firms with producer integration will also allow a greater share of the ultimate value of the product to be returned to the producer, if profit sharing incentives are included in the institutional arrangements. However, value-adding can be of different forms and at different levels depending on the requirements of the market. In fact, specific supply and processing arrangements are suggested due to the multi-dimensional nature of each of the products and their respective markets (as suggested for other commodities by North, 2000). These specific arrangements have been suggested in the conclusions of Chapters 5, 6, 7 and 8, for meat, cashmere, leather and milk respectively, and will not be repeated here.



## Branding and packaging

Various market surveys and feasibility studies indicate clearly that the quality and appearance of products, especially products such as fresh milk and meat, is of utmost importance to consumers. Consumers are not willing to buy products that do not comply with quality standards. The perception of quality is strongly associated with brand recognition. A brand is the main communication between “sellers” and consumers (Raynaud, 1999).

Often, when a single firm is too small to establish its reputation in the market, a shared brand name may substitute for a single producer brand. This allows a group of smaller players to take advantage of economies of scale in establishing, and sharing the costs of establishing, a reputation. In the highly competitive agri-food industry, a shared brand may be an important differentiation strategy for small firms. Thus, within a shared brand name, there may be several “products” but a single promise of quality (Raynaud, 1999). Successful branding of goat products is essential to ensure that goat products can be recognized, requested, and chosen. Branding also assists in negotiating shelf space with retailers, since the consumers' affinity towards the selected brand and its packaging can be demonstrated quantifiably and the combined resources of several firms will assist in paying listing fees of the larger retailers.

Packaging is now recognized as one of the most important areas of meat technology and probably the one where, at the present time, more developments are taking place than in any other (Jansie Kruger, Animal Nutrition and Products Institute, Irene, ARC, personal communication, 2002). Supermarkets are designed primarily to sell food and are unwilling to devote valuable store space and labour to its preparation. This is particularly so with meat with its special hygiene and refrigeration requirements. For present day retailing, these requirements are stringent, and highly dependent on the correct use of packaging. However, packaging must be more than just functional. Where meat is readily available and facing increasing competition from other foods, the package must also effectively sell the meat. There is therefore a constant demand from supermarkets, in particular, for innovative forms of packaging with which they can identify themselves and which make the meat more attractive to the consumer. However, the main aim of innovative packaging should be to prolong the shelf-life of

meat during storage, transport and distribution so that it can be sold in prime condition over a longer retailing period.

### **Quality control**

Managing quality throughout the chain is imperative to the success of the venture. Quality control needs to start at the farm level, with the correct management, health and record-keeping systems applied. Transport must adhere to animal welfare requirements. At the level of processing international levels of humane slaughter, hygienic standards, and product quality (and consistency) must be applied. Depending on the market the animals may need to be slaughtered Halaal, and if destined for the export market, must be slaughtered in an export registered abattoir. From the processing plant the cold chain must be maintained without a break, so that the shelf-life of the final product is not reduced. This means that the placement of orders at retailers must be done in advance, shelf-space needs to be constantly negotiated, and a distribution agent must be vigilant in keeping shelves stocked and attractive (See in-store repellors and attractors in Chapter 4). The complexity of the vertical chain thus implies that there is strong technological innovation and weak technological homogeneity throughout the chain which can lead to variations in product consistency and quality – this variation must be reduced and managed (Raynaud, 1999) especially if the products are to share a single brand. Effective co-ordination and governance structures must thus be in place.

Where goats are being collected from farmers in various parts of the country, and being taken to a series of abattoirs for processing, a standard set of quality standards need to be set. Those groups that do not comply with these standard procedures must be assisted in getting their operations to fit in with the rest: at no point can the consistency in the quality of the product be jeopardised. Thus, some level of control (or governance) will be required at a regional level and could include various stages of the production process. The numerous stages, namely, breeding, feeding, health care, processing, and packaging simultaneously affect the final product, and if branded under a shared brand, need a comprehensive governance system to produce homogenous products (Raynaud, 1999). Thus, a standard set of product specifications have to be established along with an enforcement system. The simpler

this set of product specifications, the more likely the input suppliers will be in adhering to these specifications. This will be especially important for non-commercialised farmers who are not accustomed to complex measurements. Aside from the quality control measures to assist the building of the image of the brand name, other national structures such as the Department of Veterinary Public Health should be contracted to assist with quality control (at the abattoir and milk processing plant level).

### **Marketing**

A sound marketing strategy will be crucial for the project's success. Market surveys indicate clearly that the majority of the products are fairly unknown to the general public and that the establishment of a market and future growth will only be achieved by means of an initial marketing campaign that will introduce the product ranges to the target markets (Chapters 4, 5, 6, 7 and 8). From the market surveys it appears as though consumers are willing to purchase products once they are exposed to them. However, less obstacles are expected when entering foreign markets who already use goat products on a daily basis (Here the challenge is to compete successfully against other goat product suppliers such as Brazil, Sudan, Australia, India and France).

The outsourcing of the marketing function should be considered as this is a specialised area. Marketing agents with the necessary expertise should be appointed to assist in the launch of new products. An initial marketing strategy should be developed and should include details of the target distribution regions, areas within each region, and retailers within each area. In conjunction with contracts entered into with major retailers target income groups need to be identified. Initially, emphasis should be placed on general products to ensure market penetration (As suggested specifically for milk products in Chapter 4). A positive culture towards goat products has to be created via an extensive marketing campaign, to inform the consumer of the quality attributes of goat products.

### **Product distribution**

Market surveys and feasibility studies indicate that a market exists for the sale of the proposed products. Subsequently retailers should be identified coupled with the idea that major retailers will expect 100% commitment towards the consistent supply of

products as well as 100% quality products. The following factors should be taken into account when evaluating the location of the processing facilities. Locations should: Be easily accessible to where the market demand is at its highest; Be located within the areas of greatest raw product supply (to lower transaction costs); Utilise premises already available (if feasible); and Take into consideration the size requirements and environmental concerns of each of the processing facilities. These factors will influence the prompt distribution of goods and will ensure that contractual commitments with retailers are adhered to.

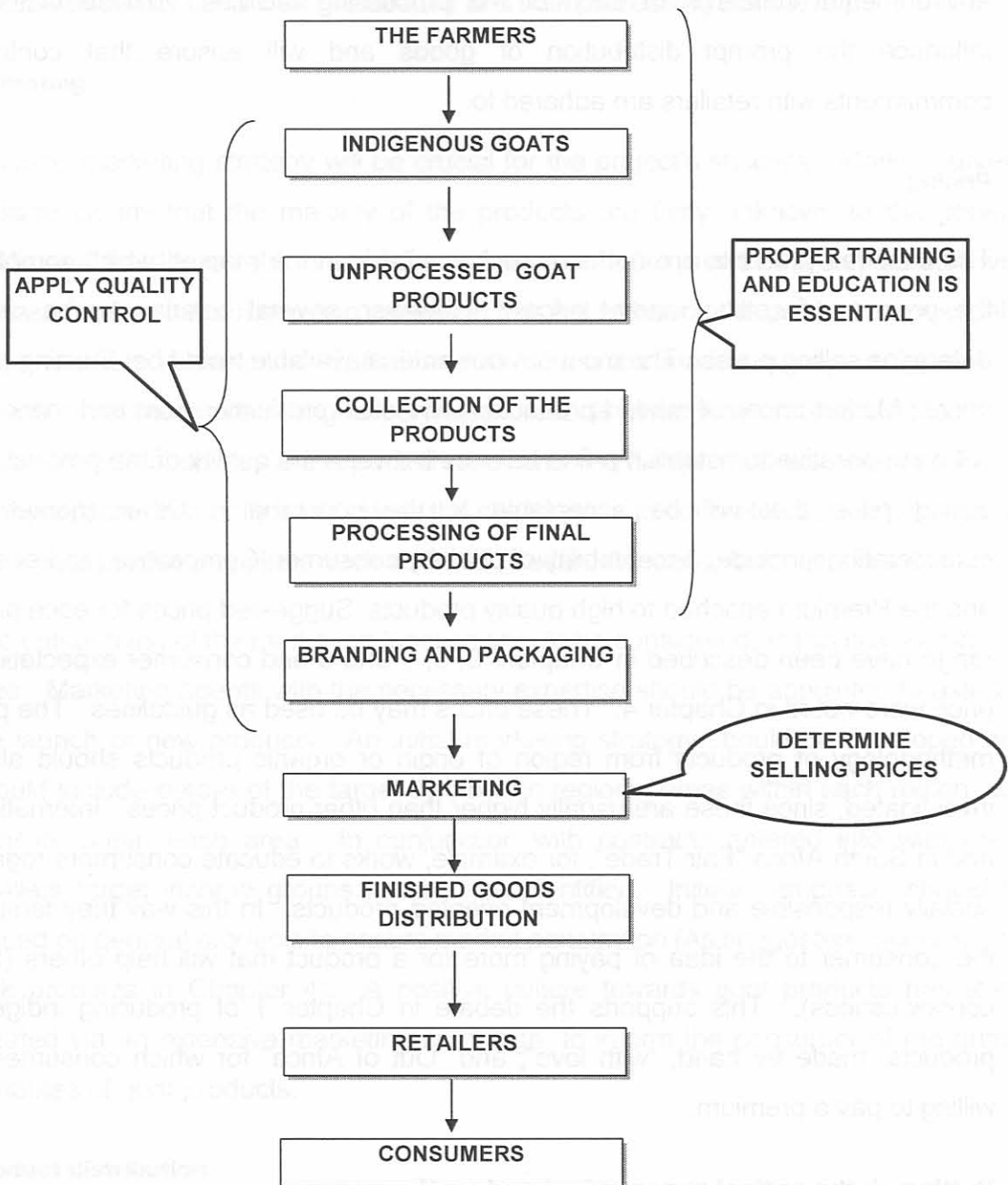
### **Pricing**

The intended products are not commonly available in the market, which complicates the process of setting market prices. However, several criteria can be used to determine selling prices. The most obvious criteria available would be: Existing market prices; Market prices of related products; and Actual production cost and mark-up. It will be imperative to establish a fine balance between the quality of the product and a selling price that will be acceptable to the consumer. Other market price considerations include: Acceptability of price by consumer; Competitive market prices; and the Premium attached to high quality products. Suggested prices for each product range have been described in Chapters 5, 6, 7 and 8 and consumer expectations of price were noted in Chapter 4. These prices may be used as guidelines. The pricing methodology of products from region of origin or organic products should also be investigated, since these are usually higher than other product prices. Internationally and in South Africa "Fair Trade", for example, works to educate consumers regarding socially responsible and development oriented products. In this way they familiarise the consumer to the idea of paying more for a product that will help others (Social consciousness). This supports the debate in Chapter 1 of producing indigenous products, made by hand, "with love", and "Out of Africa" for which consumers are willing to pay a premium.

### **Putting all the critical success factors together**

The functions of supplying goats with the correct specifications, collective action, co-ordination of collection and transport of goats, processing, branding and packaging,

quality control, marketing, product distribution, and setting of market prices, needs to be co-ordinated in some manner. The critical factors in the process are illustrated graphically in Figure 9.1 below and can be assumed to be largely generic across all the product types.



**Figure 9.1 Critical factors in the process**

### 9.3 Identifying Potential Role-Players

Collaboration will be key to the success of the commercialisation of indigenous goat resources. The system created to move goats from rural areas to international consumers will be a complex mixture of rules, norms, conventions and behavioural beliefs of different parties, and this will determine how effectively the system works. Although generic in some respects (as shown in 9.1 above) each goat product will require a different system, since each of the products described are influenced by their own particular set of institutions (laws, rules etc). Thus the system created and its resultant transaction costs will not only be influenced by the particular attributes of the products themselves, but by the various role-players (or resource owners) who are needed to get the products to the market place (Leffler and Rucker, 1990). Thus, description of all these interrelated factors is complex, and their implementation (as will be described in Chapter 10) have taken much dedicated work over a long period of time to discover (as rightly suggested by Coase, 2000).

There are currently several role-players in the existing goat industry in South Africa, and various new players that need to be locked into (and invited into) the system to create a viable goat industry in South Africa into the future. The role of each of the players required for the smooth functioning of such an industry in a global perspective needs to be defined, the relationships between each of these players should be explained, and the strengths and expertise that they bring to the venture need to be elucidated to present a viable whole. It is important to look at existing institutional arrangements and role-players within South Africa to see where transaction costs can be reduced and the most mutual benefits can be obtained. Finding and creating institutional arrangements between parties with the same goals and vision is an important step. At this point partnerships with organisations that are not willing to improve the livelihoods of non-commercialised farmers cannot be entertained since it is the purpose of this work to assist in the development of the “Second Economy” as suggested in Chapter 1. Thus, it is important to develop organisations, contracts and co-ordination that will be of benefit to all, but especially non-commercialised farmers (As will be described in Chapter 10).

As shown in Section 9.2, a supply chain can be defined as an integrated process through which a number of firms co-operate in an effort to acquire raw materials, process these materials into another form, and deliver these products to consumers (Bearnon, 1998). It is necessary to ascertain who the varied likely role-players would be in the production, transportation, transformation and marketing chain of goats to the consumer.

### **Possible role players**

The following role players were identified as necessary to the envisaged vertically coordinated goat production, processing and marketing chain:

#### **Non-commercialised farmers throughout South Africa**

A consistent, reliable source of raw product is necessary to ensure consistency of supply to the consumer at the end of the chain. Furthermore, the raw product needs to conform to certain regulations or product specifications (those of traceability, quality, and health requirements). Thus, the chain depends fundamentally on the farmer's commitment towards achieving the goals and objectives of this business and his ability to provide a raw product of consistent and measurable quality to the process.

A question commonly asked regarding the potential success of this venture is, "How do you change the mindsets of non-commercialised farmers to understand the importance of reliable product supply? How do you enforce a supply contract when they do not even understand what a contract is?" The answer is simple and is demonstrated in a series of experimental economics games played by Ensminger (2000) with nomadic cattle tribes in East Africa. One of the games played by Ensminger was the Ultimatum Bargaining Game. Here one player is offered a fixed sum of money to be divided in any way he/she chooses with another, anonymous player. The second player is told the amount received by player one and the amount that player one is offering to player two. Player two has the option of refusing the split, in which case neither player receives anything. If the second player accepts the offer, they both receive what the proposer determined the split to be. The results of this game were that the mean offers were 44% with the lowest offer being 30% and there were only 2 refusals (3.6 percent of all offers) at this offer rate. The mean offer rate

was much higher, and the refusal rate much lower than when similar games were played in the USA (for comparable monetary gains). The reason given for these results is the same reason that the rural goat farmers should be reliable suppliers of goats to the vertical supply chain – they were *obsessed* with the possibility that their offer might be refused, in spite of the fact that they thought (correctly) that it was unlikely that people would refuse even a small offer. Very few wanted to take such a risk. Similarly, the rural goat farmers for which this project is proposed are not likely to be untrustworthy in the supply of the goats to the vertical chain, since they have something to gain (even if it is very little). A farmer (in fact a chairman of one of the Goat Co-operatives which has been created as part of this work) stated poetically recently (2004) that “If one knows that a fig tree will only bear fruit in 3 years, what would be the purpose of chopping it down before then?” (Mr Setaka, Umzimvubu Goats Chairman, Personal communication, 2004). The rural goat farmers which would be involved in the vertical chain envisaged are highly risk averse, and thus their commitment is secured. However, this risk aversion may make these farmers vulnerable to exploitation, and thus the system must serve to avoid exploitation in its design; trust is vital to this system. This can be done through exclusively securing raw product from them (member exclusivity), prices slightly above the market norm, and through other programmes which are beneficial to them (Some of these activities will be suggested later in this chapter).

To further build and sustain farmer commitment, communication of the venture's critical issues should be highlighted. Farmers should be advised what the economic benefits attached to this venture are, and how they can be realised. They also need to be informed about the types of products that will be produced from the indigenous goats and what the raw product specifications would be to manufacture value-added products of satisfactory quality. They then need access to the information necessary to improve their production systems if required. They need to be informed what the potential markets for these products will be and why certain product specifications are important. The institutional arrangement linking them to the market must be understood by them. Also, the availability of financial support to increase their viability may also need to be developed and conveyed to them.



In order to obtain the maximum benefits from the relevant markets, farmers need to be informed that certain feeding and breeding standards need to be adhered to, that systems of traceability need to be in place, and that planning of production targets need to be communicated.

### **Training and technology transfer agents**

Non-commercialised goat farmers in South Africa are currently only aware of the traditional live goat market, supported by the activities of speculators and auctions within their areas. However, the technical matters related to the quality of the animals and products for new and developing markets need to be communicated to them. These matters relate to issues regarding breeding, feeding and animal healthcare, as well as advice to improve the quality of the respective products derived from the goats (reduction of scars on the skins, no use of animal by-products in the feed etc.) Furthermore, knowledge of animal management equipment, new pharmaceuticals, and new feeding methods available in the industry will assist farmers in improving the efficiency of their operations. Farmers also require assistance to understand and apply basic business and financial principles which will assist them in producing efficiently. The product specifications required by the processing operations also need to be described in detail, whilst keeping these specifications simple will aid in their successful delivery to the processing operations. Training in these issues is essential.

### **Collection points and transport contractors**

The movement of goats to the market is currently one of the main inhibitory transaction costs for non-commercialised farmers (as described in Chapter 3). Not only is the creation of collection centres as a middle point between farmers in deep rural areas and processing centres of utmost importance, but the cost of transport to and from these centres needs to be taken into account. The construction of suitable collection and processing centres closer to the source of the animals may also be a solution to this inhibitive transaction cost (as suggested in Chapters 5, 6, 7 and 8 regarding meat, leather, cashmere and milk). For this construction communication and buy-in of tribal leaders is required in some provinces (Eastern Cape, Limpopo, North West Province).

### **Investors or donors**

The facilities required to process the products envisaged in Chapters 5, 6, 7 and 8 are expensive. Poor farmers, even with collective action, will not be able to afford such facilities. Furthermore, the facilities are specific for their intended purpose and need to be located closer to the source of the raw product. To construct infrastructure that may be necessary to effect the collection, transport and processing of products, and to pay legal and other specialist fees, certain funding is required. This is especially the case during the initial development phases of the industry. Investors or donors can be drawn from both the public (government) and private sectors. The fact that this business will support and develop non-commercialised farmers will make it attractive to international and national funding agencies (As suggested by Singh, 2002). Current funding initiatives and gaps identified (in the author's experience) are illustrated in Figure 11.1 in Chapter 11.

### **Bankers and lawyers**

Financial institutions are required at various levels of the venture. Loans may be required by farmers to increase the size of their operations, private investors may require loan capital to fund their parts of their investment, each firm within the greater goat commercialisation venture will need banking services for their respective business management, and most importantly, a method to ensure the safe movement of payments between the various links in the vertical chain from farmer to customer needs to be developed (As was done in India with the payment of contract growers for chilli, tomatoes and potatoes (Singh, 2002)). Historically, formal financial institutions have been averse to supplying financial services to rural consumers. This is because the costs of administration and enforcement are high, the clients often renege on their responsibilities, and their repayment ability is low. However, linking non-commercialised goat farmers with a production, processing and marketing chain, with elements of traceability and contractual obligations, will make these farmers more "visible" and "bankable" to financial institutions. Firstly, the farmers are sedentary, since they are producing a commodity for a specific market within their areas and secondly their income earning is secured through their commitments to supply on contract and be remunerated for their supply.

In bringing together various role-players within the marketing chain, each player will have certain obligations, responsibilities and requirements that need to be fulfilled. Contracts can be used to define these relationships between players. Legal matters thus need the inputs of lawyers and other business experts. Unlike some developing countries (Gow et al. 2000) South Africa has a stable and sophisticated legal framework.

### **Processors**

All of the products developed and described in Chapters 5, 6, 7 and 8 will require specialised expertise to produce and personnel with the necessary skills to manufacture the products to market specifications. The overall quality of products will be imperative to the success of the venture. Existing suitable processing infrastructure needs to be identified and where necessary new infrastructure may be required (particularly in deep rural areas where no suitable infrastructure increases the cost of transport for non-commercialised farmers). In Chapters 5, 6, 7 and 8 and section 9.2 of this chapter specific supply and processing arrangements were suggested due to the multi-dimensional nature of each of the products and their respective markets (North, 2000).

### **Marketing agents**

The market surveys (Chapters 4, 5, 6, 7 and 8) indicate that the proposed products are fairly unknown to the general public in South Africa. However, these same surveys have indicated a consumer interest in the products and shown that international markets exist. Methods to introduce the products to the South African consumer need to be devised. For export markets, access can be initiated through trade fairs and exhibitions (as was done in Mexico (Farias, 2001) and the support programmes offered by the DTI as shown in Chapter 6 for cashmere carpets), and agents marketing overseas (several were identified during the market surveys). This specialised field requires dedicated marketing staff that knows the product, and that can successfully present the products to various target markets.

### **Distribution agents**

The distribution of products to the selected target markets will be essential to ensure that a consistent supply to retailers is achieved. The distribution network will have to be established once target markets are identified.

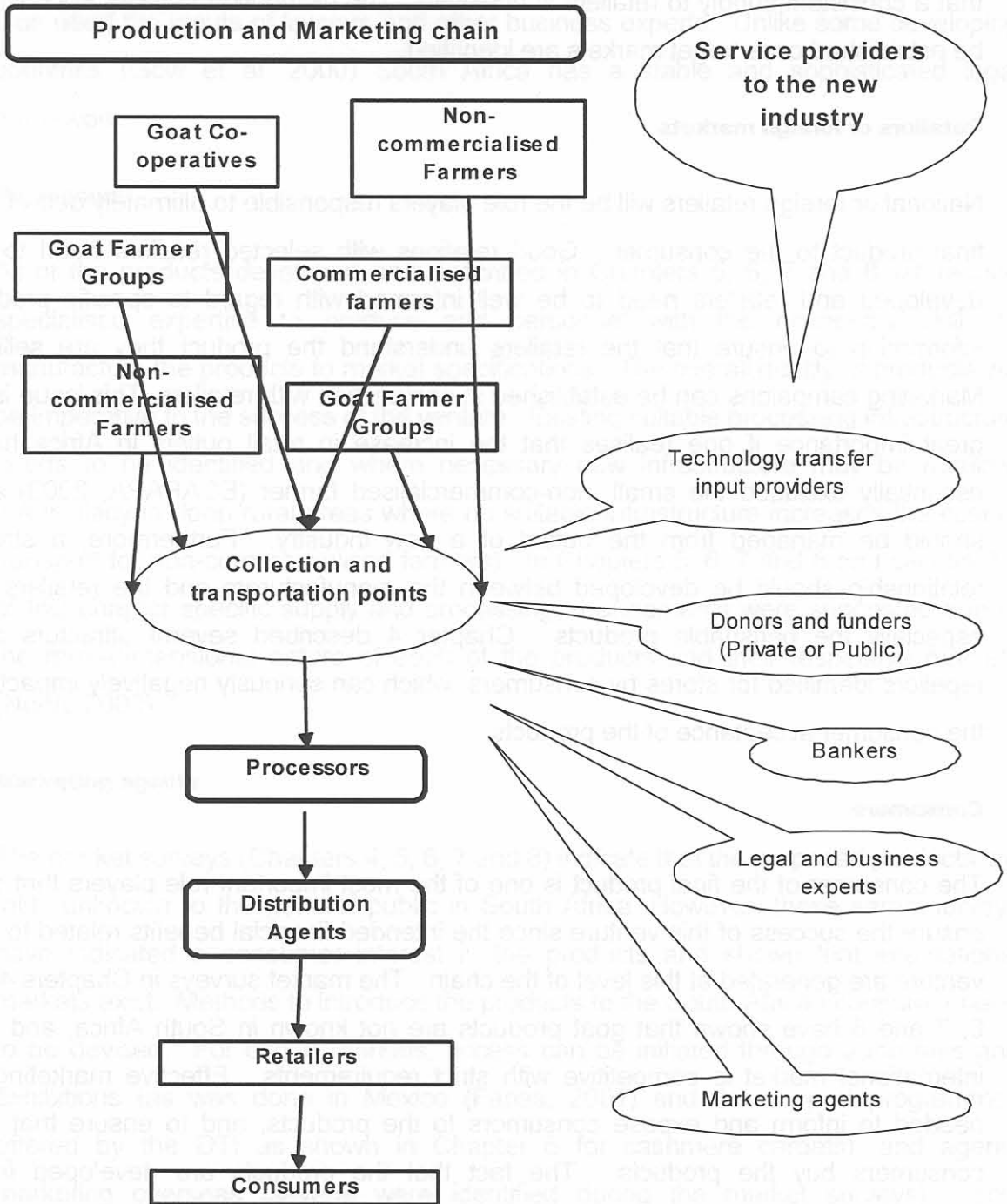
### **Retailers or foreign markets**

National or foreign retailers will be the role players responsible to ultimately deliver the final product to the consumer. Good relations with selected retailers need to be developed and retailers need to be well informed with regard to specific product information to ensure that the retailers understand the product they are selling. Marketing campaigns can be established in conjunction with retailers. This issue is of great importance if one realises that the increase in retail outlets in Africa have essentially excluded the small, non-commercialised farmer (ECAPAPA, 2003) and should be managed from the outset of a new industry. Furthermore, a strong relationship should be developed between the manufacturers and the retailers for especially the perishable products. Chapter 4 described several attractors and repellors identified for stores by consumers, which can seriously negatively impact on the consumer acceptance of the products.

### **Consumers**

The consumer of the final product is one of the most important role players that can ensure the success of this venture since the intended financial benefits related to the venture are generated at this level of the chain. The market surveys in Chapters 4, 5, 6, 7 and 8 have shown that goat products are not known in South Africa, and the international market is competitive with strict requirements. Effective marketing is needed to inform and expose consumers to the products, and to ensure that the consumers buy the products. The fact that the products are developed from indigenous resources, and the ultimate aim to commercialise the smaller goat farmer should be used in marketing campaigns, emphasizing “natural”, “indigenous”, “culturally-based”, “Out of Africa”, and nutritious since there is an international trend towards products of this nature (Sautier, 2000; Farias, 2001; ECAPAPA, 2003).

The vertically co-ordinated supply chain of the envisaged goat industry is shown in Figure 9.2.



**Figure 9.2** Supply chain for goat products

## 9.4 Defining the relationships between each of the role-players and activities in the production and marketing chain

Since the production and marketing chain envisaged for the goat industry requires a consistent flow of raw product into the chain, a possible mechanism to ensure this (without creating an employee-employer relationship) would be through formal vertical coordination within the industry. Sporleder (1992) mentions that vertical linkages occurring throughout the food production, distribution and marketing system is due to changing consumer demand for specialised and relatively low-volume food markets and that this is replacing spot market transactions for mass marketing of undifferentiated commodities. Rehber (1988) recognises four types of vertical coordination which can occur whereas Sporleder (1992) and Hobbs (1996) describes these as a continuum of exchange arrangements. These are:

a) Coordination without a contract: This can be called a spot market or open market transaction in which there is no written or oral contract between the firms in the production and marketing chain. Here each player in the chain can buy or sell his/her inputs and outputs to whomever he/she pleases, often based on price. The disadvantage of this lack of formal relationship is that there is uncertainty regarding future successful transactions taking place. The current goat industry is driven by spot markets and these are used effectively currently by commercial goat farmers who have access to telecommunications and transport infrastructure, and market information. They are thus not appropriate for non-commercialised goat farmers at the present time.

b) Contract farming: This entails relationships between producers and private or state enterprises that provide processing, export or purchasing activities that regulates advance prices, production practices and product quality, which replace spot markets. Variations of contract farming have been called “outgrower schemes”, “nucleus-outgrower schemes” and “satellite farming” in various parts of the world, and are generally promoted as an institutional innovation to improve agricultural performance, delivery of agricultural inputs and information in less developed countries.

c) Ownership integration: Here each individual firm loses its identity and becomes an entity within a larger company.

d) Farmer Co-operatives: Here the emphasis is that the firm is owned and controlled by the producers, and operates for the mutual benefit of its members (producers or patrons).

It would be difficult to “own” each of the non-commercialised goat operations in South Africa so “ownership integration” is not an option to consider. The spot market system is the system in which the industry currently resides, has proved lacking in its ability to ensure the greater development of the goat industry and it often excludes (and where it does not it exploits) the smaller, less-informed role players, is inconsistent and unreliable as a production planning tool, and prices are variable. The first part of this chapter, and the conclusions of Chapters 5, 6, and 7 have suggested the viability of vertical co-ordination through contract growing for all the goat products envisaged (all products except milk). For the reasons expounded there the formation of co-operatives and contract growing becomes the vehicles of choice to commercialise the goat industry. As shown in Figure 9.1, different legal entities could be suitable for contract farming arrangements. These include individual farmers, farmer co-operatives, farming firms (companies), farmer groups (farmers associations or clubs), and both non-commercialised farmers and commercial farmers. The South African legal system has several business forms which can be suitable for the establishment of a legal farmer entity. The differences between these legal entities needs to be known and conveyed to those farmers who feel the need to join forces with other farmers to reduce transaction costs and increase consistency of supply to a purchasing, processing or export enterprise. The forms of legal entities that exist in the South Africa legal system are shown in Figure 9.3 but their different characteristics will not be discussed here. Suffice to say, investigation of these entities has shown that farmer co-operatives lend themselves to the requirements of the vertically co-ordinated goat production and processing venture envisaged here since they allow for large numbers and variation in numbers of participants, are governed by a Board of Directors (thus are self-governing) and encourages collective action (which operates in a similar manner to the cultural norms that most non-commercialised farmers are accustomed to e.g. Ubuntu – an African concept which pronounces that “I am because

you are”), and have the interests of the members of the co-operative at heart. However, it should be remembered that “Ubuntu” also does not view the success of the individual in a good light, and conflicts may occur within these co-operatives if a select few of the members do better than others within this system.

**Table 9.1 Business structures that exist within South Africa**

Unincorporated Entities	Incorporated Entities
Co-operation Agreement	Close Corporations
Joint Projects	Private companies
Joint Ventures	Public Companies
Partnerships	Section 21 Companies
Franchise operation	
Trusts	
Agricultural Co-op	

(Source: Smuts, 1999)

Contract farming refers to the system by which produce is supplied under a forward contract, where a commitment is expressed to deliver a commodity of a specific type, quality and quantity, at a certain time and price to a known buyer (Artz and Brush, 2000; Singh, 2002). The more precise the contract specifications the more likely that the specific requirements will not be violated (Artz and Brush, 2000). It also stands to reason that the more simple the product specification, the less likely that the requirements will not be met, thus it is important that these specifications be kept as simple as possible. It is interesting to note however, that NIE literature (an overview by Hobbs, 1996) states that spot markets are more relevant where there are low levels of uncertainty in the quality characteristics of the product to be traded. However, here the need for vertical co-ordination through contracting for a simple product is motivated by a different reason: development. Also, in contrast to what is expected, spot markets are generally found where transactions are frequent. In this scenario frequent transactions (of purchasing and delivering goats on a daily and weekly basis) would be better served by vertical co-ordination since the processing firm will not need to continuously seek the product elsewhere than on its own doorstep, and thus a constant supply is assured.

For the purchasing, processing or export enterprise the establishment of a contractual relationship becomes obligatory if they are to ensure consistency of supply to retailers



and other clients, and because of the high sunk costs and specificity of infrastructure and other relationship-specific costs (negotiating shelf-space e.g. listing fees, organising transport and distribution e.g. time-based contracts etc.: Sporleder, 1992; Gow et al., 2000) that would have to have been invested in the process to get the product to the consumer. In this specific scenario too, the goat resource is mainly in the hands of the non-commercialised farmer, thus contracts could ensure not only the critical mass required to enter the retail and international market place (of benefit to the processor), but could also assist in “locking” the non-commercialised farmer into a formal industry (a benefit for the non-commercialised farmer). A “mutual dependency” is thus created between the producer and the processing, export or purchasing enterprise, and this relationship is best described by a legal contract since the number of parties involved would be too great for verbal assurances alone, and the risk of providing heterogeneous products to consumers would be too high. Thus, the vertical co-ordination envisaged here is driven by asset specificity (non-commercialised farmers own the goats, and the processors hold the expertise and facilities for value-adding and getting the product to the market, but these premises are located within the areas of production) and the high incidence of transactions required (to use the facility most efficiently and to allow bulk throughput for bulk retail and export markets). Contract breach will be lowered due to the high risk aversion of both parties for these reasons.

Three broad groups of contracts are classified by NIE (Hobbs, 1996): market specification contracts (where the buyer pledges to provide a market for the seller's product); production-management contracts (the buyer participates in the management of production and may specify input usage); and resource-providing contracts (the buyer provides a market for the product, supervises the production and supplies the key inputs).

In the vertically co-ordinated goat production, processing and marketing chain envisaged here, elements of all three groups may be found. It is clear that the processing centre would not want to get involved in farming goats (its expertise and assets lies in the processing and processing infrastructure), but it needs the product of the producer to efficiently operate its plant. However, the processor has links to the market with its own set of requirements. For example: if a higher profit could be

generated with goat meat products labelled “organic”, then the processor could request the producers to manage their production in this manner (and also, in this case have to offer training in how this could be done, as well as monitor compliance – since organic labelling requires certification). If however, to achieve compliance requires that only a unique organic medication which is not found conveniently on the shelf must be used rather than all other medications, and the processor goes into a strategic alliance with such an organic pharmaceutical company to provide this product to the goat producers at a cheaper price, then resource-providing contracting becomes apparent. These various forms of contracting may illustrate various stages over time that the goat operations envisaged may proceed through.

Within these broad groups, three different types of contracts are defined in the NIE literature (Artz and Brush, 2000; Furubotn and Richter, 2003). These include:

- Classical contracts where each transactor’s obligations are specifically defined. These contracts are utilised mainly for simple contracts where the responsibilities can be easily defined and where uncertainty and asset specificity is low.
- Neoclassical contracts are more complex and attempt to correct for external influences on the success of the transaction. These contracts are more costly to write, enforce and monitor.
- Relational contracting occurs where an exchange contains a significant social component as well. These contracts do not spell out the complete set of terms and conditions, but allow for periodic renegotiations to adjust the specifications of the transaction.

For the commercialisation of goats a classical contract may be suitable because the product specification is simple and prices can be determined beforehand. For example, goats delivered for slaughter must be ear-tagged and tattooed (showing ownership of the goat to a registered co-operative member), the animal must be younger than 18 months old (not yet 2-tooth, i.e. milk teeth will still be present), the animal must weigh between 25 and 35kg and the goat can be of any breed. Prices for goats should be set slightly above the norm (as suggested in the sugar beet example

described below), and could easily be achieved if the high value-adding potential of the products suggested are taken into account when calculated. If these were the only specifications then a classical contract may be suitable.

A neoclassical contract may become necessary where the terms of delivery and price become variable. The abattoir would need a constant supply of goats to remain operational. This requires co-ordination of the supply of goats to the facility in such a way that holding facilities are not overcrowded but the abattoir has a constant and regulated flow of animals through the facility. To co-ordinate this delivery some specification of delivery dates and delivery obligations must also be found in the contract. If the products sold have little value-adding, and the raw product price is governed more directly by the external market price for the raw commodity then contracts may need to explain the conditions that would determine the price form time to time.

However, in the vertically co-ordinated goat supply, processing and marketing chain envisaged here, a more relational type of contract would be more appropriate. The processors are dependant on the producers, and in the current state of unemployment and poverty, the producers are equally dependant on the processors and their ability to further market the products (Thus the reasons for expected low contract breach for both parties in this case will be different). Both parties would be expected to want to work more collaboratively to ensure the success of the venture for the benefit of both groups. This implies that communication between the two parties should be strong and that this communication will allow adjustments to be made to the contract as and when required (which could move the contracts from merely market specification contracts towards more resource-providing contracts: Hobbs, 1996). However, the more simple the specifications required by both parties and the more collaboratively the parties plan the process or share information the greater the success of the transaction will be (Artz and Brush, 2000).

The enforcement of contracts has often proved problematic in developing countries where the public law enforcement institutions are in disarray or in the process of formation (Gow et al. 2000). Although this is not necessarily the case in the South African situation with its sound legal system, public legal enforcement channels are

inhibitively expensive (this being the main reason that formal financial institutions avoid service provision to the informal agricultural sector where administrative costs to enforce contractual obligations and the incidence of contract breach are high). However, contracts and legal processes are an unknown field for non-commercialised farmers, so private sanctions could be created to assist them in reducing the possibility that they could create a hold-up in the production and processing chain. Sanctions can include the termination or non-renewal of the relationship (or renewal of future contracts biased against the reneging party in terms of pricing or conditions), or damage done to the reputation of the party who caused the hold-up (Gow et al., 2000). Some of these innovations may be useful in the design of contracts for the goat industry. It can be argued that placing a specific asset within a non-commercialised goat growing area, opens up the possibility of opportunism by non-commercialised farmers since the facility requires a specific raw product. This is unlikely due to the high risk aversion by these very poor farmers, as demonstrated by Ensminger (2000) in East Africa, where the rural farmer would not want to risk termination of his contract.

Artz and Brush (2000) mention that increasing the relational content of the exchange greatly reduces opportunistic behaviour. This was shown to be the case by Gow et al. (2000) who describes several internal institutional innovations applied by a private company (Juhocukor a.s.) to increase contract compliance in the sugar beet industry in Slovakia. Some may be applicable to the goat industry production and marketing chain:

- Input provision and investment facilitation programmes for farms that signed a long-term contract with Juhocukor a.s. were introduced.
- A fixed base-price (slightly higher than the market price) and timely payment for deliveries were implemented – bonuses and penalties for pre-set quality were established.
- Juhocukor a.s. negotiated price reductions and guaranteed the repayment of purchases with a select group of input suppliers that producers were encouraged to deal with.

- Juhocukor a.s. developed a formalised programme with the main agricultural bank in Slovakia (Polnobanka) for the provision of financing for machinery investment and working capital, guaranteeing repayment and negotiating reduced interest rates for the producers.
- Technical support and extension programmes were introduced which also allowed Juhocukor a.s. to monitor the farms.
- A media and public relations campaign further assisted in the dissemination of these new benefits to the producers.

These contractual and institutional innovations dramatically increased the production of sugar beet by producers as Juhocukor a.s. was seen by producers as being willing to put its reputation on the line to back their contracts with timely payments at a good price.

Singh (2002) reports that farmers felt that contracting helped them become better farmers, gave more reliable incomes, generated employment, provided new skills in farming, and did away with patron-client relationships between large and small producers. Where contract growing has been established in developing countries several lessons have been learned and these should be kept in mind when implementing such a system. Singh (2002) describes some reasons for contract default by chilli, tomato and potato contract producers and their contracting companies in India. Some of the reasons for disenchantment with the contract growing system included: Companies became more strict on quality when they had over-contracted or when yields were good (the contracts are based on acreage planted and not necessarily on weight delivered), trust was reduced when the companies (who supply seedlings to contract producers) sold off excess seedlings to non-contracted producers, some of these seedlings were reported to be of poor quality, farmers felt that the companies had corrupt arrangements with the fertiliser and pesticide companies whose products they recommended to their farmers, poor coordination of activities, poor technical assistance, delayed payments, and manipulation of norms by the companies. However, although these problems occurred, most producers (from 62% to 80%) wanted to continue with contract farming, and felt benefited by the arrangement.

Further benefits in the development of contractual farming operations is that such arrangements can allow the purchasing, processing or export enterprise to access government and international funding agency investments or incentives since it is assisting in the development of non-commercialised farmers. Additionally, farmers become more “visible” to other development agencies, government programmes, financial service providers and providers of input supplies (Singh, 2002).

## 9.5 Conclusion

Part 1 of this thesis investigated the current goat industry and the various industry role-players as well as investigating the goat resource base available for commercialisation. It then went on to describe those factors which have contributed to the inefficiencies in the current system and showed that these reasons are largely irrelevant in the current context. Part 2 investigated potential markets for various goat products, studied the particular attributes of each of the products, designed new products from these raw products, and tested these products in the market place. Having determined that markets for these products exist, the means to get them from the non-commercialised farmers to the market place was investigated in Part 3. This chapter has described the various critical factors that need to be addressed to assure the presentation of quality products as required by the market. These include: the supply of a suitable raw product; collective action; targeted and specific technology and information transfer; collection and transport of goats; processing specific for meat, leather, cashmere, and milk; branding and packaging; quality control; marketing; product distribution; and pricing. Describing the issues of each of these critical factors allowed the identification of the role-players (or asset owners) which are likely to add value to the process. These were identified as: farmers; training and technology transfer agents; investors and donors; bankers and lawyers; processors; marketing agents; distribution agents; retailers or foreign markets; and consumers.

Identifying each role-player led to a definition of the relationships between them. This section investigated: co-ordination without a contract (as in spot markets); contract farming: farmer co-operatives and owner integration. Contract farming by farmer co-operatives was shown to be the most suitable of these choices for moving goats from rural areas to international markets. Thus, this exercise showed that vertical co-

ordination would hold certain benefits for each of the parties in the production, processing and marketing chain. To increase the efficiency with which the chain functions several contract groups were identified: market-specification contracts, production-management contracts; and resource-providing contracts. It was surmised that as the relationship between producers and processors grows and more market information becomes available to the processors, that market-specification contracts may transform into more resource-providing contracts as time goes on. Several contract types were studied. These included: classical contracts; neoclassical contracts; and relational contracting. Relational contracting was shown to be the contract method of choice since it creates avenues to reduce contract breach and opportunistic behaviour while encouraging trust, communication and collaboration mutually beneficial to all parties.

Vertical co-ordination can do much to commercialise the goat industry in South Africa, and can be especially beneficial in assisting non-commercialised farmers in obtaining access to information, markets, finance and sustained growth. This will greatly improve on the inefficient results of the current spot market system which has proved exploitive of non-commercialised farmers. Important here too, is the formation of a reliable, trustworthy, processing, purchasing or export enterprise with whom non-commercialised farmers can contract. Such a firm may be able to access government funds to start-up (Singh, 2002), and will need to keep the lessons learned from other similar enterprises in mind. Chapter 10 will describe several case studies which have applied some of the issues described in Chapter 9.