PART 1

BACKGROUND, OVERVIEW AND SETTING

CHAPTER 1: INTRODUCTION

"Begin at the beginning," the King said gravely, "and go on till you come to the end: then stop."

Lewis Carroll, Alice's Adventures in Wonderland

1.1 Background

Indigenous knowledge and indigenous resources have been underestimated for their ability to enable economic empowerment of emerging South African entrepreneurs. South Africa is listed as one of the 9 Mega-biodiverse nations (which together possess more than 70% of the world's biodiversity; Roets, 2004) and thus, has immense indigenous resources and knowledge, which is unique to the rest of the world. This indigenous knowledge, if correctly harnessed, can lead to untold opportunities in local, national, and international market places. However, they will remain untapped if South African entrepreneurs (and service providers such as Government Departments) continue to look for opportunities already exploited by developed countries, and continue to apply methodologies and business concepts that work well in the developed world. These countries already have the infrastructural, legal and organisational structures in place with which they work so effectively. A paradigm shift to create real economic growth in rural areas in developing countries is necessary. This is especially the case in a dualistic economy such as is found in South Africa, where a huge under-developed sector resides "uncomfortably" next to a highly sophisticated industrialised, commercial and financial sector. Without new paradigms the developing world's huge traditional resources will remain in the traditional spheres of knowledge for which there is no economic exchange value.

The above statement can be directly applied to the under-developed goat industry of South Africa. Over 6 million goats can be found in South Africa (Directorate: Agricultural Statistics, 2003), mainly owned by small-scale (non-commercialised) farmers in deep rural areas (85%; Directorate: Agricultural Statistics, 1996). However, up to the start of 2003 not a single goat had yet found its way into the retail sector

(unless it was labelled as mutton; Butcher, KwaZulu-Natal, personal communication, 2002). This despite the knowledge that goat products are of high value (based on literature, products and markets in developed countries) and despite a highly sophisticated red and white meat industry in South Africa (which includes world class infrastructure [abattoirs, processing plants, roads and rail networks], institutions [Veterinary Public Health Inspection Systems, SAMIC, Red Meat Producers Organisation], legal frameworks [Public hygiene and trade policies] and markets [retail and export]). This also, despite existing international markets and potential local markets that remain to be exploited. But, if all these resources could be harnessed to commercialise the goat industry in South Africa, how could the non-commercialised farmer be made part of the new industry from its outset? Too often an entrepreneur cashes in on an indigenous resource (e.g. African craft exported to Europe, Hoodia plant being used in pharmaceutical research; www.aaas.tek*pad.org), leaving the actual indigenous resource owner without any benefits (or remarkably few).

New products for new markets should be seen as a potential aid in rural entrepreneurial and agricultural development. Technological, institutional and information inputs could lead to an increase in production, to new or changed products, or to improved product quality. These inputs could relate to job creation, poverty alleviation, increase in profit, and increase in food security and/or autonomy.

However, the exploitation of new products for new markets can be a potential threat to non-commercialised farmers or entrepreneurs when they have less access to the means of commercialisation than others working in a comparable industry, and are thus left out of the commercial exploitation of these indigenous resources. Thus, the threat does not lie in the product or market itself (these are opportunities), but in the differential access to the means of commercialisation between various beneficiaries (which is especially the case in South Africa's dual economy), and the threat is not one of taking away the farmer's livelihood, but reducing his/her ability to increase his benefit from a resource that he/she already owns. To counteract this threat there is a need to increase the awareness and understanding of the totality of constraints and opportunities available to the non-commercialised farmer and develop methods to overcome them. This includes studying the institutional arrangements surrounding commercialisation and the reduction of transaction costs of non-commercialised

farmers related to their acquiring information, contracting and, in other ways, participating fully in the market economy.

There is a need to move away from an approach where non-commercialised farmers are only trained in how to farm a particular crop or animal (as a means to improve their livelihoods), to also assisting in creating an enabling environment for selling their produce. It is certain that non-commercialised farmers in South Africa are not, as Omamo (2003) jests, "first and foremost natural resource managers and not, like farmers and herders everywhere else in the world, in it for the money". Or, that "African traders are benevolent creatures, and not, like traders everywhere else in the world, in it for the money".

1.2   Theoretical construct

The foundation of all science is, obviously, observation. Any reaction to that observation should be recordable, in a language or descriptive terms that have some meaning to others. This is the process followed for descriptive science (Hinkelmann and Kempthorne, 1994). If such observations are then organised so that a general pattern or "generalisation" occurs, "laws" can be created from such empirical generalisations. In nature however, it is often more correct to call these empirical generalisations "theories" because they are only true in a given context of application. Thus, the second type of science is the development of theory (Hinkelmann and Kempthorne, 1994). A theory is defined as "an explanation of the commonalities and the relationship among observed phenomena in terms of the causal structures and processes that are presumed to underlie them" (Gall, Borg and Gall, 1996).

Economics lends itself superbly to qualitative theory, being a social science. But, the myriad of alternatives within qualitative theory are mind-boggling. According to Leedy (1997), "qualitative studies tend to use an inductive form of analysis whereby observations of particular cases may be generalised to a class of cases", where after-the-fact explanation is emphasised, and theory emerges from a careful consideration of the evidence. Qualitative researchers endeavour to increase their understanding of the *broader* phenomenon. Words such as multi-disciplinary, holistic, a systems approach, and interdisciplinary spring to mind.

However, these types of terms are being bandied about quite loosely in the field. There are those who believe that interdisciplinary and multidisciplinary research entails bringing together, for example, in a vegetable project, a soil scientist, a climatologist, an agronomist, and irrigation engineers. Developmental efforts have been wasted through this approach. The beneficiaries (also a loose term – denoting the receiver of things instead of a participant) are ultimately left with the knowledge of how to grow a crop successfully. They may even receive the correct production inputs and infrastructure to do so, but other aspects that are also important for their development (or preferably, economic empowerment) are left out of the intervention (again a misleading word since participation is not implied). Factors such as markets, product quality, legal issues, institution building, profit, loss, risk, financing and so on, are neglected. Thus, the "schools of thought" surrounding the paradigms "multidisciplinary" and "interdisciplinary" are sometimes misunderstood and essentially flawed.

Leedy (1997) and Patton (2001) list several qualitative research methodologies. In economic theory, Doyer and Van Rooyen (2001) debate the move from the Positivist approach in Supply-Chain Management Research to the use of Constructivist reasoning. This introduction will not delve into the deeper meanings or philosophies surrounding all of these qualitative orientations here. However, suffice to say, Grounded Theory and Systems Theory are applicable to this thesis for the following reasons: Grounded Theory attempts to link descriptions of situations to general social science theories (in the case of this thesis, to economic theories), thus contributing to the development of theory (Leedy, 1997). This assumes that all the concepts pertaining to the phenomenon under investigation have not yet been identified, and that the relationships between the concepts are poorly understood or conceptually underdeveloped (Leedy, 1997); and, Systems Theory, according to Patton (2001), has three main points. Firstly, Systems Theory is useful in dealing with real-world complexities and viewing whole entities embedded in context. Secondly, Systems Theory depends heavily on qualitative enquiry. And thirdly, Systems Theory can be useful in framing questions, and later, making sense out of qualitative data.

This third point leads naturally to the use of Grounded Theory as a research approach. Here, studies are aimed at deriving theory (Leedy, 1997) or generating theory (Patton,

2001) rather than the proving or disproving of a particular theoretical content. And, rightly so. What would be the use of immersing oneself in the many and varied nuances of the development context, if one were merely "testing" whether the theories of those that had gone before were correct or not? In fact, the situation becomes even more difficult if you are, at the outset, concerned that the theories or methodologies of those that had gone before were fundamentally flawed to begin with. Thus, the use of the systematic approach of treating one group of "beneficiaries" in ways similar to that which had occurred in the past, and another group in a new, possibly improved, manner, and then comparing the result, would surely be tantamount to unethical behaviour! Similar to providing one group of malnourished children with food, and leaving another group undernourished, to "test" the difference.

A systems approach also appeals for several reasons as stated by Patton (2001). The concept of Farming Systems Research and Development emerged from the failures of the purely mechanistic technology transfer (from more developed to less developed countries) approach of developmental work of the fifties, sixties and seventies (Patton, 2001). Here, the mechanics of agriculture was emphasized, and "technology transfer" was considered the panacea for all developmental ills, leaving the social, economic, traditional and historical context within which the farmers found themselves out of the picture. Farming Systems Research and Development (FSRD) is essentially a qualitative approach to development where interdisciplinary teams function in the field, working collaboratively with the farmers, including aspects regarding society, environment, labour, and income. It begins with open-ended enquiry and qualitative description (important in Grounded Theory), remaining sensitive to the context of cultural, political, economic, and policy environments. It is interactive, dynamic and process oriented, and situationally responsive and adaptive (Patton, 2001).

It is also pleasing to note that Lincoln and Guba (1985) as quoted by Patton (2001) remarked that "…. *the design of a naturalistic enquiry cannot be given in advance; it must emerge, develop, unfold…*" And thus it has been so with this investigation.

J.C. Bonsma (1965), one of the most well known animal scientists to have emerged from South Africa, had an aversion for agricultural economists. His reasoning was thus: *"The farm and the factory differ essentially at the point of freedom. If the*

economist makes a factory out of land for crop and animal production, introducing military control with large-scale units, piece work, specification, he destroys the peculiar character of the yeoman, the man who owns himself, directs himself, and has judgement based on independence. Therefore, I would say, let the economist of agriculture begin his plans with a thorough consideration of the human factor, its limitations and ideals, and fit his economic schemes to the character of the farmer."

Furthermore, economics has been described as the "dismal science" (Hinkelmann and Kempthorne, 1994), thus gloomy, miserable, dreary and feeble (Pocket Oxford Dictionary, 1984). Much of economics is based on the standard neo-classical framework which assumes perfect markets, perfect information, well-defined property rights and zero transaction costs. Applying this framework to solve problems and provide policy advice often created problems and ill-conceived solutions in the developing context. The reason then, for the "dismal" character of the science.

New Institutional Economics (NIE) – often perceived the school of thought to bring economists closer to reality – assists economists to do analytical work and design systems and solve problems in imperfect markets. African agricultural markets often do not function properly due to high transaction costs, lack of information, poorly defined property rights, and poor institutional frameworks. New Institutional Economics thus provides an ideal framework to enable us to design interactions and systems to improve the functioning of markets and providing access for poor farmers to markets. New Institutional Economics has created a platform for the description and presentation of information related to (in the case of this thesis) non-commercialised farmers that other sciences (biological, social or education) find difficult to address. It (NIE) is a multidisciplinary field that includes aspects of economics, history, sociology, business organisation, political science and law (Kherallah and Kirsten, 2001).

Meindertsma (1994) stated that FSRD links specialised thematic and commodity research to real-world agriculture with its concomitant socio economic and institutional environment. New Institutional Economics thus clearly resonates with the theories of FSRD and Systems Theory. Even Bonsma would be pleased.

A feature of NIE is its emphasis on transaction costs; these are determined by institutions and institutional arrangements. In this thesis it is postulated that international trade opportunities and globalisation have created a niche for the commercialisation of indigenous South African goats. However, to successfully enter and occupy this niche, certain institutional arrangements, enabling and culturally acceptable to non-commercialised farmers, need to be created, while at the same time, addressing the global challenges of quality, consistency and high standards.

To create an enabling environment in which non-commercialised farmers will operate requires attention to formal (contracts, organisations, markets) and informal (traditions, customs) institutions, both at macro (legal) and micro (organisational form) level. One often wonders why goats have remained in the informal sector. Here it is important to consider the effects of transaction costs in the formation of the current informal industry. Furthermore, history (and historical South African politics and thus policies) will help explain those institutional arrangements that have persisted for some time, that have hindered growth in this sector, and the groups that captured this market to serve their particular interests, and the political and policy changes which make these institutional arrangements of less consequence today.

This thesis will further postulate that product innovation (Part Two of this thesis), the opening of global markets, the shift in South African population demographics, and the increase in accessibility of non-commercialised farmers to information, have created opportunities to adopt new institutional arrangements (Part Three of this thesis). These new institutional arrangements must however, be designed keeping local customs and conventions, and use of common property resources in mind. Thus, the structure of the collective action and the role of governance structures become important.

Most importantly, the NIE theoretical framework allows the investigation of those factors that have, in the past, and could, in the future, affect the transaction costs of the non-commercialised goat farmer or entrepreneur. The governance structures of an envisaged vertically co-ordinated goat industry which could assist to reduce the transactional costs of information, negotiation, monitoring and coordination can be studied. This allows the investigation to determine the most appropriate methods to

link farmers with processors and markets through vertical co-ordination and ultimately to export markets with their high demands for safety, quality and consistency.

This thesis examines the biological, socio economic and institutional environment in which the goat industry currently operates, how these biological characteristics can be exploited, how these socio economic features can be capitalised on, and how new institutional arrangements can be adopted, and propose methods to link this industry successfully with global markets, whilst creating a milieu of benefit to non-commercialised goat farmers and entrepreneurs. Grounded theory (which, as stated before, attempts to link descriptions of situations to existing theories) will be used to explore the activities and findings of practical work in the field of goat commercialisation which were undertaken. The results and methodology of the work will be described in detail to identify the unique qualities that may be useful in the commercialisation of other traditional or indigenous South African resources. As allowed for by NIE (Paarlberg, 1993), the findings will not be analysed deterministically or modelled econometrically. However, value judgements and assumptions will be reported and certain expectations and attitudinal and institutional recommendations will be described.

Having defined the theoretical approach, it becomes, as is necessary with any thesis, important to determine a very clear purpose, output and ultimately, end, for the work. This will be clarified below.

1.3   The vision of the African Renaissance

The subject of this thesis serves to develop a system for the commercialisation of the goat industry in South Africa in such a way that the small players, the non-commercialised farmers and entrepreneurs who hold the most goat resources in this country, are not left out of this development. This is especially the concern in the highly dualistic economy in South Africa. The "First Economy", so called by President Thabo Mbeki, is quite capable of looking after itself, but it is the "Second Economy" that requires assistance to become part of the economic mainstream. This imbalance must be addressed if the differences between the rich and the poor in South Africa are to be reduced. It is thus necessary to determine who these "non-commercialised" or

"emerging farmers" are, and what systems should potentially be investigated to assist in their commercial development.

South Africa has severely high levels of unemployment and poverty. Seventy-five percent of the workforce was able to find formal-sector employment in 1974, but that share had dropped to 42 percent by 1989 (Ligthelm and Kritzinger-Van Niekerk, 1990). Statistics from the 2001 census reveals an unemployment rate of 31.6% amongst the economically active population (Stats South Africa, 2001). Most of the people without formal sector employment live in the rural areas of South Africa (Machethe, Reardon and Mead, 1997). In his inaugural address (1999), President Thabo Mbeki stressed the importance of job creation and rural development if South Africa is to achieve true economic reform. In his 2002 State of the Nation address, his main focus was again on poverty alleviation and methods to overcome severe constraints at grass-roots level. During this period, the Integrated Sustainable Rural Development Strategy (ISRDP) (www.idt.org.za) was developed to create socially cohesive and stable rural communities with viable institutions, sustainable economies and universal access to social amenities in an effort to alleviate rural poverty. Following the 2004 State of the Nation Address the Expanded Public Works Programme was initiated to assist in poverty alleviation and job creation. It is important for citizens to look to this leadership to address the most pressing problems of our time and our country.

The ISRDP and Expanded Public Works Programme mentioned above are examples of attempts at national level to overcome some of the constraints experienced by the rural poor. Several programmes initiated in different government departments in South Africa also address this objective. The Department of Trade and Industry (DTI) has placed emphasis on the development of small businesses. Divisions such as the Small Business Development Units (SBDU's) or Small Business Service Centres (SBSC's - nationally and provincially), Ntsika (a micro-finance and SMME support agency), the Community Public Private Partnership (CPPP) and the Sector Partnership Fund are examples of DTI programmes aimed at improving employment opportunities and entrepreneurship throughout South Africa. The ISRDP managed for the President's Office by the Independent Development Trust (IDT), works through the Local Economic Development Fund (LEDF) and co-ordinators are drawn from several government, provincial, district council, and local council groups. The National

Department of Agriculture and Land Affairs (DoA) have implemented SMME programmes such as "Land Lives" and "Land Care", have held workshops and seminars regarding agricultural export, private-public sector partnerships, investment opportunities and micro financing. The Department of Science and Technology (DST) have implemented research funds such as the Innovation Fund to influence and encourage new business development with technology and indigenous resources as the business foci. The Department of Water Affairs and Forestry (DWAF) have implemented the "Working for Water" campaign. The National Development Agency (NDA) was created through the passing of the NDA Act in 1998 with the mandate to disburse funds for meeting the developmental needs of poor communities. The TEBA Development Agency was similarly founded (utilising contributions from the mining industry). The National Qualifications Authority was brought into being by the Department of Labour, along with the 26 Sector Education and Training Authorities (SETA's), and provides funding through the National Skills fund (NSF) to assist in the education of the under-skilled adult population of South Africa.

These activities are part of a national endeavour of entrepreneurial and agricultural development intended to lead to the general upliftment of the quality of life of people in rural areas through land reform, development of entrepreneurship and job creation. NEPAD has also been created with economic improvement in mind for the entire continent. However, these programmes mostly fail to address the dearth of institutional, infrastructural, financial, legal and technical resources that plague entrepreneurs in any economy.

Limitations to the successful implementation of rural development projects are rife. Some reasons may be the high turnover of initiatives and programmes and that these are often linked to the project cycle of governments, international donors, or NGO's. Non-financial services are often limited to rather theoretical training approaches while highly needed counselling with regard to the specific technical, management or marketing problems of entrepreneurs or groups is not available. Financial services tend to apply conditions and procedures that are relevant for larger enterprises but make access to credit for smaller enterprises difficult. Furthermore, the role of NGO's has been emphasised in providing support to the development to the private sector because they have better access to potential entrepreneurs. As a result, many NGO's

have developed technical support and training programmes and credit schemes. However, NGO's often emphasise "social" objectives that may not be in line with commercial objectives and may also lack professionalism (Würdemann and Van de Meerendonk, 1998). It can also be debated whether they necessarily possess the technical knowledge to assist with the technology aspects of a technological enterprise.

It was stated (USAID, 1991) that economic reform in the agricultural sector can be achieved through a liberalised agricultural economy in which there is equal access to the means of production and that there are no barriers to market entry nor other practices that are biased against any category of farmer. The problem is however that the liberalisation agenda as promoted by the Washington Consensus (USAID, World Bank, IFPRI) is not appropriate for the African development task, as argued by Kydd and Dorward (2001). Hubbard (1997) argues that in situations of imperfect information, with risk averse producers and incomplete markets for risk sharing, free trade is not necessarily the best policy. It is now emphasized that there is a substantial role for government to provide the most needed infrastructure, services, institutional arrangements and policy framework for an enabling environment. In fact, the Strategic Plan for South African Agriculture (2001) proposes three core strategies in which the government can assist, that of:

- Enhancing equitable access and participation in the agricultural sector

- Improving global competitiveness and profitability, and

- Ensuring sustainable resource management.

Methods to implement these strategies to support the small-scale entrepreneur are now sought. It has been shown that smallholders are rapidly entering the market economy and are highly responsive to the changes. Furthermore, smallholders respond to food shortages and to foreign exchange-earning opportunities as long as the financial returns for these endeavours are attractive (and known to them) (Rwelamira and Kleynhans, 1998). But, as Omamo (2003) suggests, "How?....What more is there to the *how* question than more detail?"

1.4 Defining non-commercialised farmers

It is estimated that some 450 000 to 750 000 small production units, which are Black-owned and/or managed can be classed as the 'small-scale' or 'resource limited' agricultural sector. These production units are sub-commercial and cannot even produce or afford to buy 100% of their household food needs (ANC, 1994). Machete and Mollel (1999), quoting the Ministry of Agriculture and Land Affairs (1998), report that the estimated number of smallholder farmers in South Africa is 1.2 million. The Strategic Plan for South African Agriculture (2001) mentions the values of 240 000 small farm units producing for the informal trade, and a further 3 million subsistence farmers.

It is clear that several terms for "small holder" farmers exist, these include "small-scale farmers", "resource-poor farmers", "food-deficit farmers", "household food security farmers", "land reform beneficiaries", "non-commercialised farmers" and "emerging farmers". In this thesis, these terms will be used interchangeably with emphasis on the term "non-commercialised farmers" and will utilise a definition constructed from the information in the paper by Machete and Mollel (1999): An emerging farmer is a Black or previously disadvantaged farmer, whose main source of livelihood is derived from farming but who cannot function (participate fully) in the market economy because of restrictions in the (economic and other) environment, but who has access to land that normally supports a small or medium agricultural enterprise. A further definition by Kirsten and Van Zyl (1998) exposes a different constraint: "A small farmer is one whose scale of operation is too small to attract the provision of the services he/she needs to be able to significantly increase his/her productivity". These authors postulate that it is these farmers who should be targeted with government assistance and who could become viable entities in a diversified agricultural industry.

The farmer, who is essentially the beneficiary of the work of this thesis, is that person who currently owns goats, but, because of the small size of his operation (measured in turnover, off-take, and number of animals) is overlooked as having the potential to grow. In fact, this thesis will show that with the correct and defined assistance a "small-scale" goat owner, can indeed become a viable, albeit "small", commercial goat farmer. These farmer's main advantage may be that they already own goats and

traditionally (probably due to limited historical access to various inputs whether medicinal, advisory or other) do not provide additional feed or medicine and generally graze the animals on communal land (not owned by themselves), and thus, as a "fortunate" consequence, do not have the problems of access to purchased input supplies that may limit alternative farming activities such as those related to cash crops. These, as mentioned by Kydd and Dorward (2001), are major constraints facing smallholder crop producers that governments must wrangle with.

The development of sustainable rural livelihoods is the key to economic empowerment of the rural poor. Sustainable rural livelihoods are defined as (quoted from Chambers (1988) by Mohamed and Dodson, 1998) "the secure access to adequate stocks and flows of food and cash to meet basic needs… where security is defined in terms of ownership of (or access to) resources and income-earning activities, embracing the need for reserves and assets to offset risk". Sustainability encompasses the incorporation of environmental, political, and economic sustainability of an endeavour (Mohamed and Dodson, 1998). It is thus important to remember that when systems are developed to ensure independent food security, that sustainable use of resources must be built into every decision. This includes correct land use, biological diversity, and a long-term approach to soil fertility and careful use of external inputs.

1.5   Defining potential rural enterprises

Rural enterprises can be defined as economic activities undertaken by rural people that serve to constitute or supplement the livelihood, where a livelihood is seen as the generation of sufficient income to prevent at least absolute poverty (Rural Foundation, 1994 as quoted by Mohamed and Dodson, 1998). Small enterprises, according to the Keddie, Nanjundan and Tezler (1988), are those enterprises employing from 5 to 25 employees and micro enterprises are those that employ from 1 to 4 employees.

Small agricultural and agro industrial businesses in the farm or non-farm sectors can do much to create economic activity and sustainable livelihoods in the rural areas. However, these small businesses face many constraints in starting and growing. These potential entrepreneurs have limited access to capital, technology, infrastructure, knowledge, markets, transport, management skills, and information

(Würdemann and Van de Meerendonk, 1998). Currently, small businesses in the rural areas are limited to small, uneconomic niches left by the formal sector, they are geographically limited and have no access to urban consumers, and they are often survivalist and cannot invest in capital assets (Machethe, Reardon and Mead, 1997).

Enterprises within the SMME sector differ in their investment level, their capacity to absorb capital (i.e. machines etc.), the enterprising approach of the owner, the amount of time spent within the enterprise, and whether the enterprise is growth oriented or security oriented (Everts, 1995). These businesses, however small, are intended to provide essential financial gains to their owners (even if the gains are marginal or additional to other sources of income).

To deal effectively with the crises of unemployment and poverty, it is imperative that the development of viable small farm and rural non-farm businesses or enterprises be stimulated (Machethe, Reardon and Mead, 1997). This involves making relevant technologies and information available to non-commercialised farmers and potential entrepreneurs. Researchers can also assist by investigating (and implementing) various institutional innovations which, as listed by Kydd and Dorward (2001), may include arrangements involving interlocking transactions, producer groups, co-operative competition, the use of traders as agents, trader information groups, but could also include, public private partnerships, contract growing, and co-operative development. This type of research has been undertaken in this thesis.

1.6   Identifying niche agricultural development potential

Historically, efforts at agricultural and rural development have concentrated on the increase in food production by small-scale practitioners (Würdemann and Van de Meerendonk, 1998). Despite large investment and development efforts by development agencies, production has not been able to keep up with food demands by the growing population (Rwelamira and Kleynhans, 1998). Reasons cited for this, despite the significant scope for agricultural development in the SADC region, are (Rwelamira and Kleynhans, 1998):

- A good part of the unused land with rainfall crop production potential is under forest or in protected areas and may not be readily available for agricultural expansion.

- A significant part of the land reserve suffers from soil and terrain constraints: over 50 per cent of the land resource is classified as "humid" or "marginally suitable for crop production".

- Human settlements and infrastructure occupy roughly 3 per cent of the land with agricultural potential.

- To use an additional area of high-potential agricultural land, which is still under-utilised and not in fallow or reserves, enormous investments would have to be made in new roads and social infrastructure (for health, education, etc).

- There would have to be large movements within the rural population to areas more suitable for production if smallholder farming is to be encouraged.

- Changes in production practises and types of crops produced are needed to increase agricultural productivity.

When factors such as these are taken into consideration, it is assumed that the limits to horizontal expansion (the use of greater geographical area regardless of resources) have probably been reached. However, Rwelamira and Kleynhans (1998) suggest that a vertical expansion (using the same area with more resources) should be followed. This, they say, can be achieved through increased crop yields, through improved crop varieties, fertiliser use, better agronomic practices, introduction of high-value crops into the existing farming systems and utilisation of each unit of arable land for what it is best suited to produce. This strategy is corroborated by other authors (Orr, 1998) that have stated that the reasons for rural poverty are the low productivity of smallholder agriculture for reasons such as mono-cropping, the absence of fallow periods, reduced soil fertility, and low and declining yields of local maize varieties. Development through interventions in these fields was achieved in Zimbabwe from 1980 to 1985 by:

- Improved cotton varieties and maize hybrids among smallholders,

- A large increase in agricultural credit disbursement to smallholders,

- The reorientation of extension and veterinary services towards smallholder agriculture,

- The extension of marketing infrastructure to smallholder areas, and,

- Favourable producer prices for major crops

(Rwelamira and Kleynhans, 1998).

Constraints to adoption of new technologies, as shown in the Malawi example of Orr (1998), are cited as lack of land, labour, and capital. Furthermore, productivity gains in one part of the technology package are dependant on the use of other technology inputs (such as fertiliser), where limitations could include the high cost of the inputs or lack of transportation infrastructure.

Frankly, these suggestions are not innovative and not responsive to the changes in the global marketplace, the minds of the consumers or the trends that are so obvious in the developed world. It is as if the developing world is trying to play "catch up" by following the rules laid down by the developed world a decade ago without paying attention to the innovations and the rules that are being written today.

For example, an electronic newsletter article of ECAPAPA (Eastern and Central Africa Programme for Agricultural Policy Analysis, 2003) suggests that although productivity gains should be sought, these alone will not solve the problems and must form part of other measures to improve competitiveness of African agriculture. It can be stated clearly, that although the above reasons for lack of success are valid, it is obvious that a more market-oriented approach to rural development is needed (ECAPAPA, 2003). Greater diversification in the rural economy (and not necessarily vertical expansion of the same commodities) is a further, key, element for success (Mohamed and Dodson, 1998; ECAPAPA, 2003). Thus, instead of merely concentrating on sophisticated animal and plant production practices, or insisting on the production of higher yielding livestock and plant resources [As suggested in a study by the African Development Bank in 1993, that stated that increased agricultural output in the SADC region depends on moving to a more intensive system in the smallholder area and on greater

use of potentially cultivable land in the north of the region for large-scale farming (Rwelamira and Kleynhans, 1998)], development programmes could concentrate some of their efforts on the development of <u>new opportunities and enterprises</u> in agricultural production and service provision and develop the infrastructural and organisational (institutional) requirements to allow entrance of new entrepreneurs.

Here, the emphasis could be on product differentiation linked to products from region of origin, or organic products or other niche markets (Kirsten and Sartorius, 2002), further processing of existing commodities (ECAPAPA, 2003), or commercialisation of indigenous resources. This was successfully achieved by the Non-Traditional Agricultural Products Trade Promotion Programme of the Department of Agriculture, Livestock and Rural Development of Mexico (Farias, 2001). This market niche programme draws on the large biodiversity of traditional Mexican crops and practices, and benefits from the establishment of a quality brand "From Mexico to the World". Its main aim is to support the production and marketing of niche products produced by smallholder farmers.

Processing and marketing deserve special attention because these can play a pioneering role in the development of new products and services, and new markets based on the local agro-ecological conditions and cultural food patterns (Würdemann and Van de Meerendonk, 1998; ECAPAPA, 2003). Situations already exist where value adding (based on cultural food patterns and agro-ecological conditions) is contributing to household income generation. In the Kavango region of Namibia, sources of income used for food security include the sale of carvings, home-brewed beer, wild fruit, and the sale of milk (Matanyaire, 1997). In the Northern and Northwest Provinces of South Africa a small number of rural businesses process crops and provide tractor services (Kirsten, 1995). Also in South Africa, the deregulation of the agricultural markets has resulted in the shift from animal slaughter in abattoirs to farm slaughtering and sales (Machethe, Reardon and Mead, 1997). Liedholm and Mead (1993) showed that manufacturing in food, beverage, textile, clothing, wood, grass products, non-metallic minerals, and metal products is occurring in Botswana, Lesotho, Malawi, Swaziland, and Zimbabwe. In the Mexican example cited above (Farias, 2001), traditional products benefited especially from strengthened production-marketing chains.

This leads one to the deduction that a general misperception exists regarding the future of small-scale agriculture. The current belief is that this sector will only be feasible if they move from being "small-scale producers" to large commercial enterprises. Realistically it must be realised that commercial farmers are successful in South Africa because they have large "economies of scale", almost unlimited access to information (telecommunications, computers etc.), and understand the "rules of the game". These businesses possess the greater part of the input provision, and output processing and marketing in South Africa, and small businesses may not be able to compete with these large businesses (Machethe, Reardon and Mead, 1997). Mahlase (2001) suggests that "the solution lies not in pursuing competition with these "farming giants" but in establishing and supporting a farming system which non-commercialised farmers have been accustomed to for generations; one which they are competent in", thus placing emphasis on "indigenous resource" utilisation.

Commercial farmers make their money by maintaining a very fine line between inputs and mass production. This was encouraged, in the 1960's, 70's and 80's, by the focus of South African development strategies on urban manufacturing, large-scale mining and large-scale capital-intensive farms and agro industry (Lipton and Lipton, 1993). During this time, the debate on 'inward commercialisation' largely neglected rural commercialisation (Zarenda, 1989). It is well known that during the 1980's, agricultural economists debated the "economically viable unit" in the South African scenario. It was only in 1995, that several papers (Piesse, Sartorius von Bach, Thirtle and Van Zyl, 1995; Deininger and Binswanger, 1995; Van Zyl, Binswanger and Thirtle, 1995; Lipton, Ellis and Lipton, 1996; Kirsten and Van Zyl, 1998) started proposing that small farms may have higher productivity and overall output per hectare, because of the greater land productivity of small farms in South Africa, and the use of family labour which reduces production costs. Binswanger and Elgin (1992) and Kirsten and Van Zyl (1998) both propose that small farms are more productive because family workers are mostly used and they are usually cheaper and more efficient than the hired labour found on larger farms. Family workers receive benefit from their labour and thus have more incentive to work harder, search and hiring costs are less, and family members share in the risk (so are thus less likely to shirk or take unnecessary risks that would jeopardise their benefits).

During the 1960's to 1980's the South African agricultural sector was characterised by the mass exportation of raw materials and minerals (to maintain international links, for political manoeuvring and to deal with international debts) and the importation of manufactured and value-added products at great expense; For example, as seen in the wool industry. This created an unfavourable trade performance that further aggravated the external debt burden. It should be remembered that the competitive advantage of raw materials is less sustainable than that of products with a high specialised labour content (Rwelamira and Kleynhans, 1998) (something that South Africa with its high unskilled labour force has learned). The ideology of "value-adding" to our own resources, on our own shores is, historically, an unpopular, highly disregarded approach which has only recently received policy attention.

However, internationally, a new trend is emerging and has been largely ignored in the development policies of South Africa. This agricultural shift was observed in small-scale agricultural practices (and service provision) in visits to Holland (Van Broekhuizen, Klep, Oostindie and Van der Ploeg, 1997), Australia (Natural Resources and Environment, 1998) and the USA. Farmers are selling off parts of their large commercial operations, their extended families are moving in, and together, family value-adding enterprises have been started. This is in-line with the international trends of "greening the environment", "hand-made", "organic", "made with pride and love" which the modern consumer is willing to pay a premium for. The consumers in industrialised countries are also demanding exotic and ethnic foods, and food and non-food natural products and additives (Sautier, 2000). This as opposed to GMO's (genetically modified organisms), "factory farms (inhumane and unethical)", "commercialisation (the world is in the post-industrial phase), "ruining of the ozone layer (methane production of livestock)" and "mass production" (no personal emotions added to the task or product). In Australia whole Agricultural Departments have been created to support and inform potential entrepreneurs regarding this new "farm diversification" (Farm Diversification Division). Similarly, the Non-Traditional Agricultural Products Trade Promotion Programme of the Department of Agriculture, Livestock and Rural Development of Mexico was established to provide more information, technical and marketing resources to traditional Mexican products and practices (Farias, 2001). Unfortunately, similar concrete agricultural policies, strategies

and support regarding SMME development as an agricultural growth and development opportunity is lacking in South Africa (Rwelamira and Kleynhans, 1998).

The small business sector can meet the competition in this niche market field (Machethe, Reardon and Mead, 1997). Given the current limited resource base of the small-scale entrepreneur, value adding to indigenous agricultural products, creating up-market niche products for the local, tourism and export markets, or small agro industrial businesses which supply inputs and services to these small operations, or the value adding activities of processing and distributing such products (as suggested for more conventional crops by Machethe, Reardon and Mead, 1997), is the ideal platform for small entrepreneurs to enter the market place. In a study by Matanyaire (1997), it was shown that the sale of crafts was an important source of income for young male-headed households who were not in formal employment in Kavango in Namibia. This non-formal sector appeared to have grown since Namibian independence.

SMME's also employ relatively more people and often have clear comparative advantages over larger scale industries in terms of access to raw materials and proximity to local markets (Würdemann and Van de Meerendonk, 1998). This benefit has also been debated by Matanyaire (1997) who suggested that the Namibian government should develop labour-intensive programmes to develop infrastructure and create value-adding product processing enterprises within the rural sector. The value-added to indigenous livestock and plant products can be used as a means of motivating small-scale livestock and plant producers to improve, develop or diversify their own production systems in the long term (Machethe, Reardon and Mead, 1997) and will also conserve these important resources into the future.

The Southern African environment is rich in renewable, unique, indigenous resources (land, water, livestock, forestry, plants, wildlife and fish) that have not been exploited commercially (Rwelamira and Kleynhans, 1998). Our abundant biodiversity is often overlooked. Reasons given for this are stated by Mahlase (2001) as; indigenous crops were never cultivated on a large scale, when they were sold it was limited to communities who were familiar with the crop, sales in local markets were hampered by crops growing freely in the veld and therefore accessible to everyone, lack of markets

and knowledge regarding indigenous crops by consumers, and lack of pride in indigenous food resources. In contrast, Australia has transformed their infamous rabbit problem into the lucrative "Akubra" brand of hats, and kangaroo meat is exported to feed hungry nations of Africa. Kangaroo meat can also be found in the up-market restaurants of cities such as Melbourne, Canberra, and Sydney merely by applying the correct marketing strategies. In the case of Australia, "Bush tucker" is the brand name under which indigenous foods of Australia are sold at a premium and sought after by Australian and international consumers alike (Australian Bushfoods Magazine, 1998).

Some benefits to the exploitation of indigenous resources stated by Mahlase (2001) lies in increasing the productivity, food security, and economic returns of small-scale farmers, making farming systems more stable, robust and sustainable, diversifying products and income opportunities, and reducing dependency on external inputs (dosing, dipping). In Mexico (Farias, 2001) real benefits for small-scale farmers have been achieved with: 82% of farmers involved in the programme establishing commercial links and increasing their income by an average of 53%; The incomes of those farmers that had added value to their products rose by 350%; Strategic alliances and vertical integration was increased; An entrepreneurial culture was developed; There was an improved access to information (due to the creation of mechanisms for agricultural and micro-industrial technology transfer); Development of small exporting companies; Sustainable use of the country's biodiversity; and an increase in export trade (from $ 149 million in 1995 to $ 285 million at the end of 1999). There is a need to learn from these successes and identify methods to emulate them in South Africa.

1.7   Constraints to niche agricultural opportunity development

Most rural areas have poorly developed transport, processing, marketing and communication infrastructure. Consequently, the transport costs for both raw and final processed products to urban epicentres are high (Würdemann and Van de Meerendonk, 1998). However, relatively low transport costs to local emerging (provision of consumer goods and services that meet the growing and varied demands of the poor in rural and urban areas (Machethe, Reardon and Mead, 1997)) and local tourism markets can be used to offset "economies of scale" in the processing itself. In

other words, indigenous resources could be used in processed products and sold to the "drive-by" tourism industry or the emerging rural markets. Alternatively, transport mechanisms which support a linkage between rural producers and urban consumers need to be established.

A further constraint for the resource poor entrepreneur is access to mainstream market and product information. South Africa has only recently joined the international market arena. As such there is much to learn concerning existing markets and diverse products. It is necessary to explore the under exploited niche markets that exist for small businesses.

Although some market opportunities may exist for rural entrepreneurs within their own environments, these markets are generally underdeveloped and there is a general lack of purchasing power among the majority of the rural population. Low household monthly incomes are mostly spent on staple food and basic necessities, thus the selling of higher value-added products to this sector is limited (Würdemann and Van de Meerendonk, 1998). On the contrary, Machethe, Reardon and Mead (1997) cited examples that showed that increases in income of the rural poor tend to be spent on processed food, fresh 'variety foods' (e.g. vegetables, fruit, dairy products, meat) and on semi-durables (e.g. clothing). This shift in diet is also promoted when women enter the labour market and have less time available for the home processing and preparing of meals and they become more attracted to 'convenience foods' that are quick and easy to cook. However, these types of developments occur when broader income generation in the rural environment has been stimulated. Thus, the sector on which small-scale entrepreneurs could concentrate on initially is the fast-growing tourism and higher value-added speciality and delicatessen sectors, which have specifically been boosted by the tourism incentive programmes launched by the Department of Tourism, or promoted by ventures such as "Proudly South African".

Unfortunately, distribution and marketing of finished products to this sector is difficult for the small-scale processor. It is necessary that information on markets for both raw materials and finished products in terms of volumes, prices and locations of markets needs to be provided to the small entrepreneur, who cannot merely rely on word-of-mouth information (Rwelamira and Kleynhans, 1998; Würdemann and Van de

Meerendonk, 1998) for this more sophisticated and new market information that lies outside of his normal community structure. The importance of obtaining market information, or of developing new markets for new or existing products, or for the exploitation of existing marketing infrastructure and channels is clear (Current, Lutz and Scherr, 1995; Mohamed and Dodson, 1998). In the study by Current, Lutz and Scherr (1995), it was reported that local organisations (EMO's) were created to explore and develop new local, national and international markets for tree products when local demand was saturated, and where farmers themselves were unfamiliar with potential product markets. The deregulation of the agricultural markets in South Africa created opportunities for small-scale entrepreneurs when subsidy removal reduced the profitability of mechanised agriculture. In Zimbabwe, maize-milling deregulation was coupled with the encouragement of small-scale roller mills to provide poor consumers with cheaper coarse maize and to create employment (Rubey, 1995). In Mexico (Farias, 2001) the main strategy to improve market linkages and increase information flow to small-scale farmers was to hold trade fairs in different States of Mexico. This strategy increased the culture of trade promotion throughout the country, made local markets more dynamic and improved inter- and intra-State trade flows, helped to identify new trade opportunities, raised awareness of work done by local research institutions and universities regarding new crops, and assisted in identifying exhibitors who were interested in exporting.

Product development and market development services for resource poor entrepreneurs in South Africa are non-existent. It is difficult for rural inhabitants to know what the international consumer is seeking, if he does not have access to this information. Current and developing markets need to be investigated, diverse and unique value-added products should be tested and this information needs to be relayed to the entrepreneur.

Innovative institutional arrangements, which can assist in overcoming some of the above-mentioned constraints are limited. Any industry should aim to motivate its farmers to improve their performance using markets as a lure. A process where non-commercialised farmers become more connected to the value-delivery network (or supply chain) or part of vertically co-ordinated or vertically integrated companies, is most likely to bare fruit ((Machethe, Reardon and Mead, 1997; Martinez, Smith and

Zering, 1997; Rehber, 1998; Delgado, 1999; Gow et al. 2000; Holloway, Nicholson, Delgado, Staal and Ehui, 2000; Singh, 2002; ECAPAPA, 2003). An increased level of vertical co-ordination often lowers costs and the farmer gains a larger share of the value-added income stream. They can therefore be involved in manipulating prices and costs in different parts of the value chain to earn more profits. Through vertical co-ordination they can achieve economies through size, bargaining power and elimination of duplication (Kotler, 2000) thus improving their collective consistency of supply to the market place. The benefit here for non-commercialised farmers is that no member of the chain has complete or substantial control over other members and, although they are all different companies (or legal entities) they work together for the common good. Factors such as quality of the product, consistency of supply and potentials for increasing the demand for the product (marketing) can be addressed. Strengthening existing producer organisations is also mentioned as a means of reducing costs and tapping into new markets (ECAPAPA, 2003).

A further constraint to agricultural development is the current land tenure system which is prevalent in many of the former homeland areas. Land reform is required to increase access to land by giving (poor) people ownership rights and ensuring sustainable land use. Land reform programmes have shown to increase the adoption of modern technology, increased agricultural productivity, and provided social equity. It allows farmers to purchase more land so that economies of scale can be achieved. Farmers who own their land show greater concern for its sustainable use and infrastructure improvements. The current system whereby chieftancies apportion land to residents within a community allow the indiscriminate over-utilisation of the natural resource, with no-one in the community taking responsibility for its sustainable use. Problems specific to livestock also occur (personal observations): where the unimproved male animals of one owner may have access to female animals of another owner bent on trying to implement a seasonal breeding programme, or where animals from one farmer infects another's animal with diseases. These types of problems make it difficult for farmers to adequately manage their flocks for improved production. Institutional arrangements which can better serve rural farmers are needed to redress this constraint.

Clem Sunter in a recent book "Never mind the Millennium. What about the next 24 hours?" (1999) stated, "… technologies today are imperilling many traditional occupations, but they have the potential of enabling individuals to pursue an incredible number of completely new activities.…". A paradigm shift away from traditional commodities to niche product agricultural entrepreneurships, away from rural isolation to linkages with discerning national and international consumers, from job-seeking to job-creation opportunities, would be a relevant and timely improvement in the approach to rural entrepreneurial development in South Africa.

1.8   Problem statement

Admittedly, development programmes based on increased production and efficiencies in "commercialised" agricultural commodities such as maize, wheat, poultry, beef and others will always be a major source of employment, income and export earning in South Africa.   However, reliance on only these commodities to uplift non-commercialised farmers in the deep rural areas of South Africa, and to bring non-commercialised farmers into the mainstream economy cannot remain the only basis for development.   Simultaneous attention should be paid to the development of farming alternatives especially utilising indigenous species and crops for niche markets.

In South Africa, the development of non-commercialised goat farmers and entrepreneurs are constrained by historical, institutional, market, information, and research factors.   Because of these, and other constraints, it is clear that simply teaching farmers the best means of producing goats will do little to create a viable, sustainable (read – profitable) commercial industry.   Information, systems, infrastructure and institutions need to be developed to overcome several social, economic, infrastructural, and institutional constraints which are presently halting the development of this potentially lucrative industry.

1.9   Statement of the sub-problems

- ■   Sub problem 1 asks; what is the status of the current goat industry? Will it be able to mobilise enough resources to ensure the consistency of supply demanded by the national and global market place?

- Sub problem 2 concerns the historical causes for the non-commercialisation of indigenous goats in South Africa. Are they relevant today?

- Sub problem 3 questions whether products of indigenous goats can be utilised commercially. Are there products of value from indigenous South African goats?

- Sub problem 4 queries whether the South African and global market is <u>now</u> ready for goat products from South Africa. Do markets for these products exist?

- Sub problem 5 concerns structures, programmes or systems that can be utilised or created to increase the benefits of commercialisation for the non-commercialised goat producer or processing entrepreneur. How could the industry be organised to be enabling and inclusive?

1.10 Objective

The purpose of this study is to investigate the organisational, marketing, technology development, infrastructure, institutional and technology transfer needs and constraints of, specifically, non-commercialised goat producers and potential entrepreneurs and will argue that a system creating access to market information and institutional and organizational support are necessary to develop an inclusive goat industry involving the non-commercialised agricultural sector of South Africa. A system will be suggested that could create visible, viable, inclusive impacts at grass-roots level.

The system developed (to accomplish commercialisation), may be a method that could be utilised to commercialise other traditional or indigenous resources. The importance of the combination of basic and action oriented research, while combining aspects of biological and socio-economic sciences, for real rural development, will be demonstrated.

1.11 The hypotheses

- Hypothesis 1 assumes that the South African goat industry currently has the capacity to mobilise to meet global market demands or trends.

- Hypothesis 2 postulates that there are several historical reasons for the non-commercialisation of indigenous goats in South Africa that are of lesser consequence today.

- Hypothesis 3 claims that goats produce commodities that have economic value, but are little known or investigated.

- Hypothesis 4 asserts that new South African and global markets exist for new goat products.

- Hypothesis 5 declares that structures can be created or utilised to assist the increased involvement of, and benefit to, the non-commercialised goat producer and processing entrepreneur.

1.12 The delimitations and limitations

- The study will not attempt to investigate all existing systems that have or are being developed to assist commercialisation of non-commercialised farmers (although some reference to them may be made).

- The study will not evaluate the long-term viability or success of the process explained in the study.

- This study will not report on all potential markets that exist for goat products internationally (although reference to some will be made).

- The structures, programmes and systems mentioned/proposed in this study fall within the current (2001/2002/2003) South African milieu, and may not be relevant in the future.

- The study will examine findings from a large body of work by the author from 1997 to the present (2004).

1.13 The importance of the study

South Africa has a wealth of indigenous goats that are currently economically under-utilised. These animals are owned by rural households who utilise them, mainly, for traditional reasons. Emphasis in the country is being placed on job-creation, poverty alleviation, and empowerment, and yet, this indigenous resource owned by non-commercialised farmers has been overlooked in its ability to alleviate some of these problems. Rural development initiatives have concentrated on poultry production, cattle improvement schemes, and vegetable gardens. Unfortunately, many of these projects have failed to produce sustainable or noteworthy impacts. In some cases farmer participation has been lacking, products and markets were not investigated adequately, and in others, local and traditional governance structures were not correctly informed or utilised in the business ventures. Essentially innovative products and markets for them, and the institutional framework to sustain these business ventures are lacking. Research is required to study existing indigenous goat resources, to create new markets and products from indigenous goat resources and a system needs to be created to effectively connect non-commercialised farmers to viable markets.

The ultimate aim is to provide support to existing or potential entrepreneurs from the non-commercialised goat sector, to achieve economic empowerment, to broaden their economic opportunities, to improve productivity, to provide lucrative outlets for production and, most importantly, to increase their income, which are the main objectives of any development programme, as rightly suggested by Everts (1995), Machethe, Reardon and Mead (1997) and Matanyaire (1997).

1.14 Planning and executing the study

A logical framework (LOGFRAME) is a useful tool in planning and delimiting a study of this nature. The LOGFRAME shown in Table 1.1 provides an overview of the scope of the project which has been undertaken over the larger part of the author's professional career. Although the study has "evolved" over several years, the primary objective has remained the same – the empowerment of non-commercialised goat farmers through commercial exploitation of a resource already owned by them. The marked contrast of

international exposure versus local experience and the subsequent dissatisfaction of seeing abject poverty in "a land of possibilities" have added to the fervour of a more action-oriented research approach demonstrated by the latter aspects of this work as opposed to the basic nature of the study at its commencement. Thus, the study originally concerned itself with the "Activities" and "Outputs" sections of the LOGFRAME, but has gradually infringed on the "Purpose" and "Goal" sections which are essentially higher objectives to which a National Goat Economic Development Programme should aspire and with which the author concerns herself practically on a day-to-day basis at present.

LOGFRAMES should essentially be read from the bottom of the table working upwards i.e. activities, outputs, purpose, and then goal. In doing so the reader will notice the emphasis on basic biological research and product innovation at the start of the study, which puzzling positive results prompted an understanding of the existing industry institutional arrangements and traditional uses (which were felt may be the hidden reasons for the lack of goat commercialisation and which, in the current political and global paradigm, were found to be irrelevant), that led to theoretical investigations into institutional arrangements of relevance. The author then proceeded to implement these research findings in the real world, which in this thesis are described in the case studies cited in the Chapter 10.

Table 1.1   LOGFRAME of Goat Commercialisation Project

LOGFRAME	SUMMARY DESCRIPTION	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
GOAL	To sustainably increase household income through goat production	Commercialised goat farmers in all regions of South Africa	Documentation of operational facility	That health and quality requirements of consumers are met within a stable socio-economic environment.
PURPOSE	To create a consistent, reliable market for the goats produced by rural, non-commercialised goat farmers	Projects where non-commercialised goat farmers are able to plan and conduct sales on a regular basis. Operational goat production facility. Goat products in market	Registration of business, report back from extension officers, farmers and entrepreneurs	That all factors within the project concept are implemented with commitment

LOGFRAME	SUMMARY DESCRIPTION	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
OUTPUTS	Knowledge regarding historical developments acquired (Qualitative)	Completed report	Chapter in PhD thesis	That historical concepts have been captured by literature
OUTPUTS	Knowledge regarding current goat industry acquired (Quantitative)	Completed survey report	Survey report. Chapter in Ph.D. thesis	That industry role-players will share their knowledge
OUTPUTS	Basic Research on goat products reviewed and/or conducted (Quantitative)	Basic research audited and expanded	Scientific publications. Review in Ph.D. thesis	That literature on current products is available
OUTPUTS	Goat products developed (Qualitative and Quantitative)	Applicable goat meat, cashmere, goat milk and leather products designed that can be manufactured using low-tech technology	Goat meat recipe book, Goat milk product recipes, Carpet manufacturing specifications, leather tanning and crafting specifications, product samples, Review in Ph.D. thesis	That products from goats can be designed
OUTPUTS	Markets for products identified and/or developed (Qualitative and Quantitative)	Market survey reports	Market survey reports, Marketing publications, Chapter in Ph.D.	That viable and reliable markets for goat products can be identified.
OUTPUTS	Goat industry institutions designed (Qualitative)	Business structure design report completed	Business structure report and implementation plan, Chapter in Ph.D.	
OUTPUTS	A goat industry infrastructure designed and in implementation (Qualitative) Goat Management training designed	Engineering design report, Environmental impact Assessment scoping report, Business plans completed. Facility in construction, 1 000 farmers trained in co-operatives and goat management and implementing their training	Engineering report, Architectural drawings, EIA scoping report	That non-commercialised farmers are willing to commit to contract growing for personal gain.
OUTPUTS	A system/process for development designed (Qualitative)	Commercialisation process designed	Ph.D.	
ACTIVITIES	Survey of historical and traditional context Literature survey Rural interviews Discussion with industry	Inputs Scientist – 3 months, libraries,1 Technician speaking rural languages –		

LOGFRAME	SUMMARY DESCRIPTION	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
	leaders National consumer survey	Intermittent rural visits and dialogue, telephone		
ACTIVITIES	Survey of current industry International goat use and production survey National goat industry survey	Cost = R 40 000 - USAID 1 International market researcher – 1 month, National market researcher – 1 month		
ACTIVITIES	Workshop in basic research conducted Identify relevant speakers/industry role-players Prepare invitations Organise facilities Conduct workshop Prepare and publish proceedings	Workshop cost = R 60 000 - NDA 4 junior researchers + 1 scientist – 2 months,		
ACTIVITIES	Research on goat meat, goat milk, cashmere, leather Indigenous goat meat quality research Indigenous goat cashmere research Literature review of previous work Basic research on leather quality (Development of low-tech tanning techniques)	Meat: R 100 000 – Funded by USDA – 2 Meat science students – 1 year. Cashmere: R 100 000 – NDA/ARC – 1 Junior researcher – 2 years Milk: Previous data from Medunsa, goat cheese producers in South Africa Leather: R 100 000 –Funded by USDA, Collaborators: International School of Tanning Technology, 2 staff 3 years		
ACTIVITIES	Product prototype development Goat meat product development Literature survey of previous work Goat recipe design Goat meat product design Write report Write recipe book	Meat product development: Cost R 200 000 – USDA – R 15 000 – AUSAID: Collaborators: Technikon Pretoria: Hospitality Department – 25 Students assignment – 3 months		
ACTIVITIES	Goat fibre product development Literature study of previous work Cashmere product design	Cashmere product development: Cost R 200 000 – ARC/NDA – R 15 000 AUSAID:		

LOGFRAME	SUMMARY DESCRIPTION	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
	Development of low-tech processing options Prototype development Market survey Identification of processing entrepreneurs Training of processing entrepreneurs Market penetration exercise	Collaborators: Carpet manufacturer, Entrepreneurial women's group, 1 Technician, Cashmere goat farmers, 2 years		
ACTIVITIES	Goat milk product development Literature study of previous work Development of goat milk product recipes Development of low-tech processing techniques and information material Consumer tests	Milk product development: Cost R 50 000 – ARC – R 15 000- AUSAID, Dairy Industry Centre, 1 Scientist – 10 months		
ACTIVITIES	Goat leather product development Leather product development Market survey Identification of processing entrepreneurs Training of processing entrepreneurs	Leather craft development: Cost 100 000 – USDA – R 15 000 AUSAID : Collaborators: Craft Africa Projects Training – 1 staff member, 3 years		
ACTIVITIES	Market surveys National consumer perception study (most data re: meat and milk)	National consumer perception study – USAID – R 60 000, Collaborators: Lighthouse Research (market research company) – 4 months.		
ACTIVITIES	International and national market surveys (most data re: meat and milk)	International and national market surveys – R 70 000 – ARC – Collaborator: Agriconcept		
ACTIVITIES	Leather: Local area market surveys	Leather: Provincial LED and Agriculture departments – R 90 000: Collaborator: Agriconcept – 1 Technician – 1 month		
ACTIVITIES	Cashmere: National market survey	Cashmere – ARC – R 45 000: Collaborator: Agriconcept, 1 Technician – 1 month		

LOGFRAME	SUMMARY DESCRIPTION	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
ACTIVITIES	Study of relevant institutions and legal entities Survey of existing legal/institutional options in South Africa Design relevant institutional framework (NIE) Workshop choices with stakeholders	Study of legal/relevant institutions – R 100 000 – NDA, Collaborators: Deloitte and Touche 6 months, Stakeholder workshop to discuss structures – 1 month		
ACTIVITIES	Development of Implementation process – Case study (NIE) Identify interested community Demonstrate possibilities Survey capacity for viability – Feasibility study Acquire funding Create Steering Committee with relevant stakeholders Dialogue regarding implementation procedure Ascertain professional relationship (contracts etc.) Determine infrastructure requirements Survey goat and human resource Develop business plan Train extension personnel Monitor extension personnel regarding Goat census Goat interest group formation Co-operative development training Goat management training Design infrastructure Conduct EIA's Plan construction of facility Conduct processing training Fix marketing channels Start producing	Work with Regional Municipalities designing project, R 4 million – Provincial (LED), National (ISRDP) funding – Collaborators: MBB Consulting Engineers, ACER Africa – Environmental specialists, 1 Scientist, 2 Junior researchers, 2 Research Technicians, District Municipality, Provincial Department of Agriculture (23 Extension Officers), Provincial Departments of Veterinary Public Health, Economic Affairs and Tourism – 3 years Process taken over by Scientific Roets (PTY) LTD Kalahari Kid Corporation		
ACTIVITIES	Design development system or process	1 scientist – 6 years – ARC. 1 scientist – 2 years - private practice		

In Chapter 11, Figure 11.1, the results of working through this LOGFRAME have been conceptualised in a flow diagram showing the step-by-step process to commercialise

an indigenous resource. Figure 11.1 illustrates the various actions and role-players required throughout the process, which funding is available for each step in South Africa (in the author's experience) and where gaps in research, support and funding were identified.

As can be seen from the LOGFRAME each step had its own objectives, resources and donors. Perhaps a more inclusive funding mechanism for such activities could be implemented by government and policy.

1.15 Conclusion

This introductory chapter has served to illustrate the need for innovative strategies to assist in poverty alleviation in rural areas with emphasis on the utilisation of indigenous resources. To effectively stimulate niche agricultural entrepreneurial development, shifts from the current practices and schools of thought need to be entertained. Such paradigm shifts include:

- A move from the promulgation of vertical expansion to an emphasis on diversification into new opportunities and enterprises

- De-emphasis of the need for land, labour, and capital (which are real constraints that can be solved) versus an emphasis on a more market-oriented approach

- Realisation that training (in production practices) is not a panacea and that service providers should concentrate more on product development, market knowledge and business service provision and the development of necessary infrastructure requirements

- Reduction in mantra regarding becoming large commercial operation to stimulation of small, niche product, market oriented operation

- De-emphasis of importance of economies of scale versus opportunities in niche market orientation

- Move away from mass production to stimulation of quality hand-made production

- Decrease in the prominence given to high-tech technology and increase in emphasis on traditional knowledge and competence

- Less weight given to the export of raw products and more weight given to the export of value-added products

- Shift from accent on becoming an employee to accentuation of becoming an entrepreneur

- Reduction in importance of becoming an employee to more emphasis on starting a family-owned and operated business

- Reduction in prominence of importance of exotic resources and increased emphasis on use of indigenous resources

- Increase in knowledge of indigenous resources by consumers

- Restructuring of infrastructure that is currently limited to commercial operations to include production and marketing infrastructure accessible to non-commercialised farmers

- Concentrate not only on bulk, retail domestic markets but also local tourist and export, niche markets

- Creation of means of developing transport and communication access

- Reduce the lack of knowledge of needs and requirements of international markets through improved information access

- Change producer detachment from processing chain to vertical co-ordination, vertical integration or value-chain integration

- Creation of institutional arrangements that will create an enabling and inclusive agricultural sector

This thesis describes action-oriented research through which all of these shifts have been achieved in the goat industry in South Africa. Chapter 2 of this thesis will describe the current goat industry, the size of the goat resource, where the goats are found, will provide an overview of the organisations that could assist in the further development of this industry, and speculates on the potential economic value of this under-developed sector. Chapter 3 investigates several historical, cultural and institutional reasons for the current under-commercialisation of the industry, and speculates on whether these limitations to commercialisation should still impede its development into the future. Part 2 suggests a process of product innovation by first assessing (Chapter 4) both international and national (local) market trends, perceptions and requirements. Then Chapters 5, 6, 7 and 8 describe basic raw product research and innovative, value-added product development to the market's requirements, for the meat, cashmere, leather and milk of goats, respectively. Part 3 of this thesis proposes and implements institutional innovations to commercialise the industry. Chapter 9 delves into New Institutional Economic theory and how it can be of use for development of an under-utilised indigenous resource. Chapter 10 reports on several case studies which have been implemented in the field and how NIE has assisted in the design of institutional arrangements and a vertically co-ordinated goat industry. Chapter 11 concludes.